

अक्टूबर
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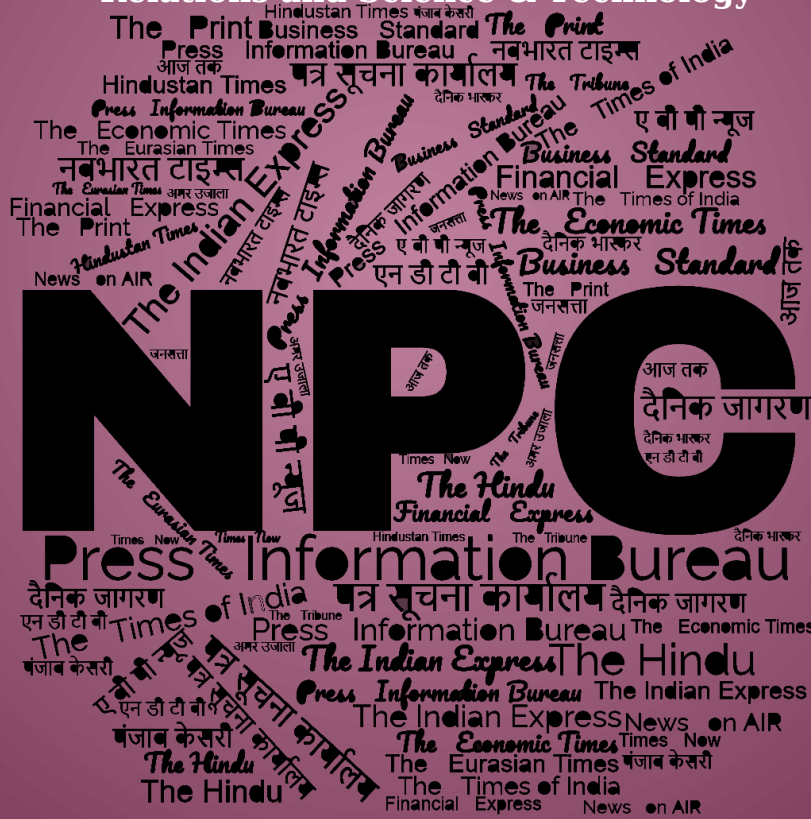
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डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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BrahMos LACM: ब्रह्मोस मिसाइल के नए वर्जन का सफल टेस्ट, रेंज बढ़ने से बढ़ी सेना की ताकत

भारत ने अपनी सबसे खतरनाक ब्रह्मोस सुपरसोनिक क्रूज मिसाइल के लैंड अटैक वर्जन का सफल परीक्षण किया है। इस मिसाइल का परीक्षण अंडमान और निकोबार द्वीप समूह के एक अज्ञात द्वीप से किया गया। जिसने दूसरे द्वीप वीरान द्वीप पर लगाए गए टारगेट को ध्वस्त कर दिया।

आज हुए परीक्षण का मकसद था मिसाइल के रेंज को बढ़ाना। जमीन से जमीन पर मार करने वाली इस मिसाइल की रेंज को बढ़ाकर अब 450 किलोमीटर से ज्यादा कर दिया गया है। इस मिसाइल की लंबाई 28 फीट लंबी है। यह 3000 kg वजन की है। इसमें 200 kg के पारंपरिक और परमाणु हथियार लगा सकते हैं।

इस मिसाइल की रेंज यह 300 किलोमीटर से 800 किलोमीटर तक की दूरी के बीच है। जिसे धीरे-धीरे बढ़ाया जा रहा है। इसकी गति इसे सबसे ज्यादा घातक बनाती है। यह 4300 किलोमीटर प्रतिघंटा की रफ्तार से हमला करती है। यानी 1.20 किलोमीटर प्रति सेकेंड। इसके छूटने के बाद दुश्मन को बचने का या हमला करने का मौका नहीं मिलता। इससे पहले भारतीय वायुसेना (Indian Airforce) ने ब्रह्मोस एक्सटेंडेड एयर वर्जन का सुखोई-30 MkI से सफलतापूर्वक परीक्षण किया था। यह मिसाइल एंटी-शिप वैरिएंट थी। यानी सुखोई से इस मिसाइल को दाग कर दुश्मन के जंगी जहाजों को डुबोया जा सकता है। परीक्षण के दौरान मिसाइल ने टारगेट शिप को ध्वस्त कर दिया। इस मिसाइल की रेंज 400 km है।

इस टेस्टिंग के साथ ही भारतीय वायुसेना ने सुखोई फाइटर जेट से जमीन या समुद्र में लंबी दूरी के टारगेट्स पर निशाना लगाने की मारक क्षमता हासिल कर ली है। प्रेसिसन स्ट्राइक करने की क्षमता बढ़ गई है। यानी फाइटर जेट से समुद्र में 400 km दूर मौजूद दुश्मन के जंगी जहाज को नष्ट किया जा सकता है।

कुछ महीने पहले भी इसी फाइटर जेट से Indian Navy के डिक्मीशन्ड जहाज पर ब्रह्मोस मिसाइल से लाइव फायर किया गया था। भारत सरकार अपनी टैक्टिकल मिसाइलों की रेंज बढ़ा रही है। भारतीय वायुसेना के 40 सुखोई-30 MKI फाइटर जेट पर ब्रह्मोस क्रूज मिसाइलें तैनात हैं।

ब्रह्मोस सुपरसोनिक क्रूज मिसाइल को पूरी तरह से देश में ही विकसित किया गया है। इसमें रैमजेट इंजन (Ramjet Engine) तकनीक का उपयोग किया गया है। ताकि इसकी गति और सटीकता और ज्यादा घातक हो जाए। ब्रह्मोस मिसाइल हवा में ही मार्ग बदलने में सक्षम है। चलते-फिरते टारगेट को भी ध्वस्त कर सकता है। यह 10 मीटर की ऊंचाई पर उड़ान भरने में सक्षम है, यानी दुश्मन के राडार को धोखा देना इसे बखूबी आता है।

<https://www.aajtak.in/science/story/brahmos-extended-range-supersonic-cruise-missile-successfully-test-fired-by-indian-army-from-andaman-and-nicobar-islands-cds-1796218-2023-10-10>

Indian Army Test-Fires Extended Range BrahMos Cruise Missile

The BrahMos Missile Regiment of the Indian Army has test-fired a land-attack version of extended range BrahMos supersonic cruise missile (BrahMos ER) from the Andaman and Nicobar Islands on 10 October, an Indian Army official told Janes.

The official said the test was part of the induction trials. “The missile has not yet been inducted, and the Indian Army will consider inducting it based on the outcomes of the test,” the official added. According to the official, the missile will go through additional trials before being inducted into the Indian Army. The BrahMos ER is developed by BrahMos Aerospace, a joint venture (JV) between Russia's NPO Mashinostroyeniya (NPO Mash) and India's Defence Research and Development Organisation (DRDO). According to Janes data, BrahMos ER is an improved variant of its basic configuration. The missile's configuration and overall dimension remain unchanged from the baseline version but the ER missile likely features an active radar seeker. The missile is powered by a liquid propellant ramjet motor.

Janes estimates the range of the extended variant to be around 72% (between 450 and 500 km) more than the baseline version range of 290 km.

<https://www.janes.com/defence-news/news-detail/indian-army-test-fires-extended-range-brahmos-cruise-missile>

Defence News

Defence Strategic:
National/International



Press Information Bureau
Government of India

Ministry of Defence

Tue, 10 Oct 2023

Raksha Mantri Meets Top Italian Defence Industry Leaders in Rome

**India offers exciting opportunities for co-development & co-production; Complementary capacities of Indian & Italian defence industries could be optimised in a win-win situation:
Shri Rajnath Singh**

On the second day of his visit to Italy, Raksha Mantri Shri Rajnath Singh met the CEOs and other top industry leaders of Italian defence companies in Rome on October 10, 2023. During the meeting, the Raksha Mantri recalled his warm meeting with Italian Defence Minister Mr Guido Crosetto & the defence agreement concluded on the preceding day and emphasised on the need for defence industries of the two countries to work together.

Shri Rajnath Singh stated that the government, led by Prime Minister Shri Narendra Modi, has significantly improved the ease of doing business in India, eased the norms for FDI in defence, created two Defence Industrial Corridors and is consistently working to encourage defence manufacturing in India. "India offers exciting opportunities for co-development & co-production and the complementary capacities of Indian & Italian defence industries could be optimised in a win-win situation," he said. The Raksha Mantri also requested the Italian industry leaders to strengthen the supply chain linkages with the Indian defence manufacturers and develop closer ties with the Society of Indian Defence Manufacturers. The meeting was attended by CEOs, Presidents & Vice Presidents and senior officials of 24 Italian defence companies. Industry leaders from Leonardo, Fincantieri, Elettronica, Beretta, AIAD, Pasquali and many other prominent Italian companies were present. Presence of Italian defence industry in these numbers was a record of sorts. The Raksha Mantri welcomed the proposals made by the CEOs on strengthening defence relations between the two countries and assured them of all necessary support and assistance on the part of Government of India. The Italian Under Secretary of Defence Mr Matteo Perego di Cremona also attended the meeting, in addition to the representation by Secretary General of Association of Defence Industries and the Italian Ministry of Defence.

Later in the day, the Raksha Mantri, accompanied by Mr Matteo Perego di Cremona and Indian Ambassador to Italy Smt Neena Malhotra visited Montone in Perugia Province where he paid rich tributes at a Memorial recently built for Naik Yeshwant Ghadge and other Indian soldiers who fought in the Italian Campaign in World War II.

Over 50,000 soldiers from the Indian Army had participated in the Italian Campaign, of which over 5,700 lost their lives and are commemorated in various cemeteries across Italy. He was welcomed by the Mayor of Montone, local community, school children and the Indian community members at Montone. The Raksha Mantri thanked them for keeping the memories of Indian soldiers alive. The visit of Raksha Mantri to the Yeshwant Ghadge Memorial has deepened the unique historical connect India shares with Italy.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1966364>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 10 Oct 2023

Raksha Mantri Shri Rajnath Singh Holds Talks with Italian Defence Minister Mr Guido Crosetto in Rome; Discusses Opportunities in Defence Industrial Cooperation

Agreement signed to promote cooperation in varied defence domains, including security, R&D, co-development, co-production & setting up of joint ventures

Raksha Mantri Shri Rajnath Singh held talks with Italian Defence Minister Mr Guido Crosetto in Rome on October 09, 2023, on the first leg of his visit to Italy and France. During the meeting,

both sides discussed a host of defence cooperation issues, including training, sharing of information, maritime exercises and maritime security. The focus was on the opportunities in defence industrial cooperation.

The two Ministers discussed the complementary capacities of India & Italy in defence and the possibilities of joint development. The Raksha Mantri suggested fostering the interaction of the Indian start-ups with the Italian defence companies.

The meeting was followed by the signing of the Agreement on Cooperation in the field of defence. The agreement will promote bilateral cooperation in varied defence domains, such as security and defence policy, R&D, education in military field, maritime domain awareness, sharing of defence information and industrial cooperation, including co-development, co-production & setting up of joint ventures.

Earlier, Shri Rajnath Singh was presented with a Guard of Honour at Villa Madama. Upon his arrival at Ciampino Airport, the Raksha Mantri was received by the Indian Ambassador to Italy Dr Neena Malhotra and senior Italian officials.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1966172>



Tue, 10 Oct 2023

India, Italy Sign Defence Cooperation Agreement

India and Italy on Tuesday signed a defence cooperation agreement to promote cooperation in varied defence domains such as “security and defence policy, R&D, education in military field, maritime domain awareness, sharing of defence information and industrial cooperation, including co-development, co-production and setting up of joint ventures”. This was concluded after the bilateral talks between Defence Minister Rajnath Singh and his Italian counterpart Guido Crosetto in Rome.

Mr. Singh is on a visit to Italy and France from October 9 to 12.

“During the meeting, both sides discussed a host of defence cooperation issues, including training, sharing of information, maritime exercises and maritime security. The focus was on the opportunities in defence industrial cooperation,” the Ministry said in a statement on the bilateral talks. “The two Ministers discussed the complementary capacities of India and Italy in defence and the possibilities of joint development.”

Indian start-ups

Mr. Singh suggested fostering the interaction of the Indian start-ups with the Italian defence companies, the statement said.

Earlier, Mr. Singh was presented with a Guard of Honour at Villa Madama. Upon his arrival at Ciampino Airport, he was received by the Indian Ambassador to Italy Neena Malhotra and senior Italian officials.

The relationship between India and Italy was elevated to Strategic Partnership in March 2023 during the visit of the Italian Prime Minister Giorgia Meloni to India.

During the second and final leg of his visit, Mr. Singh will visit Paris for the 5th annual defence dialogue with his French counterpart Sebastian Lecornu . India and France recently celebrated 25

years of Strategic Partnership. "Both countries enjoy a deep and wide-ranging bilateral defence relationship, including significant industrial cooperation," the Defence Ministry noted.

In both Rome and Paris, Mr. Singh is scheduled to interact with the defence industry CEOs and senior representatives to discuss potential opportunities for industrial cooperation.

<https://www.thehindu.com/news/national/india-italy-sign-defence-cooperation-agreement/article67403040.ece>

अमर उजाला

Tue, 10 Oct 2023

India Defence Conclave: 'तकनीकी विकास के साथ तालमेल बैठाना हमारी प्राथमिकता', वायु सेना प्रमुख ने कही यह बात

दिल्ली में भारत शक्ति द्वारा आयोजित भारत रक्षा कॉन्क्लेव 2023 में वायुसेना प्रमुख एयर चीफ मार्शल वीआर चौधरी ने शिरकत की। कार्यक्रम में संबोधन के दौरान चीफ मार्शल वीआर चौधरी ने कहा कि वायुसेना अपनी परिचालन क्षमताओं को बढ़ाने की दिशा में ध्यान दे रहा है। साथ ही उन्होंने जोर देते हुए कहा कि प्रौद्योगिकी विकास के साथ तालमेल पर काम किया जा रहा है।

साथ ही उन्होंने अपने संबोधन के दौरान वायुसेना को एक चुस्त और अनुकूलनीय वायुसेना के रूप में व्यक्त किया। उन्होंने कहा कि वायुसेना का दृष्टिकोण चार स्तंभों पर खड़ा है। जो क्षमता विकास, प्रौद्योगिकी आत्मसात, मानव संसाधन प्रबंधन और प्रशिक्षण, संयुक्तता और एकीकरण हैं। एयर चीफ मार्शल चौधरी ने शताब्दी दशक के लिए वायुसेना का दृष्टिकोण शीर्षक से एक प्रेजेन्टेशन में वायुसेना के दृष्टिकोण को बताया। इस दौरान उन्होंने कहा कि जैसे-जैसे प्रौद्योगिकी छोटे-छोटे कदम उठाती है तो हमें भी उसके साथ तालमेल बिठाना होगा। जो हमारी परिचालन क्षमताओं को बेहतर कर सकता है।

भारतीय वायुसेना आधिकारिक तौर पर 8 अक्टूबर, 1932 को स्थापित की गई थी। द्वितीय विश्व युद्ध के दौरान इसकी दक्षता और उपलब्धियों को देखते हुए, मार्च 1945 में बल को "रॉयल" उपसर्ग से सम्मानित किया गया था। इसलिए, यह रॉयल इंडियन एयर फोर्स बन गई। 1950 में, जैसे ही भारत एक गणतंत्र बन गया, भारतीय वायु सेना ने अपना "रॉयल" उपसर्ग हटा दिया और ध्वज में संशोधन किया।

<https://www.amarujala.com/india-news/air-chief-said-the-vision-of-the-iaf-for-the-centenary-decade-is-to-keep-pace-with-the-technological-visa-2023-10-10>

THE ECONOMIC TIMES

Tue, 10 Oct 2023

Need to Always Anticipate Change in Character of Warfare rather than Reacting to it: IAF Chief

The leadership in the armed forces would have to understand that "we need to always anticipate the change" in character of warfare rather than reacting to it after it happens, IAF chief Air Chief Marshal V R Chaudhari said on Tuesday. In his address at an event here, he also said the Indian Air Force's vision for its centenary decade is to keep pace with technology development and work towards increasing its operational capabilities.

He was speaking at India Defence Conclave 2023 hosted by Bharat Shakti, held days after the 91st anniversary of the IAF.

"As we march into our centenary decade, I think it is apt for me to put forth what is the vision for the Indian Air Force in the next 10 years or so," the IAF chief said.

"Very clearly, our new doctrine has articulated the vision of the air force to be an agile and adaptable air force that provides decisive aerospace power in furtherance of our national interests," he said.

The vision of the Air Force hinges on four pillars, firstly capability development, technology assimilation, HR management and training, and of course, jointness and integration, he said.

Air Chief Marshal Chaudhari outlined the vision of the IAF in a PowerPoint presentation titled 'IAF's Vision for the Centenary Decade'.

Capability development involves identification of future risks and constraints, especially in the context of ever-changing geopolitical situation, global situation, he said.

The kind of upheavals being seen across the globe, it has given rise to "continuously reassess our capabilities, whether we need to be equip and train for a short and swift war or we need to equip and train for a protracted conflict. Which part of the country or the globe is going to be affected next, is something that we need to keep analysing all the time," the IAF chief said.

The existing structure and resources need to be constantly restructured, keeping in mind the changing character of warfare, he said.

"And, it is for us, the leadership in the armed forces, to understand that we need to always anticipate the change in character of warfare rather than reacting to it after it happens," he added.

For this, we need to understand, assimilate and absorb the newest technology that are available to us. Our doctrine has also very clearly spelt out that we are shifting from being merely a threat-based and demanded force to a capability-demanded force, he said.

The IAF chief used the acronym 'ABCD' for steps needed for capability development -- 'Acquire', 'Boost', 'Conserve' and 'Develop'.

This means acquiring news platforms, boosting capability of existing platforms, conserving ageing platforms, and development and R&D of new platforms and capabilities, Air Chief Marshal Chaudhari said.

The programme was also attended by defence attaches from various embassies and many representatives from the defence industry.

The focus will always remain on Make in India, Atmanibharta, joint venture, transfer of technology, he said.

In his address, he also spoke about the latest induction of C-295 aircraft, and IAF's plan to procure additional batch of 97 Tejas Mark-1A aircraft besides upgrading 84 Sukhoi-30MKI jets.

"The C-295 project will involve 125 MSMEs spanning seven states, and expected to generate a little over 40 lakh man hours of work. And, 96 per cent of these man hours work will be undertaken in India," he said.

The Indian Air Force was officially established on October 8, 1932. In view of its professional efficiency and achievements during World War II, the force was bestowed with the prefix "Royal" in March 1945. So, it became the Royal Indian Air Force (RIAF).

In 1950, the IAF dropped its "Royal" prefix and amended the ensign as India became a Republic.

In his address, the IAF chief also underlined that "we need to incorporate disruptive technologies in our induction, it will play a critical role in future conflicts".

"We have to now seriously look at how some of these niche technologies can quickly be assimilated and put into military use, and how will they enhance our operational capabilities," he added.

Air Chief Marshal Chaudhari emphasised that as technology takes small steps, "we also need to equally match up as to how best it can enhance our operational capabilities".

"The IAF's vision for next 10-odd years will be to keep pace with technology development, to understand and educate ourselves as to how best these technologies can be adopted to enhance our operational efficiencies," he added.

Some of the speakers in their addresses alluded to the ongoing Israel-Hamas conflict as well.

<https://economictimes.indiatimes.com/news/defence/air-forces-vision-for-centenary-decade-is-to-keep-pace-with-tech-development-iaf-chief/articleshow/104315619.cms>

THE TIMES OF INDIA

Tue, 10 Oct 2023

Air Force's Vision for Centenary Decade is to Keep Pace with Tech Development: IAF Chief

The Indian Air Force's vision for its centenary decade is to keep pace with technology development and work towards increasing its operational capabilities, IAF chief Air Chief Marshal V R Chaudhari said on Tuesday.

He was speaking at India Defence Conclave 2023 hosted by Bharat Shakti in Delhi, held days after the 91st anniversary of the IAF.

"As we march into our centenary decade, I think it is apt for me to put forth what is the vision for the Indian Air Force in the next 10 years or so," the IAF chief said.

"Very clearly, our new doctrine has articulated the vision of the air force to be an agile and adaptable air force that provides decisive aerospace power in furtherance of our national interests," he said.

The vision of the Air Force hinges on four pillars, firstly capability development, technology assimilation, HR management and training, and of course, jointness and integration, he said.

Air Chief Marshal Chaudhari outlined the vision of the IAF in a PowerPoint presentation titled 'IAF's Vision for the Centenary Decade'.

"As technology takes small steps, we also need to act and match up as to how best it can enhance our operational capabilities," he said.

The Indian Air Force was officially established on October 8, 1932. In view of its professional efficiency and achievements during World War II, the force was bestowed with the prefix "Royal" in March 1945. So, it became the Royal Indian Air Force (RIAF).

In 1950, the IAF dropped its "Royal" prefix and amended the ensign as India became a Republic.

<https://timesofindia.indiatimes.com/india/air-forces-vision-for-centenary-decade-is-to-keep-pace-with-tech-development-iaf-chief/articleshow/104315066.cms>

Wed, 11 Oct 2023

Strategic Transformation: India's Ambitious Armed Forces Reorganisation

Post-independence, the process of 'theatrisation' for the reorganization of the armed forces being undertaken is one of the most ambitious reforms for India's armed forces, says India's Chief of Defence Staff (CDS) Gen Anil Chauhan.

Speaking at India Defence Conclave, organised by a news portal Bharat Shakti, Gen Chauhan underscored the critical nature of consensus-building among the service Chiefs and himself to formulate a comprehensive transformation plan. In his words the transformation effort has led to the identification of nine key verticals, encompassing operations, operational-logistics, training, HR, administration, and supply chain management.

India's second CDS Gen Chauhan in response to questions about "Theatrisation' highlighted that while consensus is crucial, the art of compromise also holds significance in achieving collective objectives.

Speaking at the Conclave on Oct 10 in New Delhi, Chief of Army Staff Gen Manoj Pande shared details about the significant strides made by the domestic defence industry. According to him, a total of 340 indigenous defence enterprises are actively engaged in realizing 230 contracts by 2025, entailing an investment of Rs 2.5 lakh crore. Adding, the Indian defence sector has committed substantial resources to Research and Development to meet the evolving requirements of the Services.

Under Emergency Procurement provisions I to III for Capital procurement, almost 68 Contracts with an outlay of Rs 17,500 crore have fructified; and under Emergency Procurement provision IV, 73 Contracts with an outlay of Rs 10,900 crore have been concluded.

In addition to weaponry and equipment, the armed forces are actively pursuing 45 niche technologies tailored for military applications, he said.

Collaborating with leading academic institutions, Indian Army Cells are conducting specialized research in various domains. Presently, there are 120 indigenous projects in progress, dedicated to developing and assimilating these niche technologies. Notably, Technical Institutions have established Centres of Excellence, encompassing a 5G test bed, an Artificial Intelligence (AI) lab, and a Quantum lab.

Delving further into the infusion of technology, Gen Pande outlined the strategic focus areas of the armed forces. In the domain of space, the Indian Army effectively utilizes its indigenous space assets and ranks as a prominent user of satellite communication networks. Progress is underway on the Indian Army's dedicated satellite project, GSAT-7B. The Army chief in his address conveyed to almost 49 Foreign Defence Attaches and other senior diplomats and officers that the Indian Defence Industry has the capability to produce cutting-edge military hardware with modern technologies. And urged the friendly nations and partners to avail capability building opportunities available in India.

Earlier in the evening Chief of Air Staff Air Chief Marshal (ACM) Vivek Ram Chaudhari, presented a comprehensive vision for the modernization of the Air Force, underscoring four pivotal pillars: capability development, technology assimilation, jointness, and integration.

In his address the Air Chief stated that the indigenous Light Combat Aircraft (LCA) project has played a pivotal role in creating a national aerospace ecosystem, involving 140 design agencies and 340 production agencies. Furthermore, this initiative has generated approximately 5000 jobs in the private sector. With the impending order for 97 additional LCA-MK1A aircraft by the IAF, this ecosystem is poised for further expansion, he added.

He further elaborated on the upgrade of 84 SU-30MKIs, involving an expenditure of Rs 6000 crore. This modernization endeavour is geared toward integrating indigenous content of 78 percent into 51 systems. Among these, state owned Hindustan Aeronautics Limited (HAL) will oversee the upgrade of 30 systems, the Defence Research and Development Organisation (DRDO) will manage 13, and eight systems will be entrusted to the private sector.

In conclusion, the commitment of the armed forces to the process of “theatrisation” and the integration of various verticals signifies a substantial leap forward in enhancing India’s defence capabilities. The emphasis on indigenous technology development and collaboration with academic institutions underscores the nation’s unwavering dedication to self-reliance and modernization. The future holds promise for a more robust and advanced defence infrastructure, ensuring the security and sovereignty of the nation.

<https://www.financialexpress.com/business/defence-strategic-transformation-indias-ambitious-armed-forces-reorganisation-3269154/>



Tue, 10 Oct 2023

Identified Nine Verticals for Integration among Three Services, Says Chief of Defence Staff Gen Chauhan

Chief of Defence Staff (CDS) Gen Anil Chauhan has said the process of ‘theatrisation’, part of a reorganisation effort undertaken by the armed forces, is among the most ambitious reforms post-independence.

He said as part of the process they have identified nine verticals for integration which include operations, operational-logistics, training, HR, administration and supply chain management

“To forge a kind of consensus on macro issues between the three service Chiefs and myself as to what kind of roadmap for transformation we want to lay down for the armed forces... There is good synergy right now...,” Gen Chauhan said speaking at the India Defence Conclave organised by news portal Bharat Shakti.

₹2.5 lakh crore outlay

Addressing the conclave, Army Chief Gen Manoj Pande said they have 340 indigenous defence industries working towards fructification of 230 contracts by 2025, that entails an outlay of ₹2.5 lakh crores.

He said that the Indian defence industry is investing significantly in Research and Development to meet the requirements of the Services.

The Indian Air Force (IAF) Chief, Air Chief Marshal (ACM) Vivek Ram Chaudhari said the upgrade of 84 SU-30MKIs at a cost of ₹6000 crore will see upgradation of 51 systems with an indigenous content of 78%. Of these 51 systems, 30 would be upgraded by Hindustan Aeronautics

Limited (HAL), 13 by the Defence Research and Development Organisation (DRDO) and eight by the private sector.

“Apart from weapon systems and equipment, we are also pursuing 45 niche technologies which we have identified for military application. Indian Army Cells have been co-opted within lead academic Institutes, to foster and take forward research in niche domains. 120 indigenous projects are underway to develop and absorb these niche technologies. Centres of Excellence have been established in our Technical Institutions, including a 5G test bed, Artificial Intelligence (AI) lab and Quantum lab,” Gen Pande said speaking at the conclave.

Elaborating on the technology infusion and listing out the focus areas, Gen Pande said, “In the space domain, we are exploiting our indigenous space assets and Indian Army is one of the largest users of satellite communication based networks. The project for Indian Army’s own Satellite (GSAT-7B) is in progress.”

Aerospace ecosystem

The Air Chief, giving a detailed presentation on the vision and the modernisation of the force said it is based on four pillars which includes capability development, technology assimilation, and Jointness and integration. He said the indigenous Light Combat Aircraft (LCA) project has created a national aerospace ecosystem with 140 design agencies and 340 production agencies and has generated around 5000 jobs in the private sector. Once the IAF places an order for 97 additional LCA-MK1A, this would expand further.

Addressing the conclave, Chairman of Indian Space Research Organisation (ISRO), Dr S. Somnath stressed the need to do more to “improve the penetration of NavIC” or Navigation with Indian Constellation for “handheld devices” across the country.

Maintaining that private sector companies and start-ups were assuming greater importance, especially in the domain of communications and PNT services, Dr Somnath said that the “strategic capabilities of communications infrastructure” cannot be overstated. Stating that while ISRO will create high value technologies which will be required in the space sector, he added about 200-300 companies are already contributing and many among them have created a niche for themselves.

<https://www.thehindu.com/news/national/identified-nine-verticals-for-integration-among-three-services-says-chief-of-defence-staff-gen-chauhan/article67405003.ece>



Tue, 10 Oct 2023

Northeast's First Defence Tech Show Begins in Guwahati

The first-ever defence tech show in the Northeast began in Guwahati on Tuesday.

From cutting-edge technology to top-end gear, nearly 200 manufacturers have put up their stalls at the two-day 'East Tech', inaugurated by Assam Industries and Commerce Minister Bimal Borah and General Officer Commanding-in-Chief of Eastern Command Lt Gen Rana Pratap Kalita.

The tech show has been jointly organised by the Indian Army and the Assam government, with MSMEs, defence PSUs and start-ups also lining up their products. The Eastern Command is facilitating it by way of providing some hand-holding. We are exposing the manufacturers to our

needs and also enabling the end-users in field formations to directly place their requirements,' Lt Gen Kalita said at the opening ceremony.

Highlighting the dynamic challenges before the armed forces, ranging from conventional warfare to counter-insurgency operations, he said, 'Troops need to be suitably equipped and the nation has to fight own battles with own technology. Hence, we are focussed on indigenous technology in this tech expo.' While the defence expo is held centrally every year, the Army has started organising similar expos especially for its different command formations.

'We started it for the Eastern Command by organising it at Kolkata last year. This time we are doing it here,' the officer said. Lt Gen Kalita also emphasised on ensuring procurement through a proper process and the need to feel gaps in placing orders, and timely delivery.

'Financial experts are also here to help the buyers as well as the sellers to understand the procurement process,' he added.

Borah highlighted the strategic importance of Assam for defence-sector manufacturers.

'We are hopeful that manufacturers in the defence sector will come forward to explore the geographical advantage of the state. The state government will also extend all possible support,' he said, elaborating on the infrastructural and logistical developments underway in Assam.

<https://www.deccanherald.com/india/assam/northeasts-first-defence-tech-show-begins-in-guwahati-2720517>

THE TIMES OF INDIA

Tue, 10 Oct 2023

Indian Defence Forces Studying Hamas Attacks on Israel in Detail

The Indian defence forces are studying in detail the deadly Hamas attack on Israel two days back in which scores of Israeli and foreign nationals were abducted, raped and killed by the terror group.

"We are studying these attacks in detail as the way these attacks were carried out and how the terrorists managed to keep their activities hidden from the agencies tasked to track them," defence officials told ANI.

As the situation pans out, the Israeli response to the large-scale attacks is also being observed, they said. The issue is also likely to come up for detailed discussion during the Army commanders' conference planned in the third week of this month from October 18.

The forces are also likely to study the possible intelligence gaps that the terror outfit could have exploited to carry out their mission at a large scale, they said.

As per reports, the terrorists first fired missiles at the Israeli cities and then destroyed fences along the borders and entered Israeli cities firing indiscriminately at citizens there.

The attackers simultaneously intruded into Israel in paragliders and motorboats near beach towns.

According to the latest updates, at least 900 people have been killed and over 2600 people have been left wounded in one of the worst terror attacks in the Jewish country.

<https://timesofindia.indiatimes.com/india/indian-defence-forces-studying-hamas-attacks-on-israel-in-detail/articleshow/104323213.cms>

‘People of India Stand Firmly with Israel’: PM Modi after Benjamin Netanyahu Dials him on Situation after Hamas Attacks

Prime Minister Narendra Modi on Tuesday said he received a call from his Israeli counterpart Benjamin Netanyahu who informed him about the current situation in the Jewish country following attacks by terrorist group Hamas.

“I thank Prime Minister @netanyahu for his phone call and providing an update on the ongoing situation. People of India stand firmly with Israel in this difficult hour. India strongly and unequivocally condemns terrorism in all its forms and manifestations”, the prime minister posted on social media platform X.

On Saturday, the day Hamas carried out coordinated attacks on Israel, PM Modi had expressed shock. Taking to social media platform X, the prime minister had said, "Deeply shocked by the news of terrorist attacks in Israel. Our thoughts and prayers are with the innocent victims and their families. We stand in solidarity with Israel at this difficult hour".

The war between Israel and Hamas entered the fourth day. The toll has surpassed 1,500 on both the sides. About 900 people have died in Israel, including 260 people who were shot by Hamas gunmen at a music festival near the Gaza border. In Palestine, almost 690 people have died in the retaliatory action from Tel Aviv. As per the United Nations Office of Coordination of Humanitarian Affairs more than 1, 87,500 people have been displaced in Gaza since the beginning of the conflict.

“Displacement has escalated dramatically across the Gaza Strip reaching more than 187,500 since Saturday, with most taking shelter in UN schools”, the UN humanitarian agency OCHA said in a statement.

Overnight, Israel struck the Gaza Strip and is now building a base to accommodate thousands of soldiers in preparation for the next phase of its retaliation.

The country will respond “very severely and aggressively,” a spokesman for the Israel Defense Forces said Tuesday, echoing comments from Benjamin Netanyahu. While the prime minister didn’t announce a ground invasion, many Israelis and Palestinians expect one.

<https://www.hindustantimes.com/india-news/people-of-india-stand-firmly-with-israel-pm-modi-netanyahu-speak-on-hamas-attacks-101696929271193.html>



US Seeks Industry Feedback on Defence Procurement Agreement with India

The US government on Tuesday sought feedback from its defence industry community on the reciprocal defence procurement agreement it is planning to have with India.

“On behalf of the US government, the Department of Defense is contemplating negotiating and concluding a new Reciprocal Defense Procurement Agreement with the Republic of India,” said a notification issued in the Federal Register on Tuesday.

“DoD is requesting industry feedback regarding its experience in public defense procurements conducted by or on behalf of the Indian Ministry of Defence or Armed Forces,” it said.

So far, the United States has concluded Reciprocal Defense Procurement (RDP) Agreements with 28 countries. It is done by the Defense Secretary and his counterpart from the other country.

The purpose of an RDP agreement is to promote rationalisation, standardisation, interchangeability, and interoperability of conventional defence equipment with allies and other friendly governments, said the Federal Register

“These agreements provide a framework for ongoing communication regarding market access and procurement matters that enhance effective defense cooperation,” it said.

Reciprocal defence procurement agreements generally include language by which the countries agree that their defence procurements will be conducted in accordance with certain implementing procedures.

These procedures relate to publication of notices of proposed purchases; the content and availability of solicitations for proposed purchases; notification to each unsuccessful offeror; feedback, upon request, to unsuccessful offerors concerning the reasons they were not allowed to participate in a procurement or were not awarded a contract; and provision for the hearing and review of complaints.

Based on the agreement, each country affords the other country certain benefits on a reciprocal basis consistent with national laws and regulations. The benefits that the United States accords to the products of qualifying countries include offers of evaluation of qualifying country end products without applying the price differentials otherwise required by the Buy American statute and the Balance of Payments Program.

<https://www.indiatoday.in/world/story/us-seeks-industry-feedback-on-defence-procurement-agreement-with-india-2447290-2023-10-11>



Tue, 10 Oct 2023

AUSA 2023: Teledyne FLIR Unveils New Black Hornet Variant

Teledyne FLIR unveiled the newest variant of its Black Hornet nano-unmanned aircraft system (UAS) at the Association of United States Army (AUSA) 2023 annual conference.

The Black Hornet 4 (BH4) variant builds upon the technical attributes of the previous iteration of the nano UAS – the Black Hornet 3 (BH3) – according to Dave Viens, vice-president of business development at Teledyne FLIR.

Since 2017 company officials have delivered roughly 20,000 BH3 systems to 44 countries, including most recently 1,000 BH3 nano drones to Ukrainian forces via military support agreements between Kiev, Norway, and the United Kingdom, Viens said during a 4 October interview with Janes .

The Black Hornet system also features prominently in the army's Soldier Borne Sensor (SBS) programme, for which Teledyne FLIR is the prime contractor.

“So [we] have taken all those lessons learned from all those years [of] development and trials, to include all the places we've been like Iraq, Afghanistan, Syria, and [Ukraine] ... to figure out what's the next step beyond Black Hornet 3, and how do we make it 'future proof' for [technologies] like autonomy” as well as networked intelligence, surveillance, and reconnaissance (ISR), cloud-based command-and-control (C2), and other enablers on an increasingly digital battlefield, Viens said.

While the design of the BH4 variant is firmly rooted in the BH3 lessons learned, programme officials have also integrated several platform improvements into BH4 – such as increased payload size, improved sensor resolution, increased operational altitude, and time on target, according to Nils-Andreas Haagenrud, senior director of UAS Programs for Teledyne FLIR.

<https://www.janes.com/defence-news/news-detail/ausa-2023-teledyne-flir-unveils-new-black-hornet-variant>

Science & Technology News



Tue, 10 Oct 2023

Revolutionising Satellite Communication: Nav Wireless Technologies Collaborates with ISRO on LiFi Innovation

Nav Wireless Technologies Pvt Ltd, based in Ahmedabad, has inked a significant Memorandum of Understanding (MoU) with the Space Applications Centre (SAC), division of Indian Space Research Organisation (ISRO).

Traditionally, space agencies relied on Radio Frequency (RF) for space communication, but the trend is shifting towards optical wireless technologies. SAC, in partnership with Nav Wireless Technologies, aims to employ light for high-speed and secure quantum key communication between base stations and satellites in space, as well as for terrestrial communication. This innovation will facilitate quantum key distribution (QKD) and pointing acquisition and tracking (PAT) in satellite-to-satellite communications during ISRO's upcoming space exploration missions.

This collaboration signifies a milestone in the field of high-speed communication for satellites in space, utilizing light-based technology. The MoU between SAC/ISRO and Nav Wireless Technologies spans three years and has received the endorsement of the Department of Telecom (DoT). Notably, Nav Wireless Technologies is the first Indian company to provide this advanced technology to ISRO, marking a significant milestone in the country's space endeavours.

Hardik Soni, the co-founder and CTO of Nav Wireless Technologies Pvt Ltd, expressed his pride in contributing to ISRO's projects. LiFi, short for Light Fidelity, operates by transmitting data through a spectrum of light beams, making it suitable for both indoor and outdoor environments. This technology offers lightning-fast data connections, proving particularly valuable in urban areas with crowded radio spectrums and rural regions lacking fiber optic networks.

Nav Wireless Technologies Pvt Ltd has been a leader in LiFi research and development in India for over a year. The company stands as the sole registered entity dedicated to exploring the potential of LiFi technology in the country. Their groundbreaking work positions them as the leading solution provider for the nationwide rollout of 5G services and BharatNet rural connectivity, leveraging Optical Wireless Communication (OWC). This innovative technology promises to reshape the landscape of communication in India, offering faster and more reliable connections, even in areas where traditional infrastructure falls short.

<https://www.financialexpress.com/business/defence-revolutionising-satellite-communication-nav-wireless-technologies-collaborates-with-isro-on-lifi-innovation-3268528/>



Tue, 10 Oct 2023

ISRO Chairman Advocates Strengthening NavIC Technology for India's Future

For widespread implementation of NavIC (Navigation with Indian Constellation) on handheld devices nationwide, the Chairman of Indian Space Research Organisation (ISRO) has emphasized the crucial importance of bolstering positioning, navigating, and timing (PNT) technologies in India.

Speaking at the Catalyst and Indian Defence Conclave 2023 organised by defence and strategic affairs news portal, Bharat Shakti, Dr S Somnath highlighted the necessity for developing advanced technologies in the space sector, an arena already seeing contributions from around 200-300 companies, many of which have carved out their unique niches.

ISRO Chairman underlined the rising significance of private sector enterprises and start-ups, particularly in the fields of communications and PNT services. He stressed that the “strategic capabilities of communications infrastructure” cannot be overstated. This assertion is relevant given recent reports indicating that several Indian smartphone manufacturers, including Lava and Bhagwati (Micromax), are facing challenges in meeting their incremental targets under the production-linked incentive (PLI) scheme for the third consecutive year in FY24.

These reports hint at the possibility of Indian smartphone manufacturers seeking an extension of the PLI scheme until FY26. Conversely, global iPhone manufacturers like FoxConn (Hon Hai), Wistron, and Samsung have consistently met their targets. Additionally, Pegatron, another iPhone manufacturer in India, is likely to meet its targets for FY24.

In the context of space-based technology development, Somnath highlighted the vibrancy of India's space economy. And also highlighted the government's commitment to strengthening private partnerships in the strategic sector. In attendance at the event were eminent figures including Ajay Kumar Sood, the Principal Scientific Advisor to the government; P S Raghavan, Chairman of the National Security Advisory Board (NSAB); and Nivriti Rai, MD & CEO of Invest India. Organized by Bharat Shakti, the program featured knowledge sessions, with one focusing on the 'Utilization of New and Emerging Technologies for Civil and Military Domains.' Ajay Kumar Sood, the Principal Scientific Advisor to the government, echoed this sentiment, asserting that technology plays a pivotal role in bridging the gap between the civil and military sectors dedicated to the country's security.

Furthermore, Sood mentioned the focus of the Centre's Anusandhan Research Foundation on fostering synergy between various ministries, organizations, and funding agencies. This collaborative approach aims to enable the government to engage with partners from industry and academia through a unified framework.

<https://www.financialexpress.com/business/defence-isro-chairman-advocates-strengthening-navic-technology-for-indias-future-3268814/>



Tue, 10 Oct 2023

Gaganyaan's First Test Flight Scheduled for October 21

The first test flight for India's human space flight programme is scheduled for October 21, Union Minister Jitendra Singh said in New Delhi on Tuesday.

The Gaganyaan Test Vehicle Development flight (TV-D1) will be the first among two sets of trial flights that the Indian Space Research Organisation has planned before an Indian astronaut will fly to space - in an Indian craft sitting atop an Indian rocket.

This will be an abort mission in which the crew module will be separated from the rocket at an altitude of 11 km, fly a few more kilometres and descend on water.

At a felicitation programme for the Indian Space Research Organisation's Chandrayaan-3 team, Singh said the TV-D1 launch was scheduled for October 21, in which ISRO would also test the efficacy of the crew escape system, a crucial part of the Gaganyaan mission.

The crew module will carry the astronauts to outer space and bring them back to the earth. The module will be recovered by the Indian Navy personnel from the Bay of Bengal after touchdown.

"The success of this test will set the stage for the first unmanned mission and ultimately the manned mission to outer space in low Earth orbit. Before the manned mission, there will be a test flight next year to carry Vyom Mitra, a female robot astronaut," said the minister.

Depending on the success of the trial flights, the manned mission has been planned for 2024-end.

The Gaganyaan project envisages a demonstration of human spaceflight capability by launching a human crew to an orbit of 400 km and bringing them back. The plan is to send a crew of three for three days to space. The prerequisites for such a complicated mission is the development of many critical technologies, including a human-rated launch vehicle for carrying crew safely to space, life support system to provide an earth-like environment to the crew in space, crew emergency escape provision and evolving crew management aspects for training, recovery and rehabilitation.

Prime Minister Narendra Modi announced the Rs 10,000 crore human space flight mission in his Independence Day address in 2018. Four Indian Air Force pilots were selected as the first batch of astronauts but their identities have not been revealed.

ISRO officials earlier said the Gaganyaan mission would not be a one-off affair as the government had approved a "sustained human space flight programme".

<https://www.deccanherald.com/science/space/gaganyaan-isro-human-spaceflight-test-flight-october-21-2720660>

