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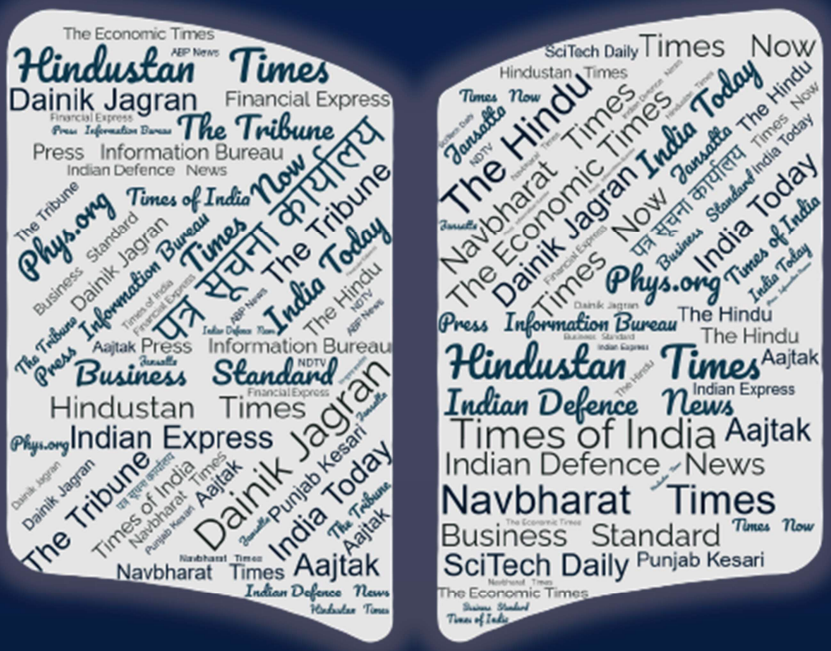

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THE TIMES OF INDIA

Sun, 04 Sep 2022

Scientist Who Heads ATAGS Project to Head DRDO's Armament Cluster

Shailendra V Gade, Outstanding Scientist (OS) and the Project Director of the Advanced Towed Artillery Gun System (ATAGS) appointed as the Director General (DG) of the crucial Armament and Combat Engineering systems, DG(ACE) with effect from September 1 here in Pune.

The DG (ACE) heads nine important laboratories of DRDO, including the Armament Research and Development Establishment (ARDE), High Energy Materials Research Laboratory (HEMRL), and Research and Development Establishment (Engineers) R & D E(E) in Pune.

Under his leadership, ATAGS has been designed, developed and realized successfully. The gun has cleared the high altitude and desert trials in Sikkim and Rajasthan respectively said the DRDO officials.

Apart from this, Gade has played a pivotal role in various projects taken up by the DRDO in the last three decades. Speaking to TOI, Gade, said, "The laboratories under the ACE cluster have been working on major DRDO projects. We endeavor to complete them in the stipulated time frame. We have prepared a roadmap to achieve this objective in the coming years."

"Gade has worked in the past on the design and development of India's fully indigenous Multi Barrel Rocket Launcher System (Pinaka) and played a pivotal role towards fructifying this system and its induction into Army. Subsequently, he took over the Small Arms Group (SAG) at ARDE and led the team successfully towards realizing, Joint Venture Protective Carbine (JVPC), Under Barrel Grenade Launcher (UBGL), Multi-caliber Individual Weapon System (MCIWS), Air Bursting Grenade (ABG) apart from improvements in the INSAS small arms," said a senior DRDO official on condition of anonymity.

He carried out extensive research and formulated a project proposal on 'Future Infantry Soldier as a System (F-INSAS)' towards enhancing the capabilities of the soldiers in the areas of lethality, surveillance, survivability, protection and communication.
Gade has led the team in developing the armament system for Infantry Combat Vehicle (ICV) for DRDO's project Abhay. Abhay was equipped with the main gun system and a very innovative two-column feed and ejection system to handle two different Ammunitions.

He has been instrumental in leading the team in developing tank ammunitions for Main Battle Tank Arjun and other main battle tanks. He was appointed as Director of Vehicles Research and Development Establishment (VRDE) Ahmednagar and has been associated with several critical projects such as WhAP, IPMV, CBRN- Tracked, CBRN- WhAP, 180 HP Engine, Unmanned Ground Vehicle (UGV) and so on.

He is a recipient of the DRDO's Performance Excellent award for Pinaka(2002), Scientist of the Year award (2013), team leader award for ATAGS in 2017, DRDO's Agni award for excellence in self-reliance in 2017' for ATAGS and Best innovation/Futuristic dev. award (2020). Under his leadership, VRDE has announced the Silicon trophy for 2020.

Gade is an alumnus of IIT Delhi and IIT Bombay. He has guided B Tech and M Tech students in their projects. He has more than 40 papers to his credit in National and International journals. He has been delivering technical lectures at the Infantry, Artillery, and many International conferences.

He is also spearheading several strategic systems projects.

https://timesofindia.indiatimes.com/india/scientist-who-heads-atags-project-to-head-drdos-armament-cluster/articleshow/93988496.cms

THE NEW INDIAN EXPRESS

Sun, 04 Sep 2022

Sanjeevani — from Legend to Cultivation at Himalayas

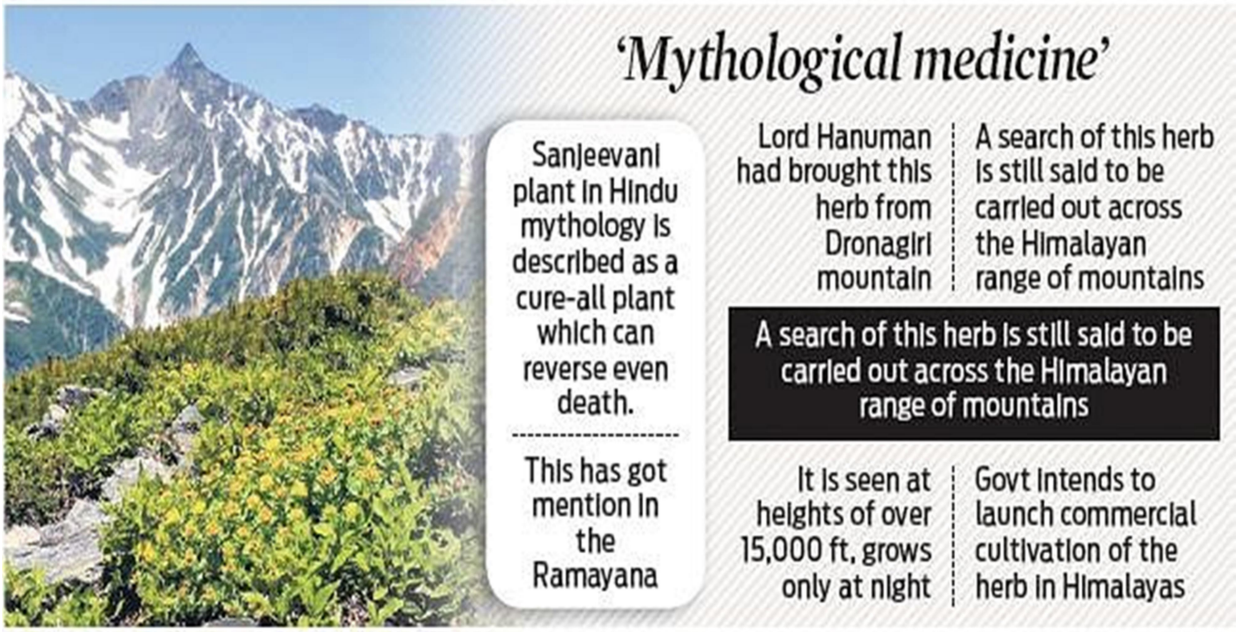
As the legend goes, Hanuman couldn't readily identify the Sanjeevani Booti, the life-saving medicinal herb, on Dronagiri, the Himalayan mountain. So, he plucked the mountain and flew back to Lanka. He wouldn't have to do that today. The life-saving medicinal herb, Selaginella Bryopteris, is not only easily identifiable but its location can now be pin-pointed to the nearest metre.

The government intends to launch commercial cultivation of the herb in the Himalayas. In Ladakh, to be precise. The programme is being handled by the local administration in Ladakh. The herb, whose life-reviving properties are well advertised in India through the Ramayana, is said to restore life even of the comatose. The true potency will of course be revealed once the administration comes out with its research.

The Leh-based lab of the Defence Research and Development Organisation (DRDO), the world's highest agro-animal research laboratory, has been researching this wonder plant for more

than a decade. The Lieutenant Governor of Ladakh recently shared the information with Union Minister of State for Science and Technology Dr Jitendra Singh on a visit to Delhi.

It's not just Sanjeevani Booti. Two other medicinal plants will also be commercially produced. In the days when Ram was desperate to treat brother Laxman with the Sanjeevani Booti after he was felled unconscious by Ravan's son, the medicinal herb was apparently located in the Dronagiri Mountain. The mountain is said to be close to the Chinese border.



The herb has a peculiar feature. It is seen at heights of over 15,000 feet. And it grows only at night, at least that is what's mythologically known. The fact will come out when the product is launched. A statement released by the ministry gives some additional details: "The Sanjeevani booty is in local parlance in Ladakh region known as 'Sola'. It has very high life-saving and therapeutic properties."

Besides this initiative, Ladakh is all set to have India's first 'Night Sky Sanctuary' on the premises of the Changthang Wildlife Sanctuary. It will have all facilities to enable people to gaze at the night sky and enjoy watching the stars.

It will be situated in Hinkle village, which is famous for the 17th-century Hanle monastery. Hanle is best suited because it is located in Ladakh's cold desert region, away from the hustle and bustle of human activity. The site will be the highest-located in the world for optical and gamma-ray telescopic viewing of the sky at night.

The Department of Science and Technology is spearheading this programme to boost Astro-tourism. "This will be set up in next three months in first of its kind unique initiative started by department," a ministry statement said. A tripartite agreement was recently signed between the UT administration, Ladakh Autonomous Hill Development Council and the Indian Institute of Astrophysics.

https://www.newindianexpress.com/thesundaystandard/2022/sep/04/sanjeevani-from-legend-to-cultivation-at-himalayas-2494618.html

THE HINDU

Sat, 03 Sep 2022

DRDO Targets 2027 to Complete Development and Flight Testing of LCA-MK2

With the Cabinet Committee on Security (CCS) sanctioning the development of Light Combat Aircraft (LCA)-Mk2, a bigger and more capable fighter than the present one, the Defence Research and Development Organisation (DRDO) is setting a target of 2027 to complete the flight testing, according to Defence officials.

"The CCS sanctioned the project early this week at a total development cost of ₹9000 crore including the ₹2500 crore that has already been spent. The roll out of LCA-Mk2 is planned by 2024 and the target is to complete flight testing by 2027," one official said. Indian Air Force (IAF) has given commitment to procure six squadrons of LCA-MK2, another official said.

The proposal on the indigenous fifth generation fighter, the Advanced Medium Combat Aircraft (AMCA), is currently with the CCS and the approval is expected very soon, officials stated.

The LCA-Mk2 will be a heavier and much more capable aircraft than the current LCA variants and the LCA-Mk1A that is scheduled to be delivered to the IAF by early 2024, 83 of which have been contracted under a ₹48,000 crore deal with Hindustan Aeronautics Limited (HAL). As per schedule, HAL is expected to deliver first three Mk1A aircraft in 2024 and 16 aircraft per year for subsequent five years.

Enhanced range and endurance

The Mk2 features enhanced range and endurance, including an Onboard Oxygen Generation System, which is being integrated for the first time, and the ability to carry heavy stand-off weapons of the class of Scalp, Crystal Maze and Spice-2000. The Mk2 is 1350 mm longer, featuring canards and can carry a payload of 6,500 kg compared with the 3,500 kg the LCA can carry. The Mk2 will be powered by the General Electric GE-414 engine, which will also power the AMCA. A GE-414 produces 98kN thrust compared to 84kN thrust of the GE-404 engine powers the LCA Mk1 and MK1A.

The Indian Air Force (IAF) has one squadron of LCA in Initial Operational Clearance (IOC) and one squadron in the Final Operational Clearance (FOC) configuration. Induction of all IOC standard aircraft is complete, while induction of FOC standard is nearing completion. Manufacturing of the LCA trainer is also underway with deliveries expected to begin this year.

The IAF had earlier placed orders for 20 IOC standard aircraft and 20 FOC standard aircraft, including eight twin seater trainers. Till date, 31 LCA — IOC and FOC combined — have been produced and 26 have been delivered, and few aircraft in the process of being delivered to the customer, HAL sources said.

HAL has already set-up a second assembly line to ramp up production from eight aircraft per year to 16 aircraft per year. The order for 83 Mk-1A is expected to be completed by 2028-29.

https://www.thehindu.com/news/national/defence-research-and-development-organisation-targets-2027-to-complete-development-and-flight-testing-of-lca-mk2/article65845106.ece

The Indian EXPRESS

Sat, 03 Sep 2022

Aeronautical Development Agency, BEL and CSIR-NAL Get New Directors

Dr Jitendra J Jadhav on Friday took over as Director of Aeronautical Development Agency (ADA) and Programme Director (Combat Aircraft) Bengaluru. He replaced Dr Girish S Deodhare.

ADA is a department under the Defence Research Development Organisation (DRDO).

Before taking over as Director, ADA, Jadhav had served as Director of CSIR-National Aerospace Laboratories (CSIR-NAL), Bengaluru. His term at CSIR-NAL ended on June 26. He is credited to have steered the revival of the SARAS project. He was also the project director of Light Combat Aircraft-Tejas and was instrumental in steering its Initial Operational Clearance in 2011.

"He steered the weaponisation of Tejas as a lethal platform by integrating Closed Combat Missiles, Laser Guided Bombs, BVR (beyond visual range) missiles, Laser Designating Pod etc. He has developed key technologies like Mission and Display computer, digital weapon management system, Flight dynamics Simulator for LCA Tejas. He was instrumental in configuring and conceptualising LCA-MK1A as an advanced jet fighter," a statement from ADA said.

"During his tenure, the CSIR-NAL has shown phenomenal financial growth with external cumulative earnings increased to more than Rs 500 crore through technology licensing, collaborations and national international projects," the statement added.

Meanwhile, Dr Abhay Anant Pashilkar, Chief Scientist & Programme Director, civil aircraft programs, CSIR-NAL assumed charge as Director of CSIR-National Aerospace Laboratories. Sources in the NAL said that for a while he would also remain as the chief scientist and programme director for civil aircraft programmes.

A statement from CSIR-NAL said, "Dr Abhay Anant Pashilkar joined the Flight Mechanics & Control Division, National Aerospace Laboratories after his M.E. from the Indian Institute of Science (IISc), Bangalore, in 1993 and B.Tech (Hons) from IIT Kharagpur both in Aerospace Engineering. Since 1993, he has worked on national projects like the LCA and SARAS. He has guided 5 PhD's and has over 30 papers in National and International Journals."

On September 1, Dinesh Kumar Batra, Director (Finance) took additional charge as Chairman & Managing Director (CMD) of the Defence PSU Bharat Electronics Limited (BEL).

https://indianexpress.com/article/cities/bangalore/aeronautical-development-agency-bel-and-csir-nal-get-new-directors-8127601/

Hindustan Times

Fri, 02 Sep 2022

India's Conventional Ballistic Missile Design Ready; DRDO Awaits Modi Govt Nod

The Defence Research and Development Organization has completed the design of a 1,500-kilometer range conventionally armed ballistic missile with an anti-ship variant. This as China is rapidly expanding its land-based conventional ballistic missile arsenal. The conventionally armed missile, whose name has not yet been revealed, will thwart any threat posed by ships in the Indian Ocean, Bay of Bengal, and Arabian Sea. The DRDO is now waiting for approval from the Narendra Modi administration to go to the development stage.

https://www.hindustantimes.com/videos/news/indias-conventional-ballistic-missile-design-ready-drdo-awaits-modi-govt-nod-101662116252612.html

Defence News

Defence Strategic : National/International

Press Information Bureau
Government of India

Ministry of Defence

Sun, 04 Sep 2022 4:00PM

Gen Manoj Pande, Chief of the Army Staff Proceeds on a Visit to Nepal

Chief of Army Staff (COAS), General Manoj Pande, is scheduled to visit Nepal from 05 to 08 September 2022. This is his first visit to Nepal as COAS. During his visit, the Army Chief will call on the Right Honorable President of Nepal, the Right Honorable Prime Minister of Nepal and the Chief of the Army Staff of Nepali Army, apart from meeting with the Country's senior military and civilian leadership where he will discuss avenues for enhancing India-Nepal defence relations.

Continuing a tradition of friendship between both armies, the Indian Army Chief will be conferred with the honorary rank of General of Nepal Army on 05 September 2022 in a ceremony at Sital Nivas, the official residence of the Right Honorable President of Nepal. The

COAS is scheduled to visit Nepal Army HQ where he will pay homage to the fallen soldiers and have interactions with the senior leadership of the Nepali Army. During his visit, the COAS will also interact with the student officers and faculty of the Nepali Army Command and Staff College Shivpuri. The COAS is also scheduled to call on the Hon'ble Prime Minster of Nepal on 06 September 2022.

India – Nepal relations are historic, multifaceted and marked by common cultural and civilisational ties, apart from mutual respect and trust. India attaches highest priority to its relationship with Nepal in accordance with its 'Neighborhood First' and 'Act East' policies. This visit will provide an opportunity to take stock of the existing bilateral defence ties and strengthen cooperation in areas of mutual interest.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1856654

Press Information Bureau
Government of India

Ministry of Defence

Sun, 04 Sep 2022 12:01PM

Raksha Mantri Shri Rajnath Singh to Visit Mongolia

First Ever Visit by Indian Defence Minister to Strategic East Asian Country

Giving push to strategic partnership with East Asian countries, Raksha Shri Rajnath Singh will pay an official visit to Mongolia from 05-07 September, 2022. The upcoming visit by Raksha Mantri is the first ever visit by an Indian Defence Minister to Mongolia and will further consolidate the defence cooperation and strategic partnership between the two countries.

During the visit, Shri Rajnath Singh will hold bilateral talks with Mongolia's Minister of Defence, Lt Gen. Saikhanbayar. He shall call on the President of Mongolia, H.E. Mr. U. Khurelsukh and Chairman of the State Great Khural of Mongolia, H.E. Mr. G Zandanshatar. The two democracies have a common interest infostering peace and prosperity in the entire region.

India and Mongolia share a strategic partnership and the defence is a key pillar of this partnership. The bilateral defence engagements with Mongolia have been expanding over a period of time to include wide ranging contacts between the two countries, including Joint Working Group meeting, military to military exchanges, high level visits, capacity building and training programmes and bilateral exercises. During bilateral talks, the two Defence Ministers shall review the bilateral defence cooperation between India and Mongolia,and explore new initiatives to further strengthen bilateral engagements. The two leaders will also exchange views on regional and global issues of shared interest.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1856614

Press Information Bureau
Government of India

Ministry of Defence

Fri, 02 Sep 2022 12:02PM

Prime Minister Shri Narendra Modi commissions India's first indigenous aircraft carrier INS Vikrant in Kochi

"INS Vikrant is not just a warship. It is a testament to the hard work, talent, influence and commitment of 21st century India"

INS Vikrant is a symbol of indigenous potential, indigenous resources and indigenous skills: PM

Marking a departure from the colonial past, PM unveiled the new Naval Ensign, dedicates the Ensign to Chhatrapati Shivaji

Raksha Mantri terms INS Vikrant as a glowing symbol of an aspirational & self-reliant 'New India'

"It is testament to our resolve to ensure the safety & security of the nation in the next 25 years"

INS Vikrant will protect the security & economic interests of the country: Shri Rajnath Singh

Showcasing the country's growing prowess of indigenous manufacturing and a major milestone in the path towards 'Aatmanirbhar Bharat', Prime Minister Shri Narendra Modi commissioned the country's first indigenous aircraft carrier Indian Naval Ship (INS) Vikrant at Cochin Shipyard Limited (CSL) on September 02, 2022. During the event, the Prime Minister also unveiled the new Naval Ensign (Nishaan), doing away with the colonial past and befitting the rich Indian maritime heritage. He dedicated the new ensign to Chhatrapati Shivaji.

Addressing the gathering, the Prime Minister said, here on the coast of Kerala, every Indian is witnessing the sunrise of a new future. This event being held on the INS Vikrant is a tribute to the rising spirits of India on the world horizon. He said that today we are seeing a manifestation of the dream of the freedom fighters where they envisioned a capable and strong India. The Prime Minister exclaimed "Vikrant is huge, massive, and vast. Vikrant is distinguished, Vikrant is also special. Vikrant is not just a warship. This is a testament to the hard work, talent, influence and commitment of India in the 21st century. If the goals are distant, the journeys are long, the ocean and the challenges are endless – then India's answer is Vikrant. The incomparable Amrit of Azadi ka Amrit Mahotsav is Vikrant. Vikrant is a unique reflection of India becoming self-reliant."

Commenting on the new mood of the nation, the Prime Minister said, no challenge is too difficult for today's India. He said "today, India has joined those countries in the world, which manufacture such a huge aircraft carrier with indigenous technology. Today INS Vikrant has filled the country with a new confidence, and has created a new confidence in the country." The Prime Minister acknowledged and praised the contribution of the Navy, engineers of Cochin Shipyard, scientists and specially the workers who worked on the project. He also noted the happy and auspicious occasion of Onam that is adding even more happiness to the occasion.

Every part of INS Vikrant has its own merits, a strength, a development journey of its own. It is a symbol of indigenous potential, indigenous resources and indigenous skills. The steel installed in its airbase is also indigenous, developed by DRDO scientists and produced by Indian companies, he said. Explaining the massive proportions of the Carrier, the Prime Minister said it is like a floating city. It produces electricity that is sufficient to power 5000 households and the wiring used will reach Kashi from Kochi, he said. He said that INS Vikrant is a living embodiment of the Spirit of the Panch Prans that he proclaimed from the ramparts of Red Fort.

The Prime Minister talked about the Indian Maritime tradition and naval capabilities. Chhatrapati Veer Shivaji Maharaj, he said, built such a navy on the strength of this sea power, which kept the enemies on their toes. When the British came to India, they used to be intimidated by the power of Indian ships and trade through them. So they decided to break the back of India's maritime power. History is witness to how strict restrictions were imposed on Indian ships and merchants by enacting a law in the British Parliament at that time, the Prime Minister said.

The Prime Minister noted that today on the historic date of September 2, 2022, India has taken off a trace of slavery, a burden of slavery. The Indian Navy has got a new flag from today. Till now the identity of slavery remained on the flag of Indian Navy. But from today onwards, inspired by Chhatrapati Shivaji, the new Navy flag will fly in the sea and in the sky.

The Prime Minister remarked that when Vikrant descends to protect our maritime zone, many women soldiers of the Navy will also be stationed there. With the immense power of the ocean, boundless female power, it is becoming the lofty identity of the new India. Now the Indian Navy has decided to open all its branches for women. The restrictions that were there are now being removed. Just as there are no boundaries for the capable waves, there will be no boundaries or restrictions for the daughters of India.

The Prime Minister said drop by drop water becomes like a vast ocean. He also mentioned the salute by indigenous canon on this Independence Day. Similarly, if every citizen of India starts living the mantra of 'Vocal for Local', then it will not take long for the country to become self-reliant.

Commenting on the changing geo-strategic situation, he said in the past, security concerns in the Indo-Pacific region and the Indian Ocean have long been ignored. But, today this area is a major defence priority of the country for us. That is why we are working in every direction, from increasing the budget for the Navy to increasing its capability, he said. The Prime Minister said that a strong India will pave the way for a peaceful and safe world.

In his address, Raksha Mantri Shri Rajnath Singh termed the commissioning of INS Vikrant at the onset of 'Amritkal' as a testament to the Government's strong resolve to ensure the safety and security of the nation in the next 25 years. "INS Vikrant is a glowing symbol of an aspirational and self-reliant 'New India'. It is an icon of pride, power and resolve of the Nation. Its

commissioning is an unprecedented achievement in the path of building indigenous warships. Indian Navy's tradition is 'old ships never die'. This new avatar of Vikrant, which played a stellar role in the 1971 war, is a humble tribute to our freedom fighters and brave soldiers," he said.

Shri Rajnath Singh also asserted that it is a key responsibility of the Indian Navy to secure the country's maritime interests for uninterrupted maritime trade, amid the constantly-changing global situation. He commended the Navy for always being the 'First Responder' in times of any national or international crisis and exuded confidence that the commissioning of INS Vikrant will further enhance the force's capability. He added that this is an assurance to the friendly foreign countries that India is fully capable of meeting the collective security needs of the region. "We believe in a free, open and inclusive Indo-Pacific. Our efforts in this regard are guided by 'SAGAR' (Security and Growth for All in the Region) as envisioned by the Prime Minister," he said.

The Raksha Mantri also described the commissioning of INS Vikrant as a confirmation that the Government's unwavering commitment to achieve 'Aatmanirbhar Bharat' is not an isolated policy. It is an important part of the huge transformative change taking place in India under the leadership of Prime Minister Shri Narendra Modi, he said.

Shri Rajnath Singh commended the Prime Minister for his visionary leadership in realising the dream of 'Aatmanirbhar Bharat', stating that the government has made path breaking changes in all sectors such as defence, health, education, agriculture, trade, transport and communication. He listed out a series of steps taken by Ministry of Defence to achieve the objective. These include setting up of defence corridors in Uttar Pradesh and Tamil Nadu; issuance of three positive indigenisation lists; earmarking of 68% of capital procurement budget for domestic industry; Defence Production and Export Promotion Policy 2020 and increase in FDI limit. He said, the aim is 'Make in India, Make for the World' and exports of more than $400 billion in the last year is a proof of this vision.

"As India is moving rapidly towards a $5 trillion economy, our share in global trade will increase in the coming times. If the share will increase, a large part of it will inevitably be through maritime routes. In such a situation, INS Vikrant will prove to be crucial to safeguard our security and economic interests," the Raksha Mantri said.

Speaking on the occasion, Chief of the Naval Staff Admiral R Hari Kumar voiced the Navy's resolve for India@100 to become completely self-reliant until 2047, consisting of 'Made in India' ships, submarines, aircraft, unmanned vessels and systems and remain a 'Combat Ready, Credible, Cohesive and Future-Proof Force'. He added that the Navy is determined to move forward on the path of five pledges - developed India, removing any sign of servility, pride in heritage, unity and fulfilling the duties - as envisioned by the Prime Minister.

The Chief of the Naval Staff exhorted the Commanding Officer and crew of INS Vikrant to take forward the proud legacy of erstwhile Vikrant which served the country for 36 glorious years and played a significant role in the 1971 war.

About INS Vikrant

The commissioning of INS Vikrant is a proud moment for the Nation as it showcased the 'Aatmanirbhar' credentials during 'Azadi ka Amrit Mahotsav' and a true testament to the country's zeal and fervour in pursuing capability build up towards enhanced maritime security in

the Indian Ocean Region. With the commissioning, India has entered into a select band of Nations having niche capability to indigenously design and build an Aircraft Carrier and real testimony to the Nation's resolve for self-reliance and 'Make in India'.

INS Vikrant is designed by Indian Navy's in-house Warship Design Bureau (WDB) and built by Cochin Shipyard Limited, a Public Sector Shipyard under the Ministry of Ports, Shipping & Waterways, Vikrant has been built with state of the art automation features and is the largest ship ever built in maritime history of India.

The 262.5 m long and 61.6 m wide Vikrant displaces approx 43,000 T, having a maximum designed speed of 28 Knots with endurance of 7,500 Nautical Miles. The ship has around 2,200 compartments, designed for a crew of around 1,600 including women officers and sailors. The carrier is designed with a very high degree of automation for machinery operations, ship navigation and survivability. The carrier is equipped with the latest state of the art equipment and systems.

The ship is capable of operating air wing consisting of 30 aircraft comprising of MiG-29K fighter jets, Kamov-31, MH-60R multi-role helicopters, in addition to indigenously manufactured Advanced Light Helicopters (ALH) and Light Combat Aircraft (LCA) (Navy). Using a novel aircraft-operation mode known as Short Take Off But Arrested Recovery (STOBAR), INS Vikrant is equipped with a ski-jump for launching aircraft, and a set of 'arrester wires' for their recovery onboard.

With 76% indigenous content, construction of INS Vikrant has resulted in direct employment generation for over 2,000 employees of CSL. In addition, it has resulted in indirect employment generation for approx 12,500 employees for over 550 OEMs, sub-contractors, ancillary industries and over 100 MSMEs as well, thereby bolstering plough back effect on economy.

New Ensign of Navy

Resonant to the ongoing national endeavour to move away from colonial past, need was felt to transition to a new design that drew inspiration from our history. The White Ensign identified nation-wide with the Navy, now comprises of two main constituents - the National Flag in the upper left canton, and a Navy Blue - Gold octagon at the centre of the fly side (away from the staff). The Octagon is with twin golden octagonal borders encompassing the golden National Emblem (Lion Capital of Ashoka – underscribed with 'Satyamev Jayate' in blue Devnagri script) resting atop an anchor; and superimposed on a shield. Below the shield, within the octagon, in a golden bordered ribbon, on a Navy Blue background, is inscribed the motto of the Indian Navy 'Sam No Varunah' in golden Devnagriscript. The design encompassed within the octagon has been taken from the Indian Naval crest, wherein the fouled anchor, which is also associated with colonial legacy, has been replaced with a clear anchor underscoring the steadfastness of the Indian Navy.

Kerala Governor Shri Arif Mohammed Khan, Kerala Chief Minister Shri Pinarayi Vijayan, Minister of Ports, Shipping & Waterways Shri Sarbananda Sonowal, National Security Advisor Shri Ajit Doval, Raksha Rajya Mantri Shri Ajay Bhatt and senior civil & military officials of Ministry of Defence and CSL were among those present on the occasion.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1856230

R. REPUBLICWORLD.COM

Fri, 02 Sep 2022

'India's Pride at Sea': PM Modi Commissions India's First Indigenous Aircraft Carrier INS Vikrant into Indian Navy

In a big move that bolsters India's Aatmanirbhar push, Prime Minister Narendra Modi on Friday commissioned the first indigenous aircraft carrier-- INS Vikrant at Cochin Shipyard Limited in Kerala's Kochi. The 1,000-feet aircraft carrier is the largest ship ever built in the maritime history of India and houses state-of-the-art automation features. With this India has joined the select club of nations having the niche capability to indigenously design and manufacture aircraft carriers above 40,000 tonnes.

The Prime Minister also unveiled the new Naval Ensign (Nishaan) for the Indian Navy, doing away with the colonial past and befitting the rich Indian maritime heritage. Defence Minister Rajnath Singh, Governor Arif Mohammad Khan, CM Pinarayi Vijayan, NSA Ajit Doval, Chief of Naval Staff Admiral R Hari Kumar, and other top dignitaries were also present during the grand ceremony.

Earlier, PM Modi received a Guard of Honour at Cochin as he arrived at the Shipyard Limited in Kochi.

Notably, INS Vikrant has been inducted into the Navy but will not be a deployable platform that can be used in battle for at least the next 15 months. During this period, Vikrant will act like a giant floating air deck without ‘teeth’.

Key features of INS Vikrant, the largest warship ever built in India.

At 262 metres long and 62 metres wide, INS Vikrant is the largest warship to be constructed in India.

It has the capacity to operate 30 aircraft and helicopters. MiG-29K fighter jets, Kamov-31 helicopters, and MH-60R multi-role helicopters will initially be deployed on the carrier.

With 2,300 compartments, the warship can accommodate a crew of nearly 1,600.

The flight deck is about the size of two football grounds and one will cover eight kilometres just by walking through its corridors,

The carrier is equipped with ski-jumps to launch aircraft and has a series of 'arrest wires' for their recovery onboard.

The eight power generators onboard IAC Vikrant can light up the whole of Kochi city.

The ship boasts of a full-fledged state-of-the-art medical complex with the latest medical equipment facilities.

These include major modular OT, emergency modular OT, physiotherapy clinic, ICU, laboratories, CT scanner, X-Ray machines, dental complex, isolation ward, and telemedicine facilities, etc. Vikrant has a full displacement of about 45,000 tonnes, which is much larger and more advanced than its predecessor.

INS Vikrant has been built using indigenous equipment and machinery supplied by India's major industrial houses as well as over 100 MSMEs. With this, India will have two operational aircraft carriers, which will bolster the maritime security of the nation.

Why is the commissioning of Vikrant significant for India?

Aircraft carriers are one of the nation's biggest marine assets and an intrinsic part of any blue water navy. Such warships allow the Navy to move far from its base country to carry out domination exercises in other nations or areas. With the commissioning of Vikrant, India will have two operational aircraft carriers, which will bolster the maritime security of the nation.

The commission is also significant internationally as it adds India to the elite group of nations with the ability to manufacture indigenous aircraft carriers above 40,000 tonnes including the United States, the United Kingdom, Russia, China, and France. It also gives India the ability to project its power overseas. The commissioning of INS Vikrant will mark a significant step for the Narendra Modi government's pitch for Aatmanirbharta (self-reliance), especially in strategic sectors.

https://www.republicworld.com/india-news/general-news/pm-modi-commissions-indias-first-indigenous-aircraft-carrier-ins-vikrant-into-indian-navy-articleshow.html

R. REPUBLICWORLD.COM

Fri, 02 Sep 2022

PM Modi Unveils Navy's New Ensign Inspired by Chhatrapati Shivaji; Explains Significance

Prime Minister Narendra Modi on Friday unveiled a new Ensign of the Indian Navy during the commissioning of the country's first indigenously built aircraft carrier INS Vikrant at Cochin Shipyard Limited in Kerala on Friday.

Shedding its colonial past, the Indian Navy has got a new insignia featuring the Indian Tricolour, replacing the Saint George's cross which featured on the Navy Flag ever since the British instilled it during the pre-independence era.

The new Ensign comprises the National Flag on the upper canton and the blue octagonal shape encompassing the National Emblem sitting atop an anchor depicting steadfastness and superimposed on a shield with the Navy's motto 'Sham No Varuna' in Devnagari. The octagonal shape represents the eight directions symbolizing the Indian Navy's multi-directional reach and multi-dimensional operational capability.

It must be noted that the President of India has approved the introduction of the new designs of the Naval Ensign, as also the Distinguishing Flags, Masthead Pennants and Car Flags for the Indian Navy ahead of its grand unveiling today in Kerala's Kochi.

The national motto 'Satyamev Jayate' engraved in the Devanagari script, was included underneath the State Emblem. Notably, this white ensign has been flown by all formations, ships and establishments of the Indian Navy till 01 Sep 22. The new Naval White Ensign is rooted in

the glorious maritime heritage of India and is designed to reflect our Navy's present-day capabilities.

The Octagonal shape with twin golden borders draws inspiration from the seal of the great Indian emperor Chhatrapati Shivaji Maharaj whose visionary maritime outlook established a credible naval fleet consisting of 60 fighting ships and approximately 5000 men.

The rising Maratha Naval power during the Shivaji Maharaj period was the first to secure the coastline against external aggression. As India marks its 75th year of Independence, the new Naval Ensign is a step toward liberating the mind and further empowering the indomitable spirit of the Indian Navy.

Saint George's cross removed

Dropping the Cross of Saint George, Indan Navy has incorporated the new ensign inspired by Chhatrapati Shivaji Maharaj. Notably, Saint Geroge's cross was removed from the flag during the Atal Bihari Vajpayee regime between 2001 to 2004. However, a month before the UPA government was sworn in, the original ensign was adopted again as there were complaints within the force about the blue in the Naval crest.

The ensign has been selected by the government from around 10 different designs that were given to them by the naval headquarters. The suggestions ranged from depicting 11 waves on the flag representing 11 different coastal states to showcasing the different commands of the force.

The last ensign of the Indian Navy drew its origin in the colonial period. The naval service was renamed Royal Indian Navy (RIN), with its headquarters at Bombay (now Mumbai). With the partition of India, post-independence, the Royal Indian Navy was divided into the Royal Indian Navy and the Royal Pakistan Navy.

https://www.republicworld.com/india-news/general-news/pm-modi-unveils-navys-new-ensign-inspired-by-chhatrapati-shivaji-explains-significance-articleshow.html

R. REPUBLICWORLD.COM

Fri, 02 Sep 2022

'Steel from DRDO': PM Modi Details how INS Vikrant is Made in India; Hails Potential

Moments after commissioning India's 1st indigenous aircraft carrier INS Vikrant on Friday, Prime Minister Narendra Modi hailed India's defence sector for making the nation self-reliant. Highlighting features of INS Vikrant, PM Modi said that the aircraft carrier is a symbol of indigenous potential, indigenous resources, and indigenous skills.

Addressing the event, PM Modi said, "India has now joined the category of nations that builds such aircraft carriers using the indigenous techniques. The development of INS Vikrant is effective as it has instilled new faith in the nation."

Speaking about the equipment used in the development of INS Vikrant, PM Modi said, "The steel installed in its airbase is also indigenous. The steel was developed by DRDO scientists and produced by Indian companies. INS Vikrant is not only a warship but a floating airfield and city.

The electricity produced in this can light up to 5000 homes. The flight deck used in this is approximately equal to two football grounds."

PM Modi unveils Navy's new Ensign

PM Modi also unveiled the new Naval Ensign which is inspired by the Chhatrapati Shivaji Maharaj. The new Ensign comprises the National Flag on the upper canton and the blue octagonal shape encompassing the National Emblem sitting atop an anchor depicting steadfastness and superimposed on a shield with the Navy's motto 'Sham No Varuna' in Devnagari. The octagonal shape represents the eight directions symbolising the Indian Navy's multi-directional reach and multi-dimensional operational capability.

Addressing a large gathering at the commissioning ceremony of INS Vikrant, Modi said with the new ensign, the country has shed its colonial past. PM Modi said, "Till today Indian Naval flags carried a sign of slavery which has been replaced with a new one inspired by Chhatrapati Shivaji Maharaj."

Dedicating the new Naval flag to the great warrior King, the PM stressed, "Today on the historic date of September 2, 2022, another history-changing act has happened. Today India has wiped off a trace of slavery, a burden of slavery. Indian Navy has got a new flag from today. The imprint of slavery was visible on the Indian Navy's flag. But from today, the Indian Navy's new flag inspired by Chhatrapati Shivaji Maharaj will fly high in the sky and ocean."

https://www.republicworld.com/india-news/general-news/steel-from-drdo-pm-modi-details-how-ins-vikrant-is-made-in-india-hails-potential-articleshow.html

Hindustan Times

Sat, 03 Sep 2022

INS Vikrant and its Handpicked Crew

Eight men stand out among the handpicked INS Vikrant crew for the critical responsibilities they will have to shoulder to make sure that the 45,000-tonne warship is ready to execute round-the-clock missions in the far seas, officials familiar with aircraft carrier duties said on Friday.

They are the captain of the ship, the man in charge of INS Vikrant's air wing, the warship's second-in-command or executive officer, the medical officer, the logistics officer, the electrical officer, the engineer officer and the meteorological officer.

And all of them have played important roles when Vikrant was put through its paces during a raft of rigourous trials at sea for almost a year before Prime Minister Narendra Modi commissioned the warship into the navy.

"While every man serving on board an aircraft carrier or another warship his work cut out for him, those in leadership positions have to play a far more hands-on role," said one of the officials cited above asking not to be named.

The eight officers featured in a brochure handed out to more than 3,000 guests at the INS Vikrant commissioning ceremony – Commanding Officer Captain Vidhyadhar Harke, Capt (Air) Captain

Rajat Kumar, Executive Officer Captain Gurudeep Bala, Principal Medical Officer Surgeon Commander Yogeshwar Surse, Logistics Officer Commander Shibu Philip, Electrical Officer Commander Vineet Kumar, Engineer Officer Commander Davinder Grover and Meteorological Officer Commander Harikrishnan.

"The commissioning crew is usually chosen from among the best, in that rank and seniority. All these officers will play a crucial role in setting up, operationalisation and integration of the aircraft carrier with the fleet," said a second official.

The commanding officer is the overall boss, the captain (air) heads all aspects of air operations and flight safety, and the executive officer is the principal warfare officer aboard and responsible for the warship's day-to-day functioning and its combat readiness.

The electrical officer is responsible for all aspects related to power generation, its distribution, maintenance of all sensors, weapons and combat management systems, and all electrical systems supporting operations. The engineer officer performs the critical task of looking after the engineering department, including all engineering machinery and flight deck engineering equipment supporting flying operations.

The meteorological officer's role is critical for flying operations – it his department that makes weather predictions.

The responsibility of the logistics officer is equally critical given that the aircraft carrier has to sail out for extended deployments with a crew of 1,600 men. The principal medical officer is in charge of the mini hospital on board with 16 beds and two operating theatres.

At ₹20,000 crore, Vikrant's hasn't come cheap and getting more bang for the buck will be essential for a country that needs to invest enormously in new military technologies to stay battle-ready, but whose defence spending has not matched the needs of its armed forces that are saddled with legacy equipment.

"I am sleeping well. I have full confidence in the capabilities of my men and my aircraft carrier. We are geared up and we are motivated," Harke had earlier said.

https://www.hindustantimes.com/india-news/ins-vikrant-and-its-handpicked-crew-101662140755084.html

Sat, 03 Sep 2022

समंदर में बाहुबली INS विक्रांत और आसमान में गरजता तेजस...दुनिया देख रही मेड इन इंडिया की ताकत

भारत रक्षा के क्षेत्र में अपनी जरूरतों को पूरा करने के लिए धीरे-धीरे आत्मनिर्भरता की ओर आगे बढ़ रहा है. आधुनिक हथियारों से लेकर तोप, ड्रोन और फाइटर जेट (Fighter Jet) समेत कई

और उपकरण खुद ही बनाने में लगा है. दो सितंबर को स्वदेश नर्मित विमानवाहक पोत आईएनएस विक्रांत (INS Vikrant) को नौसेना को समर्पित कर दिया गया, जो आत्मनिर्भर भारत और मेक इन इंडिया की प्रगति का स्वर्णिम पल रहा. आज हम इस बात पर गर्व कर सकते हैं कि मेक इन इंडिया और आत्मनिर्भर भारत का अभियान शानदार तरीके से सफलताओं का आसमान चूम रहा है.

इस बार स्वतंत्रता दिवस के मौके पर हर कोई भारत में बनी एडवांस्ड टोड आर्टिलरी गन सिस्टम वाली तोप को देखकर हैरान था. रक्षा के क्षेत्र में जो भारत पहले सिर्फ आयात कर रहा था, अब दूसरे देशों को बेचने की स्थिति में है.

समंदर में बाहुबली INS विक्रांत

भारत लगातार मेड इन इंडिया अभियान के तहत हथियारों से लेकर बड़े-बड़े युद्धपोत बना रहा है. दो सितंबर को समंदर का बाहुबली आईएनएस 'विक्रांत' भारतीय नौसेना में शामिल हो गया. ये स्वदेश निर्मित विमानवाहक पोत देश की एक नई ताकत और ऊर्जा है. इस विशाल एयरक्राफ्ट के जरिए समुद्री सरहद में जल से लेकर नभ तक प्रहरी का काम किया जा रहा है. स्वदेशी एयरक्राफ्ट कैरियर विक्रांत के साथ ही भारत उन देशों के समूह में शामिल हो गया है, जिसके पास इस तरह के बड़े और आधुनिक सुविधाओं से लैस युद्धपोत बनाने की क्षमता है. आईएनएस विक्रांत (INS Vikrant) को कोचीन शिपयार्ड लिमिटेड की ओर से बनाया गया है. इस युद्धपोत को इंडियन नेवी (Indian Navy) के इन-हाउस डायरेक्टरेट ऑफ नेवल डिजाइन (DND) ने डिजाइन किया है.

आसमान में गरजता 'तेजस'

भारत में बने हल्के लड़ाकू विमान तेजस की पूरी दुनिया में धूम मची है. अब तेजस का एक नया वर्जन भी जल्द आने की उम्मीद है. पीएम मोदी की अगुवाई वाली कैबिनेट कमेटी ऑन सिक्योरिटी (CCS) ने तेजस मार्क-2 को प्रोटोटाइप, उड़ान परीक्षण और प्रमाणन के साथ 6,500 करोड़ रुपये से अधिक के मूल्य के साथ विकसित करने की मेगा प्रोजेक्ट को मंजूरी दे दी. इसके अलावा सरकार ने पांचवी पीढ़ी स्टील्थ टेक्नोलॉजी को भी हरी झंडी दे दी है. तेजस के एडवांस्ड वर्जन में अधिक ताकतवर इंजान लगाया जाएगा. तेजस-1 का वजन 14.5 टन था, लेकिन अब इसे बढ़ाकर 17.5 टन किया जाएगा. तेजस मार्क -2 में 4.5 टन पेलोड ले जाने में सक्षम होगा. जबकि इससे पहले तेजस मार्क-1 में 3.5 टन की अधिकतम पेलोड क्षमता थी.

मल्टी रोल ड्रोन

हाल के दिनों में अमेरिका समेत कई देश तेज को खरीदने को लेकर दिलचस्पी दिखा चुके हैं. अमेरिका को दुनिया सुपरपावर मानती है, वो भी भारत के स्वदेशी फाइटर जेट तेजस में

दिलचस्पी दिखा रहा है. अमेरिका के अलावा ऑस्ट्रेलिया, इंडोनेशिया और फिलीपींस ने भी भारत के हल्के लड़ाकू विमान तेजस में दिलचस्पी दिखाई है. हिंदुस्तान एयरोनॉटिक्स लिमिटेड (HAL) चीन के साथ लगती सीमाओं पर निगरानी के लिए एआई संचालित मल्टी रोल ड्रोन (Drone) भी विकसित कर रहा है. ये ड्रोन दुश्मन के खतरों से निपटने में काफी हद तक मददगार होंगे

स्वेदश में विकसित ATAGS तोप

दिल्ली में लाल किले पर इस बार स्वतंत्रता दिवस के मौके पर भारत में बनी एडवांस्ड टोड आर्टिलरी गन सिस्टम वाली तोप देखकर हर भारतीय को गर्व था. 21 तोपों की सलामी हर साल ब्रिटिश निर्मित तोपों के जरिए दी जाती थी, लेकिन इस बार पहली बार स्वदेशी तोपों से सलामी दी गई. ये डीआरडीओ द्वारा विकसित किया गया है. पीएम मोदी ने भी कहा था कि आजादी के बाद 75 वर्षों में पहली बार, तिरंगे को दी जाने वाली 21 तोपों की सलामी में मेड-इन-इंडिया आर्टिलरी गन का इस्तेमाल किया गया. सभी भारतीय इस ध्वनि से प्रेरित होंगे. इस तोप को डीआरडीओ की पुणे स्थित सुविधा आयुध अनुसंधान और विकास प्रतिष्ठान में निर्मित किया गया था. ATAGS परियोजना को डीआरडीओ द्वारा 2013 में भारतीय सेना में पुरानी तोपों को आधुनिक 155 मिमी आर्टिलरी गन से बदलने के लिए शुरू किया गया था.

एफ-इंसास और एके-203 राइफल

दुश्मनों को मुंहतोड़ जवाब देने के लिए सेना को स्वदेश निर्मित अत्याधुनिक हथियार दिए जा रहे हैं. इसी कड़ी में अभी अगस्त महीने में रक्षा मंत्री राजनाथ सिंह ने भारतीय सेना को एफ-इंसास, एके-203 राइफल, एंटी पर्सनल माइन, बोट और ड्रोन समेत कई स्वदेशी हथियार सौंपे थे. एके 203 काफी हल्की और बेहद खतरनाक है. इसकी इफेक्टिव रेंज 300 मीटर बताई जाती है. इसकी मैग्जीन में 30 बुलेट आएंगी.

ब्रह्मोस मिसाइल

भारत और रूस ब्रह्मोस-2 के नए वेरिएंट यानी ब्रह्मोस-2 सुपरसोनिक क्रूज मिसाइल के निर्माण में तेजी से जुट गए हैं. इस मिसाइल में रूस के सबसे घातक जिरकॉन (Zircon) मिसाइल की तकनीक का भी इस्तेमाल हो सकता है. ब्रह्मोस मिसाइल को भारत और रूस ने संयुक्त तौर से निर्माण किया है. रेंज के मामले में ये अलग-अलग वेरिएंट में मौजूद है. इसकी रेंज 300 से 700 किमी तक है. हाइपरसोनिक वेरिएंट को भारत और रूस मिलकर विकसित कर रहे हैं. इस एडवांस्ड वर्जन को रूस के रिसर्च एंड प्रोडक्शन एसोसिएशन ऑफ मशीन बिल्डिंग और भारत के डीआरडीओ (DRDO) साथ मिलकर विकसित करने में जुटे हैं. हालांकि इसमें कुछ वक्त लग सकता है.

भारत का अब निर्यात पर भी जोर

दुनिया की सबसे घातक और तेज सुपरसोनिक क्रूज मिसाइल ब्रह्मोस (BrahMos 2 Hypersonic Missile) उत्तर प्रदेश में भी बनाने की योजना है. हम हथियारों को बनाने के साथ-साथ निर्यात पर भी जो दे रहे हैं. अभी हाल ही में ब्रह्मोस क्रूज मिसाइल की 3 बैट्री की खरीद के लिए 30.75 करोड़ डॉलर के सौदे पर मुहर लगाने के कुछ महीने बाद फिलीपींस अपनी सैन्य ताकत को बढ़ाने के लिए भारत से एडवांस्ड हल्के हेलीकॉप्टर खरीदने पर विचार कर रहा. देश में पहली बार किसी विदेशी नौसेना का जहाज रिपेयर के लिए चेन्नई पहुंचा. अमेरिकी नौसेना ने एक डील के तहत अपने यूएसएनए चार्ल्स ड्रियू जहाज को रिपेयर करने के लिए चेन्नई के कट्टूपल्ली स्थित एलएंडटी कंपनी के शिपयार्ड भेजा. इन गतिविधियों से मेक इन इंडिया अभियान को बड़ा बूस्ट मिलने की उम्मीद है.

https://www.abplive.com/news/india/defence-news-indigenous-aircraft-carrier-ins-vikrant-tejas-world-looking-the-power-of-made-in-india-2206898

Business Standard

Sat, 03 Sep 2022

From Russia to France, Countries Hail India's Aircraft Carrier INS Vikrant

Several foreign envoys, who attended the commissioning ceremony of India's first indigenous aircraft carrier INS Vikrant in Kochi on Friday, have acknowledged the country's rise as a global power.

Hailing India's growing defence manufacturing prowess, the foreign ambassadors also committed to making stronger partnerships with New Delhi keeping in mind the fast-changing geostrategic situation as well as security concerns in the Indo-Pacific and the Indian Ocean Region.

Denis Alipov, the Russian Ambassador to India, highlighted not only the friendship between the two nations which has remained intact 'despite current difficulties and tensions in the world' but also that the warship has been developed with Russia's participation.

'Participated today in the commissioning of INS Vikrant by the Honourable Prime Minister Narendra Modi. India's first swadeshi aircraft carrier. A glorious moment for the country and its people. Russia is proud to be part of it. Jai Vikrant! Shano varuna!' tweeted Alipov.

The seasoned diplomat posted several photographs of the event held at the Cochin Shipyard before proceeding to visit Cochin University of Science and Technology to hold a discussion on the prospects of Russia-India collaboration in education and scientific research. 'It's a proud moment for India that they built an indigenous major aircraft carrier. India is moving towards

self-reliance and has shown that it's moving fastly towards becoming a major global power. The world needs super strong India,' the Russian Ambassador told ANI later.

French Ambassador Emmanuel Lenain congratulated India and said that Paris is already looking forward to seeing INS Vikrant sail together with the French Navy's flagship aircraft carrier Charles de Gaulle in the Indo-Pacific.

'Congratulations, India, on commissioning IAC Vikrant and joining the club of nations capable of manufacturing aircraft carriers! France looks forward to seeing INS Vikrant sail together with Charles de Gaulle carrier in our joint actions in the Indo Pacific,' tweeted Lenain.

Having already vowed to make the India-France strategic partnership 'a force for global good', Prime Minister Narendra Modi and French President Emmanuel Macron have made it a point to extend the operational cooperation between the two countries in the Indo-Pacific region.

Both India and France have also been focused on partnering more strongly in the field of co-designing, co-development, and co-production of different defence equipment in India.

Commenting on a video of Barak 1 surface-to-air missiles (SAM) being test-fired from INS Vikramaditya, the Israeli embassy in India congratulated India on the commissioning of 'Made-in-India INS Vikrant' and said that it was 'excited to see the productive outcome' of India-Israel cooperation in the defence sector.

'Congratulations to our Indian brothers. Job well done! A small glimpse at India-Israel defence cooperation. United we will prevail,' tweeted Naor Gilon, the Ambassador of Israel to India.

Defence Research and Development Organisation (DRDO) and Israel Aerospace Industries (IAI), in collaboration with the Indian industry comprising of private and public sectors including MSMEs, have jointly developed the Medium Range Surface to Air Missile (MRSAM), a state-of-the-art missile system against aerial threats like fighter aircraft, UAVs, guided and unguided munitions and cruise missiles.

Alex Ellis, the British High Commissioner to India, tweeted a video of him from the flight deck of INS Vikrant and spotlighted that both India and the United Kingdom believe in the importance of the freedom of the high seas.

Our growing interactions are a testimony to the shared commitment to a rules-based international system, a belief in the values of open trade, and the importance of the freedom of the high seas - a right conveyed on all nations.

'Honoured to be present at the commissioning of INS Vikrant by Narendra Modi - a great day for Indian Navy and for open and free seas,' tweeted Ellis.

Last October, as the UK's Carrier Strike Group (CSG) led by HMS Queen Elizabeth sailed into the Bay of Bengal in a powerful demonstration of the UK-India Comprehensive Strategic Partnership, the British High Commissioner mentioned that both the Indian and the Royal Navy are blue-water, multi-carrier navies, which places them in a very exclusive club. Australia's High Commissioner to India, Barry O'Farrell also tweeted about his experience of seeing INS Vikrant closely in Kochi today.

https://www.business-standard.com/article/international/from-russia-to-france-countries-hail-india-s-aircraft-carrier-ins-vikrant-122090300419_1.html

Mon, 05 Sep 2022

INS Vikrant is a Force Multiplier

By Prakash Chandra

With the commissioning of India's first indigenously-built aircraft carrier, INS Vikrant, on September 2, the Indian Navy (IN) is sailing towards becoming a truly blue water navy. The 45,000 tonne vessel is a powerful force multiplier that strengthens the navy's offensive, and defensive capabilities.

This makes India part of a handful of countries who can indigenously design and make aircraft carriers. As Prime Minister Narendra Modi said at the commissioning ceremony in Kochi, "INS Vikrant has filled the country with a new confidence. It's a symbol of India's hard work, ingenuity, influence and commitment…a symbol of indigenous strength, research and skill."

INS Vikrant — named after the country's first carrier which was decommissioned in 1997 — is a fitting testimony to the mantra of Atmanirbharta (self-reliance) in defence production that is echoing in the corridors of the Ministry of Defence (MoD). The carrier is truly a product of the 'Make in India' initiative, having some three-quarters of its systems and components built indigenously.

For instance, locally-produced steel from industry was used for making its superstructure. The involvement of private players in building warships owes to the MoD's decision to earmark a substantial part of its annual spending for the private sector. As Defence Minister Rajnath Singh said: "The government has made improvements in the Defence Production Policy and Export Promotion Policy. FDI limit has been increased in the sector, defence industrial corridors have been developed and 68 percent of the capital acquisition budget of Rs 85,000 crore of the defence sector is for the domestic industry."

This augurs well for faster indigenisation of India's warship-building efforts, and highlight India's credentials as a potential hub for ship-building.

Good For Economy

Critics argue that the Vikrant took a long time coming off the drawing board. It is true that after the MoD cleared the flat-top's design and construction in 2003, it took till 2021 for the ship to begin its sea trials. The gestation period of an aircraft carrier, from design stage to its commissioning, often takes 10 years or more; in this case, India was building its first aircraft carrier indigenously.

But at the end of the day it seems to have been worth the wait since the Vikrant project may have already paid for itself: according to navy sources, more than 85 percent of the carrier's project cost has been ploughed back into the economy. The ship's construction has also helped to generate employment for thousands of people. In any case, given the 50-year plus lifespan of the carrier, its price tag is inconsequential when compared to its impact on national security.

More Aircraft Carriers?

The Indian Navy already operates the 44,570-tonne INS Vikramaditya — the erstwhile Russian Admiral Gorshkov, a modified Kiev-class carrier — from its western base. So the addition of INS Vikrant to its fleet will help the navy dominate the country's 7,500-kilometre coastline, besides adding to its strategic reach. India's position in the Indian Ocean has bequeathed it with a 'maritime destiny' as more than 90 percent of the country's trade by volume is seaborne. The navy has a huge responsibility to protect this by keeping the straits of Malacca, Hormuz, Bab-el-Mandeb, and the South China Sea free of strife.

INS Vikrant is a key element in India's stated goal of having at least two carrier battle groups (CBGs)— warship formations with an aircraft carrier as the centerpiece, protected by destroyers, submarines, tankers, and fighter aircraft — for the western and eastern seaboards. Only a handful of countries have CBGs which are deployed primarily as power demonstrators. New Delhi's lone CBG option is currently focused on INS Vikramaditya. When operationalised, the second CBG could be formed around the Vikrant. In fact, the MoD has plans to build a third carrier bigger than the Vikrant to flag the western, eastern, and Andamans naval bases.

Having more CBGs is predicated on New Delhi's strategic calculus where the expansionist plans of the People's Liberation Army Navy (PLAN) of China are crucial imperatives. If China took its time in deploying the CBGs it has to do with Beijing's ambitious plans to build two carriers for each of the PLAN's three fleets. The PLAN operates three aircraft carriers, and intends to have four more in the Indo-Pacific region.

Is Smaller Better?

While the navy needs more flat-tops, however, the watchword should be 'more', not 'large' as some experts who argue for bigger warships seem to believe. Modern navies are increasingly turning to smaller, speedier, and numerous warships and carriers are no exception. It makes a lot of economic as well as strategic sense to build, and operate fleets based around smaller, and more mobile light carriers that present a smaller target profile. Not only would such ships be less vulnerable to missile attacks, they would also give planners more options to increase the number of platforms at the navy's disposal.

This suggests that the Indian Navy should ideally have not two but four or more CBGs so that its combat operational levels could be maintained without disrupting fleet activities in tomorrow's oceans.

https://www.moneycontrol.com/news/opinion/defence-ins-vikrant-is-a-force-multiplier-9131211.html

ThePrint

Sun, 04 Sep 2022

Why China is Wary of INS Vikrant?

India, with the induction of its first Indigenous Aircraft Carrier, ' INS Vikrant' is set to contain China's iniquitous intentions to control the Indo-Pacific region.

As preparations for India's third aircraft carrier have already been set in motion, it is a clear message to China and Pakistan of its nefarious design in keeping with the theme of being a 'Combat Ready, Credible and Cohesive force' in the Indian Ocean Region.

On September 2, India got its first Indigenous Aircraft Carrier, ' INS Vikrant'. Prime Minister Narendra Modi commissioned the aircraft carrier at the Cochin Shipyard in Kerala.

A CNN report claimed the aircraft carrier had put India into "an elite league of the world's naval powers," and an AFP article hailed it as "a milestone in government efforts to counter China's growing military assertiveness in the region".

The INS Vikrant is a force multiplier that will be a 'game-changer' in the current regional maritime security dynamics as the IAC will boost India's maritime defence capabilities with the in-service carrier INS Vikramaditya. It is well-known that China, which has been demonstrating an increasingly aggressive posture along the land boundary with India, is also attempting to get a foothold in the Indian Ocean, which is increasingly becoming a stage of rivalry between India and China.

Towards this, China has already acquired a naval outpost in Djibouti and invested in developing the Gwadar port in Pakistan. The Chinese Navy will use these basing facilities to support its ships. Recently, China also launched its third aircraft carrier, Fujian, and is rapidly building two more aircraft carriers, including its fleet of destroyers and frigates. The vessel – with a flight deck that is approximately 320m long and almost 80m wide according to satellite imagery estimates – is referred to as a Type 003 carrier.

India and China were recently at odds over the docking of a Chinese "spy ship" in Sri Lanka's Hambantota port for a seven-day replenishment, which India had vehemently opposed due to security concerns. Sri Lanka initially requested a delay in the ship's arrival over India's objections, but eventually, it got approved following "extensive consultations at a high level." These developments are a cause for concern in the Indian security establishment.

While India has become a preferred security provider for its littoral countries, it cannot be the case with China for the nations in the Southeast Asia region.

China's contentions in the IOR are to protect its sea lines of communication through the Straits of Malacca and the Hormuz Straits. The Hormuz Straits account for 40 per cent of China's oil imports, and the Straits of Malacca accounts for 82 per cent of China's oil imports, popularly known as the 'Hormuz-Malacca Dilemma', and that is the reason why China is attempting to encircling India by building a string of naval bases to surround India's neighbours and various neighbouring island states.

The String of Pearls is a network of Chinese military and commercial bases from the Chinese mainland to Port Sudan in the Horn of Africa.

This network passes through crucial maritime choke points that include the Strait of Malacca, Strait of Hormuz, Strait of Mandeb, Gwadar Port in Pakistan, and Hambantota Port in Sri Lanka.

China has long wanted to control the Indo-Pacific region, which is essential for its security and commercial shipping. The String of Pearls is one such initiative by China in this direction. But with the induction of INS Vikrant, India is now well poised to contain China's String of Pearls.

Notably, INS Vikrant is "the largest ship ever built in the maritime history of India" and can operate a fleet of 30 aircraft, including fighter jets and multi-role helicopters. It is designed with a high degree of automation for machinery operations, ship navigation, and survivability.

Designed by the Indian Navy's in-house Warship Design Bureau (WDB) and built by Cochin Shipyard Limited, a Public Sector Shipyard under the Ministry of Ports, Shipping and

Waterways, Vikrant has been built with state-of-the-art automation features and is the largest ship ever built in the maritime history of India. Prime Minister Narendra Modi said, "INS Vikrant is not just a warship. This is a testament to the hard work, talent, influence, and commitment of 21st century of India".

With the commissioning of 'Vikrant', India has joined a select group of nations such as the US, the UK, Russia, China, and France with the niche capability to design and build an aircraft carrier indigenously. He further added that the carrier has filled the nation with "new confidence" and declared India had taken one more step toward becoming a developed nation.

Defence Minister Rajnath Singh said the commissioning of Vikrant demonstrates that India is "fully capable of meeting the collective security needs of the region" and that India's navy is ready to respond to any crisis.

INS Vikrant, built at the cost of around Rs 20,000 crore, successfully completed its fourth and final phase of the sea trials last month. With the construction of 'Vikrant', India has joined a select group of nations having the niche capability to indigenously design and build an aircraft carrier.

At a top speed of about 28 knots and an endurance of 7,500 nautical miles, the IAC can readily be deployed to an area of potential threat. The 262-meter-long and 62-meter-tall aircraft carrier can carry 1,600 sailors and displaces about 43,000 tons of water will bolster its navy capabilities amid growing concerns over the Chinese regime's assertiveness in the region.

The ship has over 2,300 compartments, designed for a crew of around 1,700 people, including specialised cabins to accommodate women officers.

Vikrant has a top speed of around 28 knots and a cruising speed of 18 knots with an endurance of about 7,500 nautical miles. The aircraft carrier is 262 metres long, 62 metres wide and it has a height of 59 metres. Its keel was laid in 2009. The commissioning of India's first indigenous aircraft carrier is a momentous occasion during the 'Amritkaal of India's 75 years of independence and signifies the country's confidence and prowess.

This indigenous aircraft carrier is proof of the country's technical acumen and engineering skills. This demonstration of India's self-sufficiency to produce an aircraft carrier warship will reinforce the country's defence indigenization programs and 'Make in India' campaign.

https://theprint.in/world/why-china-is-wary-of-ins-vikrant/1115850/

Fri, 02 Sep 2022

Border Security Force Develops Tear Gas Shell-Dropping Drone System

A tear gas shell-dropping drone system has been developed by the Border Security Force (BSF) that can be used by police for controlling protesters and rioters, a senior officer of the border-guarding force said on Friday. He said the "drone tear smoke launcher" can be used for launching

these shells from an unmanned aerial vehicle (UAV) or drone and it "will be a potential force multiplier for the security forces working in the law-and-order management domain".

A Border Security Force (BSF) spokesperson said the new system was tested recently at its famed tear smoke unit (TSU) in Tekanpur, Madhya Pradesh and this was informed at the annual governing body meeting of the special unit held in Delhi under the chairmanship of BSF Director General (DG) Pankaj Kumar Singh.

> TSU R&D team has developed a 'Drone Tear Smoke Launcher' for dropping TSMs from UAV/Drone which will be a potential force multiplier to the Security Forces in law-and-order management. #BSFpic.twitter.com/BDwZR7Ck42
>
> — BSF (@BSF_India) September 2, 2022

The TSU was established under the BSF in 1976 and it develops and manufactures anti-riot tear smoke munitions for supply to both central and state police forces. The BSF is primarily deployed to guard the Indian borders with Pakistan and Bangladesh, besides playing a variety of roles in the country's internal security domain.

A video clip shared by the force showed at least six tear smoke shells placed tightly in a metal cage fixed under a hexacopter drone. The drone system drops the tear shells from the air at designated spots. During the meeting, the BSF DG praised the TSU for bringing out a variety of non-lethal munitions for police and security forces as he said "indigenous production of these items has reduced the country's dependence on foreign munitions".

The TSU also produces a variety of other lachrymatory munitions, flash-bang shells, impact munitions, and customised products for special operations, the BSF spokesperson said.

https://www.ndtv.com/india-news/border-security-force-develops-tear-gas-shell-dropping-drone-system-3311348

The Tribune

Fri, 02 Sep 2022

Navy Pushes for Third Carrier, a 65,000-Tonne Warship

As the euphoria over the commissioning of the indigenous aircraft carrier INS Vikrant ebbs, the time may be right to announce another aircraft carrier, taking their number to three in the naval fleet. Besides the new INS Vikrant, the 44,500-tonne carrier INS Vikramaditya procured from Russia is already in service.

Strategic circles were expecting an announcement today at the commissioning of the Vikrant as the Navy has been pushing for the third carrier, expected to be a 65,000-tonne warship. The Centre is yet to give its approval.

Any delay in re-employing the hard-earned skill of making a carrier could be a missed opportunity. Navy Vice Chief Vice Admiral SN Ghormade, at a press conference last week, said: “The Navy’s plan has catered for a third aircraft carrier.” An indigenous

ecosystem has been created by building the Vikrant. The stage is now well set to take the next step forward to indigenously build the next aircraft carrier to ensure the expertise gained is utilised to the maximum, Admiral Ghormade had said.

After having built the Vikrant – the biggest warship made by India ever — Madhu Nair, Chairman and Managing Director of Cochin Shipyard Limited, told The Tribune the "build time" for the next carrier could be cut down significantly.

"Once a go-ahead is given for the next carrier, we can make it in eight years or so," said Nair. "A new dock is coming up, it will be capable of handling 70,000-tonne ships," he added.

It took 13 years to make the Vikrant — from the keel-laying in February 2009 to its commissioning.

Also, India is racing to match China in naval strength. China has two operational aircraft carriers – the Liaoning and Shandong. In July it launched another one, Fujian, expected to be commissioned in 2025.

Other Asian countries are also racing to enhance sea power. The Japanese have the JS Izumo, which can fly fighter jets. It's adding JS Kaga. South Korea has a plan to launch by 2030 a large-deck amphibious warfare ship.

The need for a third carrier also arises as these ships have lengthy maintenance schedules. The cycle of maintenance can lead to the absence of a carrier for two years. The INS Vikramaditya refit began in the beginning of 2021 and still continues.

So if India has three carriers, one each can be deployed on the western and eastern flank while the third goes for a refit.

'13 yrs to build Vikrant, 8 yrs for next'

- Having built Vikrant, Cochin Shipyard chief Madhu Nair said next carrier can be built in significantly lesser time
- "After getting the go-ahead, we can make it in 8 years or so," he said. It took 13 years to make INS Vikrant

https://www.tribuneindia.com/news/nation/navy-pushes-for-third-carrier-a-65-000-tonne-warship-427962

पंजाब केसरी

Sun, 04 Sep 2022

स्वदेशी वायरलेस फायरिंग सिस्टम का सफल परीक्षण

नोएडा की कंपनी ब्रह्मशिरा एस्ट्रा भारत प्राइवेट लिमिटेड ने कर दिखाया

नई दिल्ली, (पंजाब केसरी): भारत और विदेशों में सेना और बलों द्वारा उपयोग के लिए हथियार प्रणालियों के विकास, डिजाइन और उत्पादन को स्वदेशी बनाने का प्रयास करने वाली नोएडा स्थित भारतीय रक्षा कंपनी ब्रह्मशिरा एस्ट्रा भारत प्राइवेट लिमिटेड (बीएसएबी) ने अपने वायरलेस फायरिंग सिस्टम (डब्ल्यूएफएस) का सफलतापूर्वक परीक्षण किया है।

वायरलेस या रिमोट फायरिंग सिस्टम का उपयोग मुख्य रूप से लगभग 100 मीटर से 5 किलोमीटर या उससे अधिक की दूरी से एक विस्फोटक असेंबली को दूरस्थ रूप से शुरू करने के लिए युद्ध में किया जाता है। वायरलेस फायरिंग सिस्टम के तीन वेरिएंट विकसित किए गए हैं जिन्हें उनकी रेंज के आधार पर वर्गीकृत किया गया है- शॉर्ट रेंज (100 मीटर तक), मीडियम रेंज (100 मीटर से 1 किमी) और लॉन्ग रेंज (1 किमी से 5 किमी)। डॉ. जे.पी. सिंह, प्रमुख सलाहकार, बीएसएबी और पूर्व वैज्ञानिक 'एच', डीआरडीओ ने बताया कि ओएफ चंदा में मध्यम दूरी के वायरलेस फायरिंग सिस्टम के दो परीक्षण किए गए ताकि इसकी दीक्षा क्षमता का आकलन किया जा सके। पहले परीक्षण ने इलेक्ट्रिक डेटोनेटर पर WFS की दीक्षा क्षमता का परीक्षण किया और दूसरे परीक्षण ने क्लेमोर माइन पर इसकी दीक्षा क्षमता का परीक्षण किया। डॉ मैत्रेयी नंदा, प्रमुख सलाहकार, बीएसएबी और पूर्व सचिव, एयरोनॉटिक्स रिसर्च एंड डेवलपमेंट बोर्ड एट डिफेंस रिसर्च एंड डेवलपमेंट ऑर्गनाइजेशन (डीआरडीओ) ने कहा है कि वायरलेस फायरिंग सिस्टम पूरी तरह से स्वदेशी है और एक वायरलेस ट्रांसमीटर की मदद से शुरू किया गया है।

कर्नल एपी सिंह, वरिष्ठ सलाहकार, बीएसएबी और पूर्व-मुख्य आयुध निरीक्षक, शास्त्र सीमा बल के अनुसार, डब्ल्यूएफएस को भारतीय सशस्त्र बलों द्वारा उपयोग के लिए भी अनुकूलित किया जा सकता है क्योंकि इसकी अत्याधुनिक परिचालन विशेषताओं को देखते हुए यह फायदेमंद है, एक वायरलेस रिमोट के साथ कई खानों या युद्ध सामग्री प्रणालियों (हवाई या भूमि आधारित) को विस्फोट करने की क्षमता। इसकी प्रभावशीलता और घातकता में काफी वृद्धि करेगा। बीएसएबी के वरिष्ठ सलाहकार और पूर्व वैज्ञानिक, सीएफईएस, डीआरडीओ, डॉ. एच.एल. यादव के अनुसार, बीएसएबी वर्तमान में आयुध और उत्पाद स्वदेशीकरण विभाग द्वारा स्वीकृत भारतीय नौसेना के लिए लिम्पेट माइन्स विकसित करने के उन्नत चरणों में है।

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Sat, 03 Sep 2022

Can India Defeat China and Pakistan's Air-To-Air Missiles?

by Girish Linganna

In June, India took an important step toward self-reliance by placing an order for the Astra Mk-1 beyond visual range (BVR) missile. BVR missiles can engage targets beyond a pilot's visual range, which is typically about thirty-seven kilometers. The Astra MK-1 has a range of 100

kilometers and a ceiling of twenty kilometers. It has satisfied all the consumers who intend to integrate them into their aircraft, including the Indian HAL Tejas multirole fighter. However, will this new capability give India an edge over Pakistan and China?

A Tall Order

Pakistan's F-16 fighter jets are armed with U.S. AIM-120 advanced medium-range air-to-air missiles (AMRAAM). It is a fire-and-forget active transmit-receive radar guidance weapon with a range of over 100 kilometers capable of traveling at Mach 4 speed. In retaliation to the 2019 Balakot airstrike, Pakistan launched Operation Swift Retort where it fired the AIM-120 AMRAAM at six locations in Jammu and Kashmir.

China's sights are set on matching U.S. air dominance and their innovations are primarily motivated to achieve comparable, if not superior, aerial warfighting capabilities against the United States. It created the PL-15 missile, an active radar-homing BVR weapon with a 300-kilometer range capable of reaching Mach 4.5. For reference, missiles that can achieve speeds of Mach 5 and above qualify as hypersonic.

To counter such advanced adversaries, it is not enough for India to demonstrate indigenization. There must be a fighting chance with the proper defence forces. Comparing military capabilities to each other in isolation is often moot because real combat involves a variety of factors, such as other equipment and tactics. When Chinese aircraft penetrate Taiwanese airspace, they do not rely solely on their speed and manoeuvrability but also on electronic measures to render Taiwanese radars useless. If one combines a suite of electronic warfare with BVR missiles, the target is a sitting duck.

India's Response To Pakistan And China

The Astra missiles were first tested in 2003 as part of the Integrated Guided Missile Development Programme (IGMDP). Astra MK-1 is an advanced BVR missile that can be launched agnostic to the target's relative position. It includes advanced electronic countermeasures (ECM), which improve its target tracking capability even in an environment with electronic jammers. It can engage multiple targets and now sports an indigenous RF seeker-based active radar instead of semi-active radar.

The pilot has the option of using "Lock on before Launch" (LOBL) or "Lock on after Launch" (LOAL), allowing the fighter jet to shoot and scoot. It is meant to engage an enemy that fights back. Hence, while most aircraft use up to 9 G forces to out manoeuvre missiles, the Astra Mk-1 uses 30 Gs to ensure the endgame objective of an engagement.

The all-weather missile has a range of 100 kilometers and travels at a near hypersonic speed of Mach 4.5. Although its fifteen-kilogram warhead is smaller than the eighteen and twenty-kilogram warheads of the AIM-120 and PL-15, respectively, it has a demonstrated ability to score a direct hit from maximum range.

Potency Potential

Recent news reports indicate that the Astra MK-2 and MK-3 models are set to be tested in 2023 and 2024, respectively. The Mk-2 variant is said to be an incremental upgrade of the Astra MK-1 with a 160-kilometer range. It will also have a dual-pulse solid-fuel rocket motor used by the industry standard, Meteor missile, to achieve greater operational range.

The Astra Mk-3 is being developed along with Russia and will most likely have the new Solid Fuel Ducted Ramjet (SDFR) for a range of 350 kilometers. The Astra Mk-3 will afford India a credible response to the Chinese PL-15 and other world-class BVR missiles.

The SDFR was tested in 2019 and 2021 and it is used in the Meteor BVR air-to-air missile (AAM) to boost energy before engagement. This continuous thrust gives it the largest No-Escape Zone at sixty kilometers. The American AIM-120 uses a rocket motor that achieves its kinetic peak first before bleeding energy as it progresses toward its target. This is also the case with the Astra Mk-1.

However, both the MK-2 and MK-3 will have an SDFR to ensure maximum kinetic energy is sustained after launch. This will ensure that the target is unable to escape the missile within a certain distance. The AIM-120 has a smaller No-Escape Zone than the PL-15, comparable to the Meteor missile.

As India continues to make strides in missile technology, Pakistan and China should know that they will see a dominant BVR missile in New Delhi's arsenal soon.

http://www.indiandefensenews.in/2022/09/can-india-defeat-china-and-pakistans.html

Firstpost.

Thu, 01 Sep 2022

Tejas Mark-2 will Carry out Balakot-Style Surgical Strikes Inside Enemy Territory

Prime Minister Narendra Modi-led Cabinet Committee on Security (CCS) has cleared the Tejas Mark-2 project, to be completed at a cost of over Rs 10,000 crore. The LCA (Light Combat Aircraft) Tejas Mk-2 would be replacing the aging fleets of fighters, such as the legendary Mirage-2000s used in the Balakot strikes, Jaguars and MiG-29s of the Indian Air Force (IAF).

The Tejas Mark-2 would be twice as powerful as the Tejas Mark-1, since it gets a new powerplant—GE-414 engines—as compared to Tejas Mark-1's GE-404 engines, imparting it with double the range than its predecessor. Moreover, Tejas Mark-2 has been designed to carry out operations such as Balakot strikes, deep within enemy territory and this is also what differentiates it from Tejas Mark-1.

"While Tejas MK I is for combat air patrol within the Indian territory, MK II will have the capacity to conduct Balakot-like surgical strikes in enemy territory as it will carry heavy standoff weapons like Crystal Maze and Spice missiles," Girish Deodhare, Program Director (Combat Aircraft), Aeronautical Development Agency (ADA), had said earlier.

In retaliation to the dastardly Pulwama terror attack, India had bombed a Jaish-e-Mohammed (JeM) terror training camp at Jabba Top in Balakot, Manshera, deep inside Pakistan on February 26, 2019. The mission was carried out using a package of IAF's Mirage 2000 aircraft.

"LCA Mark 2 fighter aircraft development project was cleared by govt. This would pave way for designers to develop an advanced 17.5-tonne single-engine aircraft. Development of new aircraft to be completed by 2027," Deodhare said on Wednesday.

Deodhare had also explained in the past that indigenous Tejas Mark-2 fighter jets would have the capacity to conduct Balakot strike kind of operations as it would be equipped with beyond-visual-range missiles that have greater reach and virtually jam-proof AESA radars in order to be suitable replacements for the Indian Air Force (IAF)'s aging Mirage 2000 fighters.

The new jet will carry Astra-II BVR air-to-air missiles with a range of at least 150 km.

The IAF chief too hailed the CCS decision on Thursday. "Tejas Mark 2 will fill a critical capability void. Therefore, it's essential that all stakeholders should need to work in tandem to ensure the timely induction of this aircraft into IAF," IAF chief Air Chief Marshal VR Chaudhari said.

"In the view of rapidly depleting strength of fighter squadrons of IAF & phasing out of the MiG 21 aircraft in coming years, it's essential that laid down timelines for the projects are adhered to," Chaudhari added.

"This decision will give a tremendous boost to the indigenous design &development of our next-gen fighter aircraft. It'll further 'Atmanirbhar Bharat' initiative in domain of aircraft manufacturing," the IAF chief said, hailing the decision.

https://www.firstpost.com/india/tejas-mark-2-will-carry-out-balakot-style-surgical-strikes-inside-enemy-territory-11163841.html

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Sun, 04 Sep 2022

Hunt for a Jet Engine

There's a sudden roar of jet engines in the air. What is fuelling it is India's airpower expansion plan and a pressing need for engines of required power for its homemade fighters.

Last week, US defence aircraft major Boeing announced in New Delhi that the company anticipates business worth $3.6 billion, benefitting the Indian aerospace and defence industry over the next 10 years, with the F/ A-18 Super Hornet as India's next naval carrier-based fighter. French major Dassault Aviation has pitched its Rafale-M jets against the US's Super Hornet.

In the first week of July, Olivier Andries, CEO of France's SAFRAN Group, met defence minister Rajnath Singh in New Delhi and apprised him of his company's long-term goal for the joint development and production of advanced jet engines. SAFRAN—one of the major original equipment manufacturers (OEM) of military and commercial jet engines in the world—makes engines for the Rafale jets. Its SNECMA-M88 engine, used in Indian Rafales, has a maximum thrust of about 75kN (kilonewtons).

The Indian Air Force (IAF) has opened its hunt for 114 multi-role fighters while the Navy needs approximately 30 carrier-based fighter jets. Their combined value? Some $20 billion. The IAF also requires close to 600 India-made fighters for its fleet, all of which would require over 2,300

engines, assuming a spare ratio of 1.5 engines/ installed engine. Moreover, the Sukhoi fleet of 282 jets will also go in for engine retrofit in the years to come. Importing all these engines will involve a significant spend of India's foreign exchange.

This immense business opportunity has global aerospace players making a beeline for India with jet engine technology, which has been closely guarded so far. And the fiercest contest is between the US and France. Foreign players are willing to sell or indigenise their products to meet Indian requirements, but their offers are conditional on large orders.

India has proved its mettle in developing nuclear submarines or aircraft carriers or even fighter jets, but any progress in combat jet engine development has remained elusive. India's quest for combat jet engines has been fraught since the days of the first indigenous jet fighter, the HF-24 Marut in the 1960s. The same issue has dogged the TEJAS LCA (Light Combat Aircraft) program and the ongoing development of a fifth-generation Advanced Medium Combat Aircraft (AMCA). Very few countries—the US, France, the UK and Russia—have succeeded in mastering the complex technologies needed to produce engines for combat aircraft. China is still using Russian engines for its J-20 fighters due to the lack of required thrust in its own WS-10 engines that were developed with a massive budget. Since 1986, India has developed nine prototypes of its Kaveri engine, which have failed to meet the required parameters to power a fighter. The Defence Research and Development Organisation's 'Gas Turbine Research Establishment (GTRE), tasked to develop the Kaveri engine, has been unable to deliver one that could power the TEJAS despite a cost overrun of 642 per cent and a delay of about 13 years', the Comptroller and Auditor General noted in its report released in 2011.

India's mainstay TEJAS flies on American General Electric (GE) F404 engines, and the TEJAS MK-2 and AMCA, now under development, will be powered by GE's F414 engines. IAF would require nothing less than 170 TEJAS MK-2, which is equivalent to six squadrons. In addition, it has also agreed to induct seven squadrons of AMCA. GE is expected to set up a plant in India to manufacture F414 engines in collaboration with HAL and other private players. The company has agreed to transfer manufacturing technology and production engines but is awaiting the US government's nod. The Super Hornet is powered by two GE F414-400 afterburning turbofan engines while the French Rafale-M will have SAFRAN's M88 engine. But India's military planners believe if the country is looking at jets for 20 years, it needs to take an immediate call on engine manufacturing. "You cannot design an aircraft and then go hunting for an engine. It has to be a close association between engine manufacturers and aircraft designers. And if you do it independently, the mismatch will always be there," says a key defence official.

For the TEJAS, the Aeronautical Development Agency (ADA) had to settle for GE-F404 engines (90kN), reducing the aircraft's payload and range. Similarly, the GE-F414 engine with 95-98kN power thrust, planned for TEJAS MK-2, is sub-optimal for the IAF's specifications in the medium-weight fighter class of 15-18-ton range—to enable a 5-ton combat payload and a range of 600 km on internal fuel, says a key IAF official, who was in the LCA's development team.

The ADA, also the developer of AMCA, is looking for 110 kN thrust—which is not yet available globally—to meet the requirements of supercruise features in its upgraded version, the AMCA MK-2. It is expected to go into production from 2035 onwards. The TEJAS MK-2 is supposed to replace the IAF's 16 fighter squadrons, including three of Mirage-2000, five of the MiG-29s, six of the Jaguar strike aircraft and the two remaining MiG-21 Bison squadrons. With this calculation, IAF is looking at a combat strength of about 40 squadrons by 2040.

After Kaveri's failure, the TEJAS makers had no option but to turn to foreign engines. In 2005, GTRE sought a foreign hand for the co-development with an international engine-house for a 90kN class engine. But the plan never worked. In 2012, France offered complete transfer of technology (ToT) for a redesign and fixing of the Kaveri engine to fit into the TEJAS. But the deal could not go through due to its high price.

T Mohan Rao, the former head of GTRE, who was closely involved in the Kaveri project, says, "We had reached up to achieving 70 per cent of technology, but for the remaining, we required handholding by a foreign player." Though there are nearly 40 aircraft manufacturers in the world, only three countries—the US, Russia and France—have the technology to completely design, develop and produce military aircraft engines, he adds. The Kaveri program has been shelved except for the possibility of using the engine for the Ghatak armed drone.

Interestingly, the US has revived its earlier proposal for collaboration on jet engine technology under the India-US Defence Trade and Technology Initiative, which was suspended in October 2019 owing to American reluctance to share technology. TATA is already in partnership with GE to produce parts for a civilian jet engine.

Similarly, France's SAFRAN has already partnered with Hindustan Aeronautics Ltd (HAL) to make the indigenous Shakti engine for helicopters. Days after the Rafale deal in 2015, SAFRAN pitched a technology transfer of engines as part of the offset clause, but it didn't take off. British firm Rolls-Royce, which has allied with HAL, is now keen on the co-development of a 110 kN engine for the AMCA. Kishore Jayaraman, president, India and South Asia, Rolls-Royce, says India is a key growing market for the company. "We continue to work closely with the MoD (ministry of defence), DRDO, HAL and the private sector to explore opportunities to create in India products and solutions for the Indian defence sector," he adds.

SAFRAN offers complete ToT for design, development and manufacture at close to $5 billion. It will provide everything for engine manufacturing, from know-how to certification. Satish Kirtikar, former vice president of Safran Aircraft Engines, claims that India can achieve independence in aircraft engine technology only if it is able to purchase the "knowhow and know-why" from a foreign OEM. But this ToT will come with a heavy price tag. Kirtikar says that private players in India will have a hard time entering the aerospace and defence arenas, justifying huge investments to their boards, with the returns on investments taking at least seven to 10 years to yield any sizeable returns. "Besides, these businesses will require work guarantees over an extended period of time to set up their facilities," he explains.

India's military planners have to make some hard choices: between Atmanirbharta and dependence. Only then will its ambitions take flight.

http://www.indiandefensenews.in/2022/09/hunt-for-jet-engine.html

THE TIMES OF INDIA

Sat, 03 Sep 2022

MH60-R Choppers a Game Changer in Naval Aviation

The ongoing modernisation of the Navy's air fleet will get a major boost with the induction of multirole helicopters MH 60 'Romeo' (MH 60-R), procured from US defence major Lockheed

Martin. The choppers, considered one of the most advanced maritime helicopters in the world, will be operating from the IAC too, giving teeth to the carrier, which faces an aircraft shortage.

India had concluded with the US a letter of offer and acceptance for the procurement of 24 MH 60-R helicopters in February 2020 at a cost of more than Rs 14,000 crore. The first three MH 60-Rs were delivered to the Indian Navy in the US in 2021 and are being utilised for training the Navy crew there.

Two more were delivered to the Indian Navy in a Boeing C-17 Globemaster transport aircraft of the US Air Force in July in Kochi. Another one is expected to reach soon after the commissioning of the IAC. The delivery of all 24 MH 60-R helicopters will be completed by 2025.

The highly capable naval helicopter is designed to operate from frigates, destroyers, cruisers, and aircraft carriers. The helicopters which have arrived are likely to be inducted later in September so that they can be deployed for carrier-based operations after being armed with precision rockets, torpedoes and missiles.

The induction of state-of-the-art mission-capable platforms will significantly boost the integral antisubmarine warfare capability of the Indian Navy.

It is an all-weather helicopter designed to support multiple missions with state-of-the-art avionics/sensors. The induction of these helicopters will further enhance the Indian Navy's three-dimensional capabilities.

https://timesofindia.indiatimes.com/india/mh60-r-choppers-a-game-changer-in-naval-aviation/articleshow/93959934.cms

THE HINDU

Sun, 04 Sep 2022

At Vostok-22, Why is India Not Joining Naval Drill?

The story so far: From September 1-7, Russia is holding annual military exercises in its eastern region, with about 13 countries including India and China sending contingents. While the exercises in Vostok-2022 are routine, they are the first such multilateral exercises to be held since the Russian war in Ukraine began. They include a maritime component near the disputed islands of South Kuril, claimed by both Russia and Japan.

Who is taking part in Vostok-22? The countries that have sent military contingents are Algeria, Armenia, Azerbaijan, Belarus, India, Kazakhstan, Kyrgyzstan, China, Laos, Mongolia, Nicaragua, Syria and Tajikistan, according to the Russian Ministry of Defence, which estimated that "more than 50,000 troops and 5,000 units of military equipment" including 140 aircraft and 60 warships would participate in the exercises. According to a statement issued by the Indian Defence Ministry, the Indian Army contingent is part of "joint manoeuvres to include joint field training exercises, combat discussions, and firepower exercises."

However, India has only sent its army contingent of the 7/8 Gorkha Rifles, and will not take part in the maritime section of the two-part event. This is because, while the first part of the land

exercises will be held in Russian military training grounds in Siberia and the Far Eastern Federal District, the maritime part of the exercises would be held in the Sea of Okhotsk and the Sea of Japan, near the disputed South Kuril islands. Japan's Foreign Ministry issued a demarche calling on Russia to move the location of its maritime exercises, which the Russian Ambassador in Tokyo rejected, and India's decision not to take part in the naval exercises is believed to be in deference to Tokyo's sensitivities.

Why has Washington criticised the exercises?

In a statement ahead of the exercises, U.S. White House Secretary Karine Jean-Pierre said that the U.S. has "concerns about any country exercising with Russia while Russia wages an unprovoked, brutal war against Ukraine," adding that the decision to participate was up to each country, and that the government had been "pretty public" about its opposition to the exercises in talks. The Biden administration is in the process of stitching together support for more sanctions against Russia for its invasion of Ukraine, as well as a demand for price-caps on Russian oil exports, and the decision by India and other countries to participate in Vostok-2022 presents a divided approach towards Russia. The Ministry of External Affairs (MEA), however, rejected the concerns. "Let me just emphasise that India has been regularly participating in multilateral exercises in Russia, along with a number of other countries," MEA spokesperson Arindam Bagchi said, adding that "there will be only army participation in the Vostok exercises this year."

What does India's participation mean and what is the likely impact?

By sending an army contingent to join Russian and Chinese troops in the exercises at this time, New Delhi is aiming to send a four-pronged message. The first is its continuing relationship with Russia despite the Ukraine war, where the Modi government has decided not to join the Western sanctions regime, or to curb oil imports and other economic engagement with Moscow.

The second is to signal balance and non-alignment in the current crisis, given India has mostly abstained from votes at the United Nations seeking to criticise Russia. India also takes part in routine Indo-Pacific exercises with its Western partners including the Quad, as well as in bilateral exercises, like the India-U.S. "Yudh Abhyas" in Uttarakhand next month. These exercises will take place just after Prime Minister Narendra Modi's visit to Uzbekistan for the Shanghai Cooperation Organisation (SCO) summit in September, where he will participate alongside leaders of Russia, China, Belarus, Kazakhstan, Kyrgyzstan, who have sent contingents for Vostok-22 as well. It is a way of signalling that India remains comfortable in both its engagement with the U.S.-EU coalition and its rival groupings led by Russia-China. Third, by staying away from the maritime exercises, New Delhi has shown both its sensitivity to Japan's concerns on maintaining the status quo over the disputed islands, as well as stressing the importance of territorial sovereignty and integrity for India. This coming week, India is hosting a Quad meeting on Indo-Pacific initiatives in Delhi and holding bilateral talks with U.S. and Japan on trade and defence as well.

Finally, the message the government continues to give is that it is willing to engage with China on a number of fronts, even as military talks with China at the LAC (Line of Actual Control) remain stuck. The government, however, asserts that it cannot be "business as usual" with China until the latest logjam over Chinese troops' transgression since April 2020 is resolved.

https://www.thehindu.com/news/national/explained-at-vostok-22-why-is-india-not-joining-naval-drill/article65844760.ece

ZEE हिन्दुस्तान

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यूक्रेन युद्ध के बीच भारत को S-400 मिसाइल सिस्टम की आपूर्ति कब तक होगी, रूसी राजदूत ने दी जानकारी

भारत में रूस के राजदूत डेनिस अलीपोव ने कहा कि रूस और भारत यह सुनिश्चित करने के लिए पूरी तरह से प्रतिबद्ध हैं कि दोनों रणनीतिक साझेदारों के बीच रक्षा सहयोग यूक्रेन संकट से 'निर्बाध' रहे और 'नकारात्मक बाहरी कारकों' से पैदा हुईं 'बाधाओं' को प्रभावी ढंग से कम किया जा सके.

'रक्षा क्षेत्र को लेकर दोनों देशों में हो रहा नियमित संवाद'

रूसी राजदूत ने कहा कि रूस की तरफ से भारत को सतह से हवा में मार करने वाली मिसाइल प्रणाली एस-400 की आपूर्ति करने की प्रक्रिया सुचारू रूप से आगे बढ़ रही है. उन्होंने कहा कि दोनों पक्षों के बीच रक्षा क्षेत्र में आपसी संबंधों से जुड़े महत्वपूर्ण मुद्दों पर नियमित रूप से संवाद हो रहा है.

सैन्य साजो-सामान की आपूर्ति में देरी की है आशंका

अलीपोव की यह टिप्पणी ऐसे समय पर आई है, जब भारत में कुछ हलकों ने आशंका जाहिर की है कि यूक्रेन में संघर्ष के कारण भारतीय सशस्त्र बलों को रूस की ओर से प्रमुख सैन्य प्रणालियों और अन्य साजो-सामान की आपूर्ति में देरी हो सकती है.

'बाधाओं को सफलतापूर्वक कम कर रहे दोनों देश'

अलीपोव ने कहा, 'रक्षा क्षेत्र में सहयोग रूस और भारत के बीच रणनीतिक साझेदारी के प्रमुख स्तंभों में से एक है. हमारे दोनों देश यह सुनिश्चित करने के लिए बहुत प्रेरित हैं कि यह सहयोग निर्बाध रूप से जारी रहे.' उन्होंने कहा, 'हम नकारात्मक बाहरी कारकों द्वारा निर्मित बाधाओं को सफलतापूर्वक कम करने और वैकल्पिक भुगतान और रसद विकल्पों का उपयोग करके नई वास्तविकताओं को समायोजित करने में कामयाब रहे हैं.'

विशेष रूप से एस-400 मिसाइल प्रणाली की आपूर्ति के बारे में पूछे जाने पर अलीपोव ने कहा, 'यह निर्धारित कार्यक्रम के अनुसार सुचारू रूप से आगे बढ़ रहा है.'

गौरतलब है कि भारत ने अमेरिकी प्रतिबंधों की आशंका को दरकिनार करते हुए एस-400 वायु रक्षा मिसाइल प्रणाली की पांच इकाइयों की खरीद के लिए रूस के साथ अक्टूबर 2018 में पांच अरब अमेरिकी डॉलर के समझौते पर हस्ताक्षर किए थे.

'नियमित संवाद करते हैं हमारे नेता'

अलीपोव ने कहा, 'हमारे नेताओं के बीच व्यक्तिगत समझ है, वे नियमित संवाद करते हैं और गहरी आपसी समझ प्रदर्शित करते हैं. दिसंबर 2021 में राष्ट्रपति (व्लादिमीर) पुतिन की नई दिल्ली की यात्रा एक ऐतिहासिक घटना थी.' उन्होंने कहा, 'इस साल दोनों नेताओं ने टेलीफोन पर चार बार बात की. उनके लिए ब्रिक्स, एससीओ (शंघाई सहयोग संगठन) और जी20 जैसे अंतरराष्ट्रीय मंचों पर बातचीत करने के कई मौके आये.'

https://zeenews.india.com/hindi/zee-hindustan/world-news/russian-diplomat-revealed-when-will-india-get-s-400-missile-defence-system-amid-russia-ukraine-war/1335324

THE HINDU

Sun, 04 Sep 2022

Russia, India Motivated to Ensure Uninterrupted Defence Cooperation: Envoy

Russia and India are "very motivated" to ensure that the defence cooperation between the two strategic partners is "uninterrupted" by the Ukraine crisis, and "barriers" created by "negative external factors" are being effectively mitigated, Russian Ambassador Denis Alipov said.

The envoy told PTI that Russia's supply of S-400 Triumf surface-to-air missile systems to India is moving ahead "smoothly" as per the schedule and that both sides are maintaining "real-time" communication on critical issues relating to cooperation in the defence sector.

Mr. Alipov's comments came in the backdrop of apprehensions in certain quarters in India that Russia's supply of key military systems and hardware, including the S-400 missile systems to the Indian armed forces, could be delayed due to the conflict in Ukraine.

"Defence cooperation is one of the major pillars of the Russian-Indian special and privileged strategic partnership. Both our nations are very motivated to ensure that it remains uninterrupted," Mr. Alipov said. "We managed to successfully mitigate barriers created by negative external factors and adjust to new realities using alternative payments and logistics options," he said. Asked specifically about the supply of the S-400 missile systems, Mr. Alipov said, "it is moving smoothly according to the schedule."

In October 2018, India signed a $5 billion deal with Russia to buy five units of the S-400 air defence missile systems, notwithstanding a warning by the U.S. that going ahead with the contract may invite U.S. sanctions under the provisions of Countering America's Adversaries Through Sanctions Act (CAATSA).

Russia started delivery of the first regiment of the missile systems in December last year and it has been deployed to cover parts of the border with China in the northern sector as well as the frontier with Pakistan.

It is learnt that Russia almost completed the delivery of major components of the second regiment of the weapon systems.

On the overall supply of military hardware to India by Russia, Mr. Alipov said that if some delays in delivery and payments take place at all, they would not be critical.

The CAATSA, which was brought in 2017, provides for punitive actions against any country engaged in transactions with the Russian defence and intelligence sectors.

"Both sides maintain real-time communication to tackle those. Currently, we note positive dynamics in the implementation of bilateral agreements and contracts, including on S-400 systems supplies, while Russia does its best to timely fulfil all its obligations," the envoy said.

Russia has been a major supplier of military hardware to India. The two countries have been holding discussions on what kind of payment mechanisms can work between them in view of the Western sanctions on Moscow.

Unlike many other leading powers, India has not yet directly criticised Russia for its invasion of Ukraine and it abstained from the votes at the U.N. platforms in condemning the Russian aggression. India has been pressing for the resolution of the crisis through diplomacy and dialogue. "We respect and appreciate India's consistent position as it is grounded on solid foundations of the international law and strategic vision of national interests," Mr. Alipov said.

"We also feel that there is a deep understanding in the Indian society of the origins of the Ukrainian crisis which began long before February 2022," he said.

The Russian invasion of Ukraine began on February 24. The Western countries have imposed severe sanctions on Russia for the attack on Ukraine.

The ambassador said a majority of the countries, including India, did not support the Western sanctions on Russia.

He said an increasing number of countries are eager to join the BRICS (Brazil-Russia-India-China-South Africa) and it shows that there is a clear desire to seek "equal partnership" as an alternative to the traditional institutions dominated by the developed world. Asked about the annual summit between Russia and India this year, Mr. Alipov did not give a direct reply.

"Russia and India were among the very first who introduced the mechanism of annual exchanges of summits 22 years ago. The only exception so far was 2020, the year when the COVID-19 pandemic erupted," he said.

"Our leaders enjoy strong personal chemistry, maintain a regular conversation and demonstrate deep mutual understanding. The visit of President [Vladimir] Putin to New Delhi in December 2021 was a landmark event," Mr. Alipov said.

"This year, both leaders spoke over the telephone four times. There are multiple occasions for them to interact on international platforms such as BRICS, the SCO and G20," he added.

https://www.thehindu.com/news/national/russia-india-motivated-to-ensure-uninterrupted-defence-cooperation-envoy/article65849257.ece?homepage=true

Business Standard

Sat, 03 Sep 2022

US to Speed Up Arms Sales to its Allies to Counter China, Says Report

With an aim to outcompete China, the US will speed up its arms sales to allies and partners.

The US will expedite arms sales to allies and partners by removing several bureaucratic road bumps that could cause delays in order to better compete with countries such as China, reported Wall Street Journal.

The report said on Friday that the Defence Department launched an initiative to streamline US arms sales to foreign countries, especially to allies and partners that have provided military equipment to Ukraine.

The US promised European allies who have provided military equipment to Ukraine that it would be able to replenish their stocks, but the US defence industry is facing a backlog, reported Wall Street Journal.

The US could speed up arms sales by having US defence officials help countries draft initial requests for military equipment that would help avoid delays caused by requests that trigger security concerns, the report said.

The Defence Department only approves contracts once a year for certain military equipment, which means countries that fail to submit their orders by the Defence Department's deadline must wait until the following year, the report added.

However, the State Department is currently consulting with the Defence Department on this matter in light of the mission to speed up arms sales to allies, according to the report.

The proposed sales come amid increased tension between Washington and Beijing over a contentious trip to Taiwan by House Speaker Nancy Pelosi.

Pelosi's trip to Taiwan this month triggered a new round of tensions in the region. Ever since the visit of the US delegation, Beijing launched large-scale military exercises in the vicinity of the island, which included live-fire drills and military aircraft overflights close to Taiwan's airspace.

Meanwhile, two United States Navy warships entered the Taiwan Strait in the first such transit since China staged unprecedented military drills around the island.

On Sunday, the guided-missile cruisers USS Antietam and USS Chancellorsville were making their voyage "through waters where high seas freedoms of navigation and overflight apply in accordance with the international law," the US 7th Fleet in Japan said in a statement as quoted in CNN.

A 110-mile strait is a stretch of water that separates the democratic self-ruled island of Taiwan from mainland China.

Beijing claims sovereignty over Taiwan despite China's ruling Communist Party never having controlled the island -- and considers the strait part of its "internal waters.

https://www.business-standard.com/article/international/us-to-speed-up-arms-sales-to-its-allies-to-counter-china-says-report-122090300112_1.html

REPUBLICWORLD.COM

Sat, 03 Sep 2022

Biden to Host First-ever US-Pacific Island Country Summit amid China's Military Buildup

Amid the growing influence of China in the Indo-Pacific region, the United States announced hosting the first-ever US-Pacific Island Country Summit in the last week of this month. According to the announcement made by the Biden administration on Friday, the Summit will be held in Washington from September 28-29. Further, the White House said that US President Joe Biden will host the Summit. "The Summit will demonstrate the United States' deep and enduring partnership with Pacific Island countries and the Pacific region that is underpinned by shared history, values, and people-to-people ties," the White House said in a statement on Friday.

The US dubbed the upcoming Summit significant in accordance to its broadening and deepening cooperation on key issues such as climate change, pandemic response, economic recovery, maritime security, environmental protection, and advancing a free and open Indo-Pacific. Notably, the announcement came a week after the United States accused Beijing of expanding its nuclear arsenal and claimed the extreme buildup process could harm the stability of the Indo-Pacific region. Addressing a press conference in Indonesia last week, US Indo-Pacific Commander, Admiral John Aquilino said China is the only country which is expanding its nuclear arsenal and added it had "300 nuclear silos going in".

US calls China's military buildup in Indo-Pacific 'the largest since World War II

Further, Admiral John Aquilino categorically mentioned that China's military buildup is "the largest in history" since World War II. "If you'd like to talk about nuclear weapons and the concern for a nuclear arms race, all you have to do is look into the PRC (People's Republic of China)," he stressed. Citing a recent report released by the US Department of Defense, the top defence official claimed President Xi Jinping's pace of its nuclear buildup could enable it to have up to 700 deliverable nuclear warheads by 2027. The report stated that China could plan to have at least 1,000 warheads by 2030, exceeding the US initial projection in 2020. "The PRC has already established a nascent 'nuclear triad' with the development of a nuclear-capable air-launched ballistic missile (ALBM) and improvement of its ground and sea-based nuclear capabilities," the US Department of Defense report stated.

The same was echoed by Ely Ratner, assistant secretary of defence for Indo-Pacific security affairs, during the Twelfth Annual South China Sea Conference held in Washington last month. He accused China of increasing provocations in the South China sea and added its "aggressive" and "irresponsible behaviour" would lead to a major incident in the disputed region.

On the other hand, China raised grave concern over the AUKUS deal and said it would further escalate regional tension, provoke an arms race, and will threaten regional peace and stability.

https://www.republicworld.com/world-news/rest-of-the-world-news/biden-to-host-first-ever-us-pacific-island-country-summit-amid-chinas-military-buildup-articleshow.html

Science & Technology News

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Gujarat Science Conclave of State S&T Ministers at Science City Ahmedabad will explore State specific technologies and innovations for adoption and scaling up through integrated approach with Centre's collaboration

Union Minister Dr Jitendra Singh reviews preparations of the two-day conclave at Science City Ahmedabad to be inaugurated by Prime Minister Narendra Modi on 10th September, 2022

The broad theme of the conclave will be to present a Vision 2047 for S&T sector with particular reference to meeting the S&T challenges of States: Dr Jitendra Singh

Plenary Sessions on Agriculture, Water, Energy, Health, Education and Deep Sea Mission with State S&T Ministers will be the key highlight of the conclave

A special session with the CEOs of over 100 Start Ups and industries will try to explore state specific solutions for unique problems faced by individual states

The two-day Gujarat Science Conclave of State Science & Technology (S&T) Ministers, to be inaugurated by Prime Minister Shri Narendra Modi, at Science City Ahmedabad will explore State specific technologies and innovations for adoption and scaling up through integrated approach with Centre's collaboration.

This was stated to media by Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh after a thorough review of preparations for the two-day conclave beginning on 10th September, 2022. Dr Jitendra Singh said, the broad theme of the conclave will be to present a Vision 2047 for S&T sector with

particular reference to meeting the S&T challenges and needs of States and Future Growth Pathway and Vision for STI in States. He said, a broad mapping of priorities, challenges, expectations and technology needs of each of the States can be met through collaboration with various S&T departments of the Centre.

The Minister said, the States/UTs can work in convergence for optimum outcomes with 6 Science Departments -DST, DBT, CSIR, MoES, DAE and DoS. All these departments as well as Industry representatives will participate in the Conclave, he added.

Dr Jitendra Singh informed that “Doubling Private Sector investment in R&D by 2030” and supplementing the country’s and State’s overall economy will also be a key agenda of the Science Conclave in tune with AtmaNirbhar pitch of Modi Government. He said, dialogue on increasing private sector investment in R&D and developing collaboration for Indian states will feature prominently during deliberations.

Dr Jitendra Singh informed that important plenary sessions with State S&T Ministers will be organized during the summit on issues like Agriculture underlying Technological Interventions for improving the farmer’s income, Innovation for producing portable drinking water including application of technologies like Desalination, Heli borne methods developed by DST, Clean Energy for All including S&T role in Hydrogen mission, Deep Sea Mission of MoES and its relevance for Coastal States/UTs as well country’s future economy, Digital healthcare for All and Synergizing Science with National Education Policy.

Dr Jitendra Singh said, a special session with the CEOs of over 100 Start Ups and industry will try to explore state specific solutions for unique problems faced by individual states. The Minister promised all support from all the 6 Science Departments to the potential start-ups willing to work with state governments with funding from all stakeholders.

Dr Jitendra Singh said that the Conference this time is being given a different format with focus on new technologies relevant to each of the different States/UTs and their optimum application for "ease of living". He said, the meet will also help break silos between the Centre and the States, while strengthening Science Technology & Innovation (STI) ecosystem through greater synergy across the country.

Science & Technology Ministers of all 28 States, Administrators of 8 UTs, key officials from States – Chief Secretaries, Principal Secretaries in-charge of S&T in the states and all Science Secretaries to Government of India e.g., DST, DBT, DSIR, MoES, DAE, DoS, ICMR, ICAR, Jal Shakti, MoEF& CC, MNRE are expected to be represented at the conference.

Dr Jitendra Singh informed that the two-day Science and Technology Conclave will have a new dimension as several action-oriented decisions will be taken and all States and UTs will be asked to have individual STI policy on the lines of National STI policy.

Dwelling on the broad agenda of the Conclave, Dr Jitendra Singh said, it will aim at fostering proactive engagementsbetween Centre and Statesin S&T, creating a mechanism to facilitate the flow of STI information and data between Centre and States, Capacity Building of Scientists, technologists and professionals from States in key technology areas. He said, Centre and States will work together to promote Private sector participation in the State R&D and will try to put in position a robust and long term “Centre-State coordination and monitoring Mechanism in STI at the highest level.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1856633

THE HINDU

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ISRO Tests System to Recover Spent Rocket Stages

The Indian Space Research Organisation (ISRO) has successfully tested a technology that could aid cost-effective recovery of spent rocket stages and safely land payloads on other planets.

The Inflatable Aerodynamic Decelerator (IAD) was designed, developed and successfully test-flown by ISRO's Vikram Sarabhai Space Centre (VSSC) on a Rohini-300 (RH300 Mk II) sounding rocket from the Thumba Equatorial Rocket Launching Station (TERLS) here on Saturday. "This demonstration opens a gateway for cost-effective spent stage recovery and this technology can also be used in ISRO's future missions to Venus and Mars," ISRO chairman S. Somanath, who was present during the 12.20 p.m. launch, said. Describing the IAD as a "game changer" with multiple applications for future missions, the VSSC added that this was first time that an IAD had been designed specifically for spent-stage recovery.

As its name suggests, the IAD serves to decelerate an object plunging down through the atmosphere.

For Saturday's demonstration, the IAD, made of Kevlar fabric coated with Polychloroprene, was packed into the payload bay of the rocket.

After the nose-cone of the rocket separated, the IAD inflated, balloon-like, at a height of 84 km using compressed nitrogen stored in a gas bottle. The IAD systematically reduced the velocity of the payload through aerodynamic drag, the VSSC said. Once the IAD fell into the sea, it deflated by firing a deflation pyro valve.

The pneumatic system used for inflating the IAD was developed by the Liquid Propulsion Systems Centre (LPSC), Valiyamala.

Eight other elements developed by VSSC and LPSC, including a micro video imaging system and a modified nosecone separation system, were also successfully tested on this mission. They will find a place on future ISRO missions.

Standing 6.3 metres tall, the Rohini RH300 Mk II sounding rocket had a lift-off mass of 552 kg. Senior ISRO officials including VSSC director S. Unnikrishnan Nair and LPSC director V. Narayanan also were present at the launch.

https://www.thehindu.com/sci-tech/science/isro-successfully-tests-iad-technology/article65848877.ece