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Raksha Mantri inaugurates first operationalised private sector defence sector defence manufacturing facility in UP Defence Industrial Corridor

Lays foundation stone for an integrated Metal Manufacturing Facility under PTC industries for aerospace applications*

RM terms it a a shining example of strong public-private partnership*

Says, the two units will be major milestones in path of 'Aatmanirbharta' in defence*

Raksha Mantri Shri Rajnath Singh inaugurated the first operationalised private sector defence manufacturing facility in Uttar Pradesh Defence Industrial Corridor (UPDIC) in Lucknow on November 13, 2021. The facility, run by Aerolloy Technologies, a wholly owned subsidiary of PTC industries, will manufacture parts for Aircraft Engines, Helicopter Engines, Structural parts for aircrafts, Drones and UAV, Submarines, Ultra-Light Artillery Guns, Space Launch Vehicles and Strategy Systems etc.

The Raksha Mantri also laid the foundation stone for an integrated Metal Manufacturing Facility under PTC industries that will produce key Raw Materials in Titanium and other Exotic Alloys for aerospace applications. This plant will significantly reduce the country's dependence on imports for all platforms which require Titanium and Nickel Super Alloys and help in building a strong and Atmanirbhar Bharat.

Shri Rajnath Singh applauded PTC Industries Limited as an example of how in today's competitive environment a company can be successful through adoption of technology and said that the two units will prove to be major milestones in the path of self-reliance in defence in the times to come. He added that UPDIC and the units are a result of the vision of Prime Minister Narendra Modi for an 'Aatmanirbhar Bharat'. He appreciated the fact that PTC supplies products to renowned companies in India and abroad, contributing to the Government's vision of transforming India into a net defence exporter. On PTC obtaining the clearance certificate of critical On-line Fittings (OLFs) for defence applications from Ministry of Defence recently, Shri Rajnath Singh said, the clearance will prove to be a big step in 'Make in India' and achieving self-reliance in defence manufacturing.

The Raksha Mantri recalled the significance attached to industries by great stalwarts of our nation such as Babasaheb Bhimrao Ambedkar, Madan Mohan Malviya, Subhas Chandra Bose, Veer Savarkar, M. Visveshwarya and others. Terming the inauguration of the unit as a shining example of the strong public-private partnership, he asserted that the Government is taking forward

the vision of former Prime Minister late Atal Bihari Vajpayee who believed in the continuous & increased private sector participation for the development of the nation.

The Raksha Mantri emphasised the need for continuous modernisation of Armed Forces in the rapidly changing global security environment and said that the public & private sectors, academia and research & development organisations provide solutions to these problems. “The Indian defence industry has the potential to develop quality and cost-effective equipment which will not only bolster national security, but export the military hardware to the world. Companies like PTC Industries Limited can play an important role in this,” he said.

Reaffirming the Government’s resolve of 'Make in India and Make for the World', Shri Rajnath Singh listed out a series of measures undertaken to achieve self reliance in defence, including earmarking around 64 per cent of its modernisation funds under capital acquisition budget for 2021-22 for procurement from domestic companies; notifying two positive lists of over 200 items to increase exports and Defence Acquisition Procedure 2020, setting up of Defence Industrial Corridors in UP & Tamil Nadu; free Transfer of Technology of DRDO and Innovation for Defence Excellence (iDEX) initiative.The Raksha Mantri added that all efforts are being made to provide a suitable growth environment to the private sector. “We have opened up opportunities to build a Mega Defence Programme, including fighter aircraft, helicopters, tanks and submarines through a strategic partnership model which will help our private companies grow in stature and become global giants in the times to come. Recently, a Rs 22,000 crore contract was signed for transport plane 'C-295'. Most of these planes will be made in India in collaboration with our industry.

Shri Rajnath Singh said that as the nation is currently celebrating Azadi Ka Amrit Mahotsav, this is an opportunity to give a fresh impetus to our resolve to Make in India and Make for the world. He noted that the Armed Forces have also supported the drive for Aatmanirbharta in Defence. Shri Rajnath Singh stated that all these initiatives by the government have resulted in an increase in the number of contracts being awarded to the indigenous defence industry. This includes the recent LCA Tejas contract of about Rs 50,000 crore given to Hindustan Aeronautics Limited. He stressed that from prioritising procurement from Indian-IDMM (Indigenously Designed, Developed and Manufactured) categories to supporting R&D, the Government is striving to harness technology through active engagement with industry, academia, technology providers, equipment manufacturers, quality controllers etc.

The Raksha Mantri underlined that the steps undertaken by the Government have started to bear fruit. “In the last seven years, our defence exports have crossed the mark of Rs 38,000 crore and more than 10,000 SMEs have joined in the defence sector. Research & development, startup, innovation and employment has also increased as a result of these policies,” he added.

Speaking on the state of Uttar Pradesh and UPDIC, the Raksha Mantri applauded Chief Minister Yogi Adityanath and the state government for undertaking important reforms to incentivise investment in the state. The Raksha Mantri expressed confidence that private sector companies will invest in Uttar Pradesh and the state government will provide all possible support to them. He said that such investments will mean that the people of Uttar Pradesh no longer have to leave their homes in search of employment.

Underscoring the importance of learning from the past and working on the present for an empowered future, Shri Rajnath Singh exhorted the private industry to carry out in-house R&D or with academia, making full use of the Government’s policies and stay ahead in the race of development of state-of-the-art technology. He also urged them to make the local community a partner in their success by adopting local ITI, apprenticeship programme, schools and hospitals. This will be a true contribution to society and the country, he said.

The Raksha Mantri expressed confidence of increased investments by private companies in the near future and hoped that city of Lucknow and the state of Uttar Pradesh will make a mark in the manufacturing domain of defence and aerospace sector.

Earlier, Raksha Mantri, Uttar Pradesh Minister for Industrial Development Satish Mahana, Uttar Pradesh Minister of State (Independent Charge) Smt Swati Singh, Additional Secretary Defence

Production Shri Sanjay Jaju and UP Additional Chief Secretary and CEO, UPEIDA Shri Awanish Awasthi were welcomed by Chairman & Managing Director PTC Industries.

Uttar Pradesh Minister for Industrial Development Shri Satish Mahana expressed gratitude towards Raksha Mantri Shri Rajnath Singh for bringing initiatives, including Brahmos to Uttar Pradesh. Hailing the visionary leadership of Prime Minister Narendra Modi, the Minister said that competition in the defence sector will lead to an Aatmanirbhar Bharat. He further expressed confidence that UP will become the most preferred destination for investment.

Shri Sanjay Jaju, elaborated on the vision of Make in India and Aatmanirbhar Bharat, saying that the infrastructure and facilities offered by UPDIC will attract fresh investment in all 6 nodes. This, he said, will help the nation achieve its goal of self reliance. Shri Awanish Awasthi, briefed the gathering on the UPDIC and said that the state government would ensure land availability and logistical support for all investors. Other officials of the Ministry of Defence and the state government as well as industry representatives and investors were also present on the occasion.

https://pib.gov.in/PressReleasePage.aspx?PRID=1771478

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 13 Nov 2021 5:58PM

रक्षा मंत्री ने उत्तर प्रदेश रक्षा औद्योगिक गलियारे में पहली निजी क्षेत्र द्वारा संचालित रक्षा क्षेत्र की रक्षा निर्माण इकाई का उद्घाटन किया

एयरोस्पेस अनुप्रयोगों के लिए पीटीसी उद्योगों के अंतर्गत एक एकीकृत धातु निर्माण केंद्र की आधारशिला रखी

रक्षा मंत्री ने इसे मजबूत सार्वजनिक-निजी भागीदारी का एक उत्कृष्ट उदाहरण बताया

रक्षा मंत्री ने कहा, दो इकाइयां रक्षा क्षेत्र में 'आत्मनिर्भरता' की राह में प्रमुख मील के पत्थर साबित होंगी

रक्षा मंत्री श्री राजनाथ सिंह ने 13 नवंबर, 2021 को लखनऊ में उत्तर प्रदेश रक्षा औद्योगिक गलियारे (यूपीडीआईसी) में पहली निजी क्षेत्र द्वारा संचालित रक्षा निर्माण इकाई का उद्घाटन किया। पीटीसी उद्योगों की पूर्ण स्वामित्व वाली सहायक एयरोलॉय टेक्नोलॉजीज द्वारा संचालित इकाई, विमान के इंजन, हेलीकॉप्टर इंजन, विमानों के लिए संरचनात्मक भागों, ड्रोन और यूएवी, पनडुब्बियों, अल्ट्रा-लाइट आर्टिलरी गन, स्पेस लॉन्च व्हीकल और स्ट्रैटेजी सिस्टम आदि के कल पुरजों का निर्माण करेगी।

रक्षा मंत्री ने पीटीसी उद्योगों के अंतर्गत एक एकीकृत धातु निर्माण इकाई की आधारशिला भी रखी जो एयरोस्पेस अनुप्रयोगों के लिए टाइटेनियम और अन्य विदेशी मिश्र धातुओं में प्रमुख कच्चे माल का उत्पादन करेगी। यह संयंत्र उन सभी प्लेटफार्मों के लिए आयात पर देश की निर्भरता को काफी कम कर देगा जिनके लिए टाइटेनियम और निकल सुपर मिश्र धातु की आवश्यकता होती है और एक मजबूत और आत्मनिर्भर भारत बनाने में मदद मिलती है।

श्री राजनाथ सिंह ने पीटीसी इंडस्ट्रीज लिमिटेड की सराहना करते हुए कहा कि कैसे आज के प्रतिस्पर्धी माहौल में एक कंपनी प्रौद्योगिकी को अपनाने के माध्यम से सफल हो सकती है। उन्होने कहा कि आने

वाले समय में यह दो इकाइयां रक्षा क्षेत्र में आत्मनिर्भरता की राह में प्रमुख मील के पत्थर साबित होंगी। उन्होंने कहा कि यूपीडीआईसी और इकाइयां 'आत्मनिर्भर भारत' के लिए प्रधानमंत्री श्री नरेन्द्र मोदी के दृष्टिकोण का परिणाम हैं। उन्होंने इस तथ्य की सराहना की कि पीटीसी भारत और विदेशों में प्रसिद्ध कंपनियों को उत्पादों की आपूर्ति करता है, जो भारत को एक शुद्ध रक्षा निर्यातक में बदलने के सरकार के दृष्टिकोण में योगदान देता है। हाल ही में रक्षा मंत्रालय से रक्षा अनुप्रयोगों के लिए पीटीसी को महत्वपूर्ण ऑन-लाइन फिटिंग (ओएलएफ) का निकासी प्रमाण पत्र प्राप्त करने पर, श्री राजनाथ सिंह ने कहा, यह मंजूरी 'मेक इन इंडिया' और देश में रक्षा निर्माण क्षेत्र में आत्मनिर्भरता प्राप्त करने में एक बड़ा कदम साबित होगी।

रक्षा मंत्री ने हमारे देश के महान हस्तियों बाबासाहेब भीमराव अंबेडकर, मदन मोहन मालवीय, सुभाष चंद्र बोस, वीर सावरकर, एम. विश्वेश्वरैया और अन्य लोगों द्वारा उद्योगों से जुड़े महत्व को याद किया। इस इकाई के उद्घाटन को मजबूत सार्वजनिक-निजी भागीदारी का एक उत्कृष्ट उदाहरण बताते हुए, उन्होंने कहा कि सरकार पूर्व प्रधानमंत्री स्वर्गीय अटल बिहारी वाजपेयी के दृष्टिकोण को आगे बढ़ा रही है, जो राष्ट्र के विकास के लिए निरंतर और बढ़ी हुई निजी क्षेत्र की भागीदारी में विश्वास करते थे।

रक्षा मंत्री ने तेजी से बदलते वैश्विक सुरक्षा परिदृश्य में सशस्त्र बलों के निरंतर आधुनिकीकरण की आवश्यकता पर बल दिया और कहा कि सार्वजनिक और निजी क्षेत्र, रक्षा अनुसंधान एवं विकास संगठन इन समस्याओं का समाधान प्रदान करते हैं। उन्होने कहा, "भारतीय रक्षा उद्योग में गुणवत्ता और लागत प्रभावी उपकरण विकसित करने की क्षमता है जो न केवल राष्ट्रीय सुरक्षा को मजबूत करेगा, बल्कि दुनिया को सैन्य हार्डवेयर का निर्यात करेगा। पीटीसी इंडस्ट्रीज लिमिटेड जैसी कंपनियां इसमें अहम भूमिका निभा सकती हैं।"

'मेक इन इंडिया और मेक फॉर द वर्ल्ड' के सरकार के संकल्प की पुष्टि करते हुए, श्री राजनाथ सिंह ने रक्षा क्षेत्र में आत्मनिर्भरता प्राप्त करने के लिए किए गए उपायों की एक श्रृंखला को सूचीबद्ध किया, जिसमें 2021-22 के लिए पूंजी अधिग्रहण बजट के अंतर्गत अपने आधुनिकीकरण कोष का लगभग 64 प्रतिशत हिस्सा प्रदान करना शामिल है, इनमें घरेलू कंपनियों से खरीद के लिए; निर्यात और रक्षा अधिग्रहण प्रक्रिया 2020 बढ़ाने के लिए 200 से अधिक वस्तुओं की दो सकारात्मक सूचियों को अधिसूचित करना, उत्तर प्रदेश और तमिलनाडु में रक्षा औद्योगिक गलियारों की स्थापना, डीआरडीओ की प्रौद्योगिकी का मुफ्त हस्तांतरण और रक्षा उत्कृष्टता के लिए नवाचार (आईडीईएक्स) पहल प्रमुख हैं। रक्षा मंत्री ने कहा कि निजी क्षेत्र को एक उपयुक्त विकास वातावरण प्रदान करने के लिए सभी प्रयास किए जा रहे हैं। “हमने एक रणनीतिक साझेदारी मॉडल के माध्यम से लड़ाकू विमान, हेलीकॉप्टर, टैंक और पनडुब्बियों सहित एक मेगा रक्षा कार्यक्रम बनाने के अवसर खोले हैं, जो हमारी निजी कंपनियों के कद में वृद्धि और आने वाले समय में वैश्विक दिग्गज बनने में मदद करेगा। हाल ही में परिवहन विमान 'सी-295' के लिए 22,000 करोड़ रुपये के अनुबंध पर हस्ताक्षर किए गए थे। इनमें से ज्यादातर विमान हमारे उद्योगों के सहयोग से भारत में ही बनाए जाएंगे।

श्री राजनाथ सिंह ने कहा कि चूंकि देश इस समय आजादी का अमृत महोत्सव मना रहा है, इसलिए यह मेक इन इंडिया और मेक फॉर द वर्ल्ड के हमारे संकल्प को एक नई गति देने का अवसर है। उन्होंने कहा कि सशस्त्र बलों ने भी रक्षा क्षेत्र में आत्मनिर्भर भारत अभियान का समर्थन किया है। श्री राजनाथ सिंह ने कहा कि सरकार की इन सभी पहलों के परिणामस्वरूप स्वदेशी रक्षा उद्योग को दिए जाने वाले अनुबंधों की संख्या में वृद्धि हुई है। इसमें हाल ही में एलसीए तेजस का अनुबंध शामिल किया गया है, इसके लिए हिंदुस्तान एयरोनॉटिक्स लिमिटेड को लगभग 50,000 करोड़ रुपये दिए गए। उन्होंने जोर देकर कहा कि भारतीय-आईडीएमएम (स्वदेशी रूप से डिजाइन, विकसित और निर्मित) श्रेणियों से खरीद को प्राथमिकता

देने से लेकर अनुसंधान एवं विकास का समर्थन करने तक, सरकार उद्योग, शिक्षाविदों, प्रौद्योगिकी प्रदाताओं, उपकरण निर्माताओं, गुणवत्ता नियंत्रकों आदि के साथ सक्रिय जुड़ाव के माध्यम से प्रौद्योगिकी का उपयोग करने का प्रयास कर रही है।

रक्षा मंत्री ने रेखांकित किया कि सरकार द्वारा किए जा रहे प्रयासों के परिणाम सामने आने लगे हैं। रक्षा मंत्री ने कहा, "पिछले सात वर्षों में, हमारे रक्षा निर्यात ने 38,000 करोड़ रुपये का आंकड़ा पार कर लिया है और 10,000 से अधिक एमएसएमई रक्षा क्षेत्र में शामिल हो गए हैं। इन नीतियों के परिणामस्वरूप अनुसंधान एवं विकास, स्टार्टअप, नवाचार और रोजगार में भी वृद्धि हुई है।"

उत्तर प्रदेश राज्य और यूपीडीआईसी के बारे में बात करते हुए, रक्षा मंत्री ने राज्य में निवेश को प्रोत्साहित करने के लिए महत्वपूर्ण सुधार करने के लिए मुख्यमंत्री योगी आदित्यनाथ और राज्य सरकार की सराहना की। रक्षा मंत्री ने विश्वास व्यक्त किया कि निजी क्षेत्र की कंपनियां उत्तर प्रदेश में निवेश करेंगी और राज्य सरकार उन्हें हर संभव सहायता प्रदान करेगी। उन्होंने कहा कि इस तरह के निवेश का मतलब यह होगा कि उत्तर प्रदेश के लोगों को अब रोजगार की तलाश में अपना घर बार नहीं छोड़ना पड़ेगा।

एक सशक्त भविष्य के लिए अतीत से सीखने और वर्तमान पर काम करने के महत्व को रेखांकित करते हुए, श्री राजनाथ सिंह ने निजी उद्योग को सरकार की नीतियों का पूरा उपयोग करते हुए, अत्याधुनिक प्रौद्योगिकी के विकास के लिए इन-हाउस आर एंड डी या अकादमिक के साथ काम करने और आगे बढ़ने की दौड़ में आगे रहने का आह्वान किया। उन्होंने निजी क्षेत्र से स्थानीय आईटीआई, शिक्षुता कार्यक्रम, स्कूलों और अस्पतालों को अपनाकर स्थानीय समुदाय को अपनी सफलता में भागीदार बनाने का भी आग्रह किया। उन्होंने कहा कि यह समाज और देश के लिए एक सच्चा योगदान होगा।

रक्षा मंत्री ने निकट भविष्य में निजी कंपनियों द्वारा निवेश में वृद्धि का विश्वास व्यक्त किया और आशा जताई कि लखनऊ शहर और उत्तर प्रदेश राज्य रक्षा और एयरोस्पेस क्षेत्र के विनिर्माण क्षेत्र में अपनी पहचान बनाएंगे।

इससे पूर्व, रक्षा मंत्री, उत्तर प्रदेश के औद्योगिक विकास मंत्री सतीश महाना, उत्तर प्रदेश की राज्य मंत्री (स्वतंत्र प्रभार) श्रीमती स्वाति सिंह, अतिरिक्त सचिव रक्षा उत्पादन श्री संजय जाजू और उत्तर प्रदेश के अतिरिक्त मुख्य सचिव और सीईओ, यूपीडा श्री अवनीश अवस्थी का अध्यक्ष एवं प्रबंध निदेशक पीटीसी इंडस्ट्रीज द्वारा स्वागत किया गया।

उत्तर प्रदेश के औद्योगिक विकास मंत्री श्री सतीश महाना ने ब्रह्मोस सहित अन्य पहलों को उत्तर प्रदेश में लाने के लिए रक्षा मंत्री श्री राजनाथ सिंह के प्रति आभार व्यक्त किया। प्रधानमंत्री श्री नरेन्द्र मोदी के दूरदर्शी नेतृत्व की सराहना करते हुए, मंत्री महोदय ने कहा कि रक्षा क्षेत्र में प्रतिस्पर्धा से एक आत्मनिर्भर भारत बनेगा। उन्होंने विश्वास व्यक्त किया कि आने वाले समय में उत्तर प्रदेश निवेश के लिए सबसे पसंदीदा गंतव्य बन जाएगा।

श्री संजय जाजू ने मेक इन इंडिया और आत्मनिर्भर भारत के दृष्टिकोण के बारे में विस्तार से बताते हुए कहा कि यूपीडीआईसी द्वारा दी जाने वाली बुनियादी सुविधाएं और सहयोग सभी 6 क्षेत्रों में नए निवेश को आकर्षित करेंगी। उन्होंने कहा, इससे देश को आत्मनिर्भरता के लक्ष्य को हासिल करने में मदद मिलेगी। श्री अवनीश अवस्थी ने सभा को यूपीडीआईसी के बारे में जानकारी दी और कहा कि राज्य सरकार सभी निवेशकों के लिए भूमि की उपलब्धता और लॉजिस्टिक सहायता सुनिश्चित करेगी। इस अवसर पर रक्षा मंत्रालय और राज्य सरकार के अन्य अधिकारियों के साथ-साथ उद्योग जगत के प्रतिनिधि और निवेशक भी मौजूद थे।

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Ministry of Defence

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Raksha Mantri Shri Rajnath Singh & UP Chief Minister hold consultations in Lucknow to enhance investment in UP Defence Industrial Corridor

Raksha Mantri Shri Rajnath Singh and Chief Minister of Uttar Pradesh Shri Yogi Adityanath held consultations to enhance investment in the UP Defence Industrial Corridor (UPDIC) at the Chief Minister's residence in Lucknow on November 12, 2021. The Raksha Mantri listened to the views of representatives of private defence industries present at the meeting and was briefed on the progress of investments in UPDIC.

Appreciating the presence of large number of Industry representatives, Shri Rajnath Singh expressed confidence that a strong defence manufacturing ecosystem will soon be created in Uttar Pradesh helping to achieve 'Aatmanirbhar Bharat' envisioned by Prime Minister Shri Narendra Modi. "We understand the needs, risks and strengths of our Industries. If anyone has the capacity to make our country self-reliant at the earliest, it is our industries, and I have been emphasising this on various platforms", the Raksha Mantri said. He described the setting up of Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu as one of the many steps that reflects the Government's unwavering commitment to cater to needs of defence industries.

The Raksha Mantri also announced that the Government is considering centrally sponsored scheme to incentivise investments in Defence Industrial Corridors and develop the defence manufacturing ecosystem. He said that for the first-time private industries have been given a share in domestic manufacturing. The Raksha Mantri added that from 2014 till date over 350 licences were issued to private industries compared to 200 licences issued between 2000 and 2014. He further informed that Policy provisions are being considered to encourage the private sector in Design and Development Projects. Shri Rajnath Singh responded to specific proposals from industry representatives and said that the Ministry of Defence will consider and act on all suggestions to bring in reforms to boost the defence industry.

Listing out some of the initiatives of the Government, the Raksha Mantri said, UPDIC will provide connectivity, resources & environment to defence companies and open up new opportunities. "Free Transfer of Technology by DRDO and increase in FDI limit up for access to cutting edge technologies of the world are some of the steps taken by us to promote use of indigenous technology in the private sector," he said. Raksha Mantri said that the Government has concluded contracts with global giants, which will enhance operational capabilities and capacity and most of the defence platforms will be manufactured in India through ties ups with Indian companies. Shedding light on the importance of domestic procurement, the Raksha Mantri said, the government has earmarked around 64 per cent of its modernisation funds under capital acquisition budget for 2021-22 for procurement from domestic companies. He added that the 'MAKE' category has been reformed and Innovation for Defense Excellence (iDEX) launched to encourage MSMEs and startups. He mentioned that, Rs 1,000 crore have been allocated for iDEX related purchases,

which will be increased further in the future. Rs 500 crore have also been allocated separately to support our startups for the next five years, he said. Raksha Mantri credited defence industries with laying the foundation of India's progress from an importer to an exporter. Shri Rajnath Singh said, our defence exports have grown by 334 per cent in the last five years and today we are exporting to 75 countries. He urged the anchor defence industries to identify more areas of research & development and manufacturing, adding that big domestic business houses and foreign Original Equipment Manufacturer (OEM) subsidiaries have not only been invited to tap into the potential of UPDIC but also to listen to their views.

Shri Rajnath Singh applauded the UP Chief Minister for acting with urgency to create a conducive business environment in the state in the last four years. Speaking on the reforms initiated by the state government he said, "the new policy reforms, coupled with the ever-increasing ranking in 'ease of doing business', have paved the way of industrial development in the state and taken 'Uttar Pradesh' on the path of 'Uttam Pradesh'". Raksha Mantri said that he was informed that the state government has worked on land acquisition on all nodes of UPDIC and this will continue at a fast pace. He underlined the importance of law and order for investment and said that the state government has done commendable work in this regard. Saying that the Union Government is working hand-in-hand with the state government to promote R&D and growth of MSMEs, Shri Rajnath Singh expressed confidence that the UP Defence Industrial Corridor will become the vehicle of Industrial Revolution in Uttar Pradesh in the times to come.

The presence of industry representatives and other stakeholders in large numbers is an indication of a constructive dialogue between the government and other stakeholders in defence industry, he said. Raksha Mantri concluded his address by saying that the UP Defence Industrial Corridor will play a crucial role in creating a strong defence & aerospace sector in Uttar Pradesh and realise the Government's dream of 'Aatmanirbhar Bharat'.

Addressing the gathering, UP Chief Minister Yogi Adityanath said that from amongst investment proposals received in the UP Investors' Summit, proposals worth more than Rs three lakh crore have been operationalised and production has started in most of them. He said that the participation of representatives of over 1000 companies from more than 70 countries in the Defence Expo 2020 in Uttar Pradesh was significant for UPDIC. He added that Uttar Pradesh has educational institutes like IIT BHU and IIT Kanpur and technical industries to promote R&D in defence. Chief Minister thanked Raksha Mantri for approving two major projects of Brahmos, DRDO and Bharat Dynamics Limited in the UPDIC, informing that land has been made available for both projects.

The Chief Minister expressed hope that investments in Uttar Pradesh would enable the state to contribute to the Prime Minister's goal of 'Aatmanirbhar Bharat' and help India become an export hub in the defence sector.

Uttar Pradesh Minister of Industries, Shri Satish Mahana, Minister of State, Shri Dharamdev Prajapati, Defence Secretary Dr Ajay Kumar, Secretary of Defence Production Shri Raj Kumar, Chief Secretary of Uttar Pradesh Rajendra Kumar Tiwari, Additional Chief Secretary and UPEIDA CEO Shri Awanish Awasthi, officials of Ministry of Defence and State government and representatives from private industry attended the consultations.

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पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

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रक्षा मंत्री श्री राजनाथ सिंह और उत्तर प्रदेश के मुख्यमंत्री ने उत्तर प्रदेश रक्षा औद्योगिक गलियारे में निवेश बढ़ाने के लिए लखनऊ में विचार-विमर्श किया

रक्षा मंत्री श्री राजनाथ सिंह और उत्तर प्रदेश के मुख्यमंत्री श्री योगी आदित्यनाथ ने 12 नवंबर 2021 को लखनऊ में मुख्यमंत्री आवास पर उत्तर प्रदेश रक्षा औद्योगिक गलियारे (यूपीडीआईसी) में निवेश बढ़ाने के लिए विचार-विमर्श किया। रक्षा मंत्री ने बैठक के दौरान वहां उपस्थित निजी रक्षा उद्योगों के प्रतिनिधियों के विचारों को सुना और फिर श्री सिंह को यूपीडीआईसी में निवेश की प्रगति के बारे में जानकारी दी गई।

बैठक में उद्योग प्रतिनिधियों की बड़ी संख्या में उपस्थिति की सराहना करते हुए श्री राजनाथ सिंह ने विश्वास व्यक्त किया कि प्रधानमंत्री श्री नरेन्द्र मोदी द्वारा परिकल्पित 'आत्मनिर्भर भारत' के लक्ष्य को प्राप्त करने में मदद करने के लिए उत्तर प्रदेश में जल्द ही एक मजबूत रक्षा निर्माण पारिस्थितिकी तंत्र स्थापित किया जाएगा। रक्षा मंत्री ने कहा कि हम रक्षा उद्योगों की आवश्यकताओं, जोखिमों तथा ताकत को समझते हैं। अगर किसी उद्योग में जल्द से जल्द हमारे देश को आत्मनिर्भर बनाने की क्षमता है, तो वह हमारे लिए लाभदायक उद्योग है, इसलिए मैं विभिन्न प्लेटफार्मों पर इस बात पर जोर देता रहा हूं। उन्होंने उत्तर प्रदेश और तमिलनाडु में रक्षा औद्योगिक गलियारों की स्थापना को उन महत्वपूर्ण कदमों में से एक बताया, जो रक्षा उद्योगों की जरूरतों को पूरा करने के लिए सरकार की अटूट प्रतिबद्धता को दर्शाते हैं।

रक्षा मंत्री ने यह भी घोषणा की कि सरकार रक्षा औद्योगिक गलियारों में निवेश को प्रोत्साहित करने तथा रक्षा विनिर्माण पारिस्थितिकी तंत्र विकसित करने के लिए केंद्र प्रायोजित योजना पर विचार कर रही है। उन्होंने कहा कि पहली बार निजी उद्योगों को घरेलू विनिर्माण में हिस्सेदारी दी गई है। रक्षा मंत्री ने कहा कि साल 2000 और 2014 के बीच जारी 200 लाइसेंसों की तुलना में वर्ष 2014 से अब तक निजी उद्योगों को 350 से अधिक लाइसेंस जारी किए गए हैं। उन्होंने बताया कि डिजाइन और विकास परियोजनाओं में निजी क्षेत्र को प्रोत्साहित करने के लिए नीतिगत प्रावधानों पर विचार किया जा रहा है। श्री राजनाथ सिंह ने उद्योग प्रतिनिधियों के विशिष्ट प्रस्तावों पर अपनी प्रतिक्रिया दी और कहा कि उनका मंत्रालय रक्षा उद्योग को बढ़ावा देने में सुधार लाने के सभी सुझावों पर विचार करेगा तथा उन पर कार्रवाई करेगा।

रक्षा मंत्री ने सरकार की कुछ पहलों को सूचीबद्ध करते हुए कहा कि यूपीडीआईसी रक्षा कंपनियों को संयोजकता, संसाधन और सकारात्मक परिवेश प्रदान करेगा तथा इनके लिए नए अवसर लेकर आएगा।

उन्होंने कहा कि डीआरडीओ द्वारा प्रौद्योगिकी का मुफ्त हस्तांतरण और विश्व की अत्याधुनिक प्रौद्योगिकियों तक पहुंच बनाने के लिए एफडीआई सीमा में वृद्धि निजी क्षेत्र में स्वदेशी प्रौद्योगिकी के उपयोग को बढ़ावा देने में सरकार द्वारा उठाए गए कुछ प्रमुख कदम हैं। रक्षा मंत्री ने कहा कि सरकार ने इस क्षेत्र में कार्यरत वैश्विक दिग्गजों के साथ अनुबंध किया है, जिससे परिचालन क्षमताओं तथा शक्तियों में वृद्धि होगी और अधिकांश रक्षा प्लेटफार्मों का निर्माण भारत में ही भारतीय कंपनियों के साथ साझेदारी के माध्यम से किया जाएगा। श्री सिंह ने घरेलू खरीद के महत्व पर प्रकाश डालते हुए कहा, सरकार ने अपने आधुनिकीकरण कोष का लगभग 64 प्रतिशत हिस्सा पूंजी अधिग्रहण बजट 2021-22 के तहत घरेलू कंपनियों से खरीद के लिए निर्धारित किया है। उन्होंने बताया कि 'मेक' श्रेणी में सुधार किया गया है और सूक्ष्म, लघु एवं मध्यम उद्यम तथा स्टार्टअप्स को प्रोत्साहित करने हेतु इनोवेशन फॉर डिफेंस एक्सीलेंस-रक्षा उत्कृष्टता के लिए नवाचार (आईडीईएक्स) शुरू किया गया है। रक्षा मंत्री ने उल्लेख किया कि, आईडीईएक्स से संबंधित खरीद के लिए 1,000 करोड़ रुपये आवंटित किए गए हैं, जिसे भविष्य में और बढ़ाया जाएगा। उन्होंने बताया कि अगले पांच वर्षों के लिए हमारे स्टार्टअप्स को सहयोग देने हेतु अलग से 500 करोड़ रुपये आवंटित किए गए हैं। रक्षा मंत्री ने एक आयातक से एक निर्यातक बनने तक भारत की प्रगति की नींव रखने का श्रेय रक्षा उद्योगों को दिया। श्री राजनाथ सिंह ने कहा, पिछले पांच वर्षों में हमारा रक्षा निर्यात 334 प्रतिशत बढ़ा है और आज हम 75 देशों को निर्यात कर रहे हैं। उन्होंने प्रमुख रक्षा उद्योगों से अनुसंधान और विकास तथा विनिर्माण के अधिक क्षेत्रों की पहचान करने का आग्रह किया और कहा कि बड़े घरेलू व्यापारिक घरानों तथा विदेशी मूल उपकरण निर्माता (ओईएम) सहायक कंपनियों को न केवल यूपीडीआईसी की क्षमता का दोहन करने के लिए बल्कि उनके विचारों को सुनने के लिए भी आमंत्रित किया गया है।

श्री राजनाथ सिंह ने पिछले चार वर्षों में राज्य में एक अनुकूल कारोबारी माहौल बनाने में तत्काल कार्रवाई करने के लिए उत्तर प्रदेश के मुख्यमंत्री योगी आदित्यनाथ की सराहना की। राज्य सरकार द्वारा शुरू किए गए सुधारों का जिक्र करते हुए श्री सिंह ने कहा कि नए नीतिगत सुधारों के साथ-साथ 'व्यापार करने में आसानी' में लगातार बढ़ती रैंकिंग के साथ, राज्य में औद्योगिक विकास का मार्ग प्रशस्त हुआ है और यह कदम 'उत्तर प्रदेश' को 'उत्तम प्रदेश' के पथ पर आगे लेकर गया है। रक्षा मंत्री ने कहा, उन्हें जानकारी दी गई है कि राज्य सरकार ने यूपीडीआईसी के सभी नोड्स पर भूमि अधिग्रहण पर काम किया है और यह तेज गति से जारी रहेगा। उन्होंने निवेश के लिए कानून व्यवस्था के महत्व को रेखांकित करते हुए कहा कि राज्य सरकार ने इस संबंध में सराहनीय कार्य किया है। इस बात का उल्लेख करते हुए कि केंद्र सरकार अनुसंधान एवं विकास और सूक्ष्म, लघु एवं मध्यम उद्यम को बढ़ावा देने के लिए राज्य सरकार के साथ हाथ से हाथ मिलकर काम कर रही है, श्री राजनाथ सिंह ने विश्वास व्यक्त किया कि आने वाले समय में उत्तर प्रदेश रक्षा औद्योगिक गलियारा आने वाले समय में राज्य में औद्योगिक क्रांति का वाहक बनेगा।

श्री सिंह ने कहा कि बड़ी संख्या में उद्योग के प्रतिनिधियों और अन्य हितधारकों की उपस्थिति सरकार तथा रक्षा उद्योग में अन्य हितधारकों के बीच रचनात्मक बातचीत का संकेत है। रक्षा मंत्री ने अपने संबोधन का समापन यह कहते हुए किया कि उत्तर प्रदेश रक्षा औद्योगिक गलियारा उत्तर प्रदेश में एक मजबूत रक्षा और एयरोस्पेस क्षेत्र बनाने तथा सरकार के 'आत्मनिर्भर भारत' के सपने को साकार करने में महत्वपूर्ण भूमिका निभाएगा।

सभा को संबोधित करते हुए उत्तर प्रदेश के मुख्यमंत्री योगी आदित्यनाथ ने कहा कि उत्तर प्रदेश इन्वेस्टर्स समिट में प्राप्त निवेश प्रस्तावों में से तीन लाख करोड़ रुपये से अधिक के प्रस्तावों को शुरू कर दिया गया है और उनमें से अधिकांश में उत्पादन प्रारंभ हो चुका है। उन्होंने कहा कि उत्तर प्रदेश में होने वाले डिफेंस एक्सपो 2020 में 70 से अधिक देशों की 1000 से अधिक कंपनियों के प्रतिनिधियों की भागीदारी

यूपीडीआईसी के लिए महत्वपूर्ण है। उन्होंने कहा कि उत्तर प्रदेश में रक्षा क्षेत्र में अनुसंधान एवं विकास को बढ़ावा देने के लिए आईआईटी बीएचयू और आईआईटी कानपुर जैसे शैक्षणिक संस्थान एवं तकनीकी उद्योग हैं। मुख्यमंत्री ने यूपीडीआईसी में ब्रह्मोस, डीआरडीओ और भारत डायनेमिक्स लिमिटेड की दो प्रमुख परियोजनाओं को मंजूरी देने के लिए धन्यवाद दिया। उन्होंने यह भी सूचित किया कि दोनों परियोजनाओं के लिए भूमि उपलब्ध कराई गई है।

मुख्यमंत्री ने आशा व्यक्त करते हुए कहा कि उत्तर प्रदेश में निवेश से राज्य को प्रधानमंत्री नरेन्द्र मोदी के 'आत्मनिर्भर भारत' के लक्ष्य में योगदान करने में मदद मिलेगी और भारत को रक्षा क्षेत्र में एक निर्यात केंद्र बनने में सहायता प्राप्त होगी।

उत्तर प्रदेश के उद्योग मंत्री श्री सतीश महाना, राज्य मंत्री श्री धर्मदेव प्रजापति, रक्षा सचिव डॉ. अजय कुमार, रक्षा उत्पादन सचिव श्री राज कुमार, उत्तर प्रदेश के मुख्य सचिव राजेंद्र कुमार तिवारी, अपर मुख्य सचिव और उत्तर प्रदेश एक्सप्रेसवे औद्योगिक विकास प्राधिकरण- यूपीडा के मुख्य कार्यकारी अधिकारी श्री अवनीश अवस्थी, रक्षा मंत्रालय और राज्य सरकार के अधिकारियों तथा निजी उद्योग के प्रतिनिधियों ने इस बैठक में भाग लिया।

https://pib.gov.in/PressReleasePage.aspx?PRID=1771301

नवभारत टाइम्स

Sun, 14 Nov 2021

चीन की ड्रोन सेना को करारा जवाब

भारत के ' रुस्तम' का सफल परीक्षण

By Shailesh Shukla

चीन की तेजी से बढ़ती ड्रोन सेना से निपटने के लिए भारत ने अपने ब्रह्मास्त्र को अंतिम रूप देना तेज कर दिया है। भारत ने रुस्तम-2 ड्रोन विमान के ऑटोमेटिक उड़ान और लैंडिंग का सफलतापूर्वक परीक्षण किया है। भारत के इस ड्रोन विमान को गगन सैटलाइट रास्ता दिखा रहा था। रुस्तम-2 ड्रोन विमान लंबी दूरी तक खुफिया निगरानी करने में सक्षम है। इसमें अत्याधुनिक रेडार लगे हैं। यह ड्रोन विमान दिन और रात दोनों में ही काम करने में सक्षम है।

दरअसल, चीन ने पूर्वी लद्दाख में तेवर दिखाए हैं और बड़े पैमाने पर ड्रोन विमानों को तैनात किया है। इसके बाद भारत चौकन्ना हो गया है। इसीलिए डिफेंस रिसर्च ऐंड डेवलपमेंट ऑर्गनाइजेशन यानि डीआरडीओ ने डेवलपमेंट का काम तेज कर दिया है। यह विमान 16 हजार फीट की ऊंचाई पर लगातार 8 घंटे से ज्यादा समय तक उड़ान भर सकता है। यह ड्रोन विमान 26,000 फीट की ऊंचाई पर जल्द ही उड़ान भर सकता है। साथ ही इसका फ्लाइट टाइम भी बढ़ाकर 18 घंटे करने पर काम तेजी से चल रहा है।

रुस्तम-2 मिशन की जरूरत के हिसाब से अलग-अलग तरह के पेलोड्स ले जा सकता है। इस ड्रोन के साथ सिंथेटिक अपर्चर रडार, इलेक्ट्रॉनिक इंटेलिजेंस सिस्टम और सिचुएशनल अवेयरनेस सिस्टम भेजा जा सकता है। इसमें एक सैटेलाइट कम्युनिकेशन लिंक भी है जो युद्ध की स्थिति में हालात की जानकारी रियल टाइम में दे सकता है।

DRDO का मकसद रुस्तम-2 को इजरायल के हेरॉन UAV की टक्कर का ड्रोन बनाना है। हेरॉन को एयरफोर्स और नेवी पहले से ही यूज कर रही है। रुस्तम-2 के डेवलपमेंट को चीन के साथ तनाव बढ़ने के बाद तेज किया गया है। हालांकि सेना का हिस्सा बनने से पहले इसे कड़े टेस्ट्स और यूजर ट्रायल्स से गुजरना होगा।

https://navbharattimes.indiatimes.com/world/asian-countries/drdo-rustom-ii-male-uav-has-successfully-autonomous-take-off-landing-amid-china-threat/videoshow/87684467.cms

Mon, 15 Nov 2021

Dubai Air Show: Indian Air Force's Tejas, Sarang enthrall visitors with 'superior flying skills'

The air show kicked off at Al Maktoum airport in Dubai on Sunday. The Tejas aircraft have arrived here on Friday to take part in the show. Tejas showcased its superior flying ability, maneuverability, and ease of handling against the golden backdrop

Edited by Ritesh K Srivastava

Dubai: The Indian Air Force's (IAF) Light Combat Aircraft (LCA) Tejas and Sarang Helicopter Display Teams showcased "superior flying skills" at the Dubai Air Show on Sunday.

The air show kicked off at Al Maktoum airport in Dubai on Sunday. The Tejas aircraft have arrived here on Friday to take part in the show. Tejas showcased its superior flying ability, maneuverability, and ease of handling against the golden backdrop.

According to the Defence Ministry, five Dhruv advanced light helicopters (ALHs) of the Sarang team, 10 BAE Hawk 132 aircraft of the Suryakiran team and three LCA Tejas aircraft are participating in the Dubai Air Show that will conclude on Thursday.

The participating contingent was visited by Air Marshal AP Singh of the IAF's Shillong-based Eastern Air Command on Sunday, the officials said. The contingent commander introduced Singh to the officers and airmen of the participating teams.

The IAF has been invited to the Dubai Airshow by the UAE government to perform along with some of the best aerobatics and display teams in the world, including the Saudi Hawks, the Russian Knights and the UAE's Al Fursan.

While the Sarang team of the IAF has previously participated in the Al Ain Grand Prix in the UAE in 2005, the Suryakiran team and the Tejas aircraft are displaying their swashbuckling aerial manoeuvre for the first time in the Gulf nation.

The show was inaugurated by Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Dubai Crown Prince and Chairman of The Executive Council of Dubai inaugurated the airshow.

Dubai Air Show is a leading aerospace event in the Middle East and the growing airshow in the world. It began on Sunday and will conclude on November 18.

https://zeenews.india.com/india/dubai-air-show-indian-air-forces-tejas-sarang-enthrall-visitors-with-superior-flying-skills-2410487.html

BusinessToday.In

Mon, 15 Nov 2021

Dubai Airshow: IAF's Sarang team, Tejas aircraft showcase flying skills on opening day

Five Dhruv advanced light helicopters of the Sarang team, 10 BAE Hawk 132 aircraft of the Suryakiran team and three LCA Tejas aircraft are participating in the show

The Sarang aerobatics team and the Tejas aircraft of the Indian Air Force (IAF) showcased their flying skills on the opening day of the Dubai Airshow on Sunday, officials said.

Five Dhruv advanced light helicopters (ALHs) of the Sarang team, 10 BAE Hawk 132 aircraft of the Suryakiran team and three LCA Tejas aircraft are participating in the show that will conclude on Thursday, they added.

Tejas aircraft is displaying its aerial manoeuvre for the first time in the gulf nation. (File picture)

The participating contingent was visited by Air Marshal AP Singh of the IAF's Shillong-based Eastern Air Command on Sunday, the officials said.

The contingent commander introduced Singh to the officers and airmen of the participating teams.

The Air Marshal interacted with them and wished them well for the air show, the officials added.

Singh also interacted with the officers and the personnel of the armed forces of the United Arab Emirates (UAE) who are working with the IAF contingent for the duration of the air show, they said.

The IAF has been invited to the Dubai Airshow by the UAE government to perform along with some of the best aerobatics and display teams in the world, including the Saudi Hawks, the Russian Knights and the UAE's Al Fursan, they said.

While the Sarang team of the IAF has previously participated in the Al Ain Grand Prix in the UAE in 2005, the Suryakiran team and the Tejas aircraft are displaying their swashbuckling aerial manoeuvre for the first time in the gulf nation, the officials added.

https://www.businesstoday.in/latest/in-focus/story/dubai-airshow-iafs-sarang-team-tejas-aircraft-showcase-flying-skills-on-opening-day-312191-2021-11-14

THE DAILY tribune NEWS OF BAHRAIN

Mon, 15 Nov 2021

Gulf Air to display 787-9 Dreamliner at Dubai Air Show

Gulf Air will display its flagship Boeing 787-9 Dreamliner at the Dubai Airshow, which begins today and continues until Thursday at Dubai World Central in the United Arab Emirates.

This year's edition of the show, also the first major air show since the COVID-19 pandemic, features more than 20 country pavilions, along with a display of over 160 commercial, military, and private jets. Czech Republic, Belgium, Brazil, Israel, and Slovakia are among the new entrants to the show.

"Gulf Air's participation in the Dubai Airshow 2021 is important to highlight Bahrain and its national carrier, including our new fleet, products and services," said Gulf Air Acting Chief Executive Officer Captain Waleed Al Alawi.

An executive delegation from Gulf Air will represent the airline during the exhibition.

According to Khaleej Times, the show will have 370 new exhibitors and representatives from almost 150 countries.

Aerobatic displays

The airshow will feature aerobatic displays from the UAE Air Force's Fursan, the Russian Knights, the Saudi Hawks, Surya Kiran from India and the Sarang Team of the Indian Air Force.

Demonstrating their spectacular aerial acts from India will be its much-fancied LCA Tejas fighter jets.

The next generation Sukhoi fighter jet will also make its first international debut at the show.

https://www.newsofbahrain.com/business/76705.html

जागरण

Mon, 15 Nov 2021

शुरू हुआ दुबई एयर शो, इंडियन एयरफोर्स के सारंग हेलीकाप्टर और तेजस ने दिखाया कौशल

दुबई का द्विवार्षिक एयर शो रविवार से शुरू हो गया। इस दौरान इंडियन एयरफोर्स के सारंग हेलीकाप्टर डिस्पले टीम और लाइट कांबेट एयरक्राफ्ट तेजस (LCA Tejas) ने अपना कौशल दिखाया। वायुसेना ने इसकी जानकारी दी। बोइंग और एयरबस पूरी दमखम से इस आयोजन में शिरकत कर रही हैं।

By Tanisk

दुबई: दुबई का द्विवार्षिक एयर शो रविवार से शुरू हो गया। इस दौरान इंडियन एयरफोर्स के सारंग हेलीकाप्टर डिस्पले टीम और लाइट कांबेट एयरक्राफ्ट तेजस (LCA Tejas) ने अपना कौशल दिखाया। वायुसेना ने इसकी जानकारी दी। सारंग टीम के पांच ध्रुव उन्नत हल्के हेलीकाप्टर (ALHs), सूर्यकिरण टीम के 10 बीएई हाक 132 विमान और तीन एलसीए तेजस विमान शो में भाग ले रहे हैं।

दुबई एयर शो में इंडियन एयरफोर्स की टीम (फोटो- एएनआइ)

बता दें कि बीते करीब दो वर्षो में दुनिया के उड्डयन उद्योग पर कोविड महामारी की काली छाया रही है, लेकिन अब यह उससे उबरने के संकेत दे रहा है। हमेशा की तरह इस बार भी बोइंग और एयरबस पूरी दमखम से इस आयोजन में शिरकत कर रही हैं। दोनों की नजर खाड़ी देशों की एयरलाइन कंपनियों पर है। दोनों इन एयरलाइन कंपनियों को आकर्षित करने का कोई मौका नहीं छोड़ रहीं।

अरबों डालर के सौदे होने की उम्मीद

पांच दिन के इस आयोजन में अरबों डालर के सौदे होने की उम्मीद है। लेकिन यह भी माना जा रहा है कि यह व्यापारिक आयोजन पहले जैसा नहीं होगा, क्योंकि महामारी के चलते पिछले डेढ़ साल से हवाई यात्राएं बाधित हैं। वैश्विक आपूर्ति व्यवस्था बाधित है। इसका असर विमान निर्माण के कार्य पर पड़ रहा है। बावजूद इसके एयरबस ने इंडिगो पार्टनर्स के साथ 255 नए विमानों का सौदा होने की घोषणा की है। लेकिन इस सौदे का मूल्य या अन्य कोई विवरण सार्वजनिक करने से इन्कार कर दिया है। इसके अतिरिक्त बजट सेवा देने वाली कंपनी विज एयर के 102 विमान खरीदने, यूएस फ्रंटियर के 91, मेक्सिको के वालारिस के 39 और दक्षिण अमेरिका की जेट स्मार्ट कंपनी के 23 विमान खरीदने के लिए एयरबस से समझौता होने की सूचना है। ज्यादातर समझौते ए 321 नियो और ए 321 एक्सएलआर विमानों की खरीद के लिए हुए हैं।

बोइंग अपना नया 777-9 पैसेंजर विमान लेकर आई है

एयर शो में बोइंग अपना नया 777-9 पैसेंजर विमान लेकर आई है। यह विमान सिएटल से उड़कर सीधे दुबई में उतरा है। बोइंग ने कहा है कि यह दुनिया सबसे बड़ा और सबसे ज्यादा विश्वसनीय दो इंजनों वाला विमान है। मध्य-पूर्व की सबसे बड़ी विमानन कंपनी एमिरेट्स ने 126 777एक्स विमान खरीदने का आर्डर दिया है। इन विमानों की आपूर्ति 2023 से पहले होने की उम्मीद नहीं है। आयोजन परिसर में इन दो कंपनियों के अतिरिक्त कई देशों ने अपने रक्षा उत्पादों को भी प्रदर्शित किया है। रक्षा उत्पादों की निर्माता कंपनियां भी अपने ग्राहकों की तलाश में हैं। ब्राजील के

राष्ट्रपति जायर बोल्सोनारो भी एयर शो परिसर में भ्रमण करते नजर आए। उन्होंने अपने देश की एयरोस्पेस कंपनी एंब्रायर के बूथ पर काफी समय बिताया।

दुबई अपने व्यापार में पहले जैसी रौनक पैदा करने के लिए प्रयासरत

दुबई में कोविड महामारी के चलते 2020 में कई महीने का लाकडाउन रहा था। लेकिन अब व्यापारिक गतिविधियों को गति देने के लिए उसने अपने दरवाजे सभी के लिए खोल दिए हैं। कोविड से बचाव वाली वैक्सीन लगवाए और बिना वैक्सीन लगवाए लोग दुबई पहुंच रहे हैं। दुबई अपने व्यापार में पहले जैसी रौनक पैदा करने के लिए प्रयासरत है।

https://m.jagran.com/lite/world/middle-east-dubai-airshow-indian-air-force-sarang-team-and-tejas-aircraft-showcase-flying-skills-22207142.html

Sun, 14 Nov 2021

Academic institutions are engines of innovations: DRDO Chairman

When we could excel in other countries, why not we can create organizations like Apple, Microsoft, Facebook, Google at India?, asked Dr. Dasarath Ram Yadav, Director, DRDL

Tadepalligudem: Calling innovation one of the key tools to survive in the world today, Dr G Satheesh Reddy, Chairman, Defence Research and Development Organization (DRDO) said, "The seeds for innovations have to come right from the academic institutions."

DRDO Chairman Dr. G. Satheesh Reddy while addressing 2nd and 3rd convocation at NIT Andra Pradesh

He was delivering the convocation address at the NIT Andhra Pradesh. In his address to the graduating batches Reddy said, "Innovation has become one of the important tools today. A product, unless it is innovative, is very difficult for the world to accept today. Academic Institutions like NITs are the engines of innovations… The seeds for innovations have to come right from the academic institutions. That is why we have started many courses in Defence Technologies in the academic institutes."

Further, Dr. Satheesh Reddy said, "We need to develop a lot of technologies and for that, the core research of Technology Development happens in Academic Institutions in the entire world. The Seeds of Technology Development have come from Academic Institutions…We are started, in more than 40 academic institutions in the country, the MTech Courses in Defence Technologies. We have also tied up with the Department of Higher Education where 500 PhD students are sponsored in DRDO laboratories to work on defence problems."

The National Institute of Technology (NIT) Andhra Pradesh, an 'Institute of National Importance,' conducted its second and third convocation on Saturday in physical mode. A total of 381 students of 2016-20 batch and 412 from the batch of 2017-21 were awarded degrees during the occasion.

Karthik Reddy, a student of the Department of Mechanical Engineering, was the institute topper and gold medalist winner of the 2016-20 batch. B.Anusha, a student of the Department of Electronics and Communication Engineering, was the topper of the 2017-21 Batch.

Upon Graduation of the third batch this year (2021-22), NIT Andhra Pradesh will qualify to apply for rankings under the National Institutional Ranking Framework (NIRF). The Institute is also in process of initiating an MBA programme from the next academic year.

Dr. Satheesh Reddy added, "The Number of Startups which have been registered DPIIT (Department for Promotion of Industry and Internal Trade) is more than 56,000. Youngsters are coming up with a number of startup ideas today. There are many startups that are working in defence technology ideas, which we have never seen. This is a trend change in the last four-five years. These startups are working on materials, composites, engines, propulsions and core technologies which are required for Defence. The Ministry of Defence and the Government of India are encouraging this trend in a big way. Many schemes have been created."

DRDO has set up specific schemes for encouraging young entrepreneurs and start-ups – the Technology Development Fund and the Dare to Dream scheme. The Organization will provide grants/funding and test facilities as part of these schemes.

Speaking earlier, Guest of Honour Dr. Dasarath Ram Yadav, Director, Defence Research and Development Laboratory (DRDL), said, "as youths of this country, you are going to be the drivers of our economy and development. A lot of multinational companies are being headed by Indians who have graduated from IITs, NITs, IIMs and other premier institutions in India. When we could excel in other countries, why not we can create organizations like Apple, Microsoft, Facebook, Google at India?"

https://www.news18.com/news/education-career/academic-institutions-are-engines-of-innovations-drdo-chairman-4440170.html

edugraph

Mon, 15 Nov 2021

NIT Andhra Pradesh: Focus on innovation in convocation address by DRDO Chairman

Summary

- ***DRDO has set up schemes to encourage start-ups and young entrepreneurs***
- ***Defence Technology courses introduced in academic institutes***

The National Institute of Technology (NIT), Andhra Pradesh, hosted its second and third convocation offline on November 13.

A total of 381 candidates of the 2016-20 batch and 412 candidates of the 2017-21 batch were awarded degrees on the occasion.

Karthik Reddy, a student of the department of Mechanical Engineering, was the institute topper and gold medallist of the 2016-20 Batch. B. Anusha, a student of the department of Electronics and Communication Engineering, was the topper of the 2017-21 batch.

B. Anusha, topper of the 2017-21 batch of NIT Andhra Pradesh, receive the gold medal from DRDO chairman G. Satheesh Reddy at the convocation ceremony. Source: NIT Andhra Pradesh

On graduation of the third batch (2021-22), NIT Andhra Pradesh will qualify to apply for rankings under the National Institutional Ranking Framework (NIRF), established by Union ministry of education. The Institute of National Importance is working towards getting its programmes accredited by national and international bodies such as National Board of Accreditation (NBA). The institute is also in process of initiating an MBA programme from the next academic year.

Delivering the convocation address, chief guest and Defence Research and Development Organisation (DRDO) Chairman G. Satheesh Reddy said: "Innovation has become one of the important tools today. A product, unless it is innovative, is very difficult for the world to accept

today. Academic Institutions like NITs are the engines of innovations... The seeds for innovations have to come right from academic institutions.

Reddy underlined the need to develop new technologies. “The core research for technology development happens in academic institutions. That is why we have started many courses in Defence Technology in academic institutes.

“Youngsters are coming up with a number of start-up ideas. There are many start-ups working in defence technology ideas, which we have never seen,” Reddy said, adding that the defence ministry was encouraging thew new trend.

DRDO has set up specific schemes such the Technology Development Fund and the Dare to Dream scheme for start-ups and young entrepreneurs.

Guest of honour Dasarath Ram Yadav, director, Defence Research and Development Laboratory (DRDL), spoke about government initiatives to foster innovation in young minds. He stressed the need to provide the right environment and encouragement to start-ups.

“As youths of this country, you are going to be the drivers of our economy and development. Many multinational companies are headed by Indians who have graduated from IITs, NITs, IIMs and other premier institutions in India. When we could excel in other countries, why can’t we create organisations like Apple, Microsoft, Facebook, Google at India?” asked Yadav.

NIT Andra Pradesh encourages the innovative ideas of students and faculty. Two such innovative contributions from its faculty members are the development of Wi-Fi controller for smart rainwater harvesting and a protocol to address security in electric vehicle charging, which drew huge appreciation from across the country

Speaking earlier, Ms. Mridula Ramesh, Chairperson, Board of Governors, NIT Andhra Pradesh, said,

“While the pandemic raged, the world of work has changed. Digitisation and e-commerce have taken off. The world is continuing to change. Only now, in the past few years, the change is accelerating. From now on, periodically in your life, there will be change when you will be asked to make a choice. Understanding yourself – this *atma gnana* – will help you make the choice that brings you *atmanirbharta*,” said Mridula Ramesh, chairperson, Board of Governors, NIT Andhra Pradesh.

NIT Andhra Pradesh director C.S.P. Rao present a report on the progress made by the institute. “It is heartening to note that in these two graduating batches, the placement percentage has reached 78.82% for the 2016-2020 batch and 84.80% for the 2017-2021 batch, respectively. NIT Andhra Pradesh has not allowed the pandemic to disturb its academic commitments. Our institute has quickly adapted to the changing education system and moved ahead with the academic activities without going to a hiatus,” he said.

Rao said 2020 was a milestone year for NIT Andhra Pradesh. “The first batch of MTech admitted in September 2020 reported to the campus physically by the end of December 2020. We have organised a virtual induction programme for 2020 batch, and the first-year students have adapted to the institute's system.”

https://www.telegraphindia.com/edugraph/news/nit-andhra-pradesh-focus-on-innovation-in-convocation-address-by-drdo-chairman/cid/1838865

THE TIMES OF INDIA

Mon, 15 Nov 2021

Army Chief to help boost defence ties with Israel during 5-day trip

New Delhi: Army Chief General M M Naravane on Sunday left for Israel on a five-day visit to further strengthen the expansive bilateral defence ties with the country. This comes soon after external affairs minister S Jaishankar and defence secretary Ajay Kumar's visits to the country.

Naravane, during his first visit to Israel from November 15 to 19, will meet the country's senior military and civilian leadership to discuss "avenues for further enhancing defence relations," said an official on Sunday.

Army Chief General M M Naravane

"He will hold meetings with security establishment officials and exchange views on various defence-related issues. He will interact with the service chiefs and visit the headquarters of the ground forces element of the Israeli defence forces," he added.

The visit comes soon after India and Israel agreed to form a joint task force to formulate a comprehensive 10-year roadmap to identify new areas in defence cooperation in the 15th meeting of the joint working group. The meeting was chaired by Kumar and director-general (retd) of Israeli defence ministry Major General Amir Eshel in Tel Aviv on October 27.

Israel has been among the top four arms' suppliers to India for almost two decades with annual military sales worth around $1 billion. The Indian armed forces are inducting the next-generation Barak-8 surface-to-air missile systems under three joint DRDO-Israeli Aerospace Industries projects worth over Rs 30,000 crore.

https://timesofindia.indiatimes.com/india/army-chief-to-help-boost-defence-ties-with-israel-during-5-day-trip/articleshow/87705715.cms

अमर उजाला

Sun, 14 Nov 2021

लड़ाकू विमानों से छलांग लगाएंगे सेना के जवान

झांसी: वीरांगना महारानी लक्ष्मीबाई की जयंती पर आयोजित तीन दिवसीय जलसा पर्व का आगाज सेना के जवानों के हैरतअंगेज प्रदर्शनों से होगा। इंडियन आर्मी, इंडियन एयरफोर्स, बीएसएफ और डीआरडीओ लक्ष्मी व्यायाम मंदिर (एलवीएम) के ग्राउंड में अपना कौशल दिखाएंगे। सेना की ओर से आयोजन की तैयारियों को अंतिम रूप दिया जा रहा है। जलसा में सेना के जवान लड़ाकू विमानों से छलांग लगाएंगे।

रानी की जयंती पर आयोजित जलसा पर्व के तहत सेना राष्ट्ररक्षा समर्पण पर्व मना रही है। इसके तहत 17 नवंबर (बुधवार) को लक्ष्मी व्यायाम मंदिर में सेना की ओर से कार्यक्रम आयोजित किया जा रहा है। सुबह 11 से शाम पांच बजे तक चलने वाले इस आयोजन की शुरुआत में बीएसएफ की ओर से डॉग शो और हॉर्स जंपिंग शो का आयोजन किया जाएगा। इसके बाद कमान इंडियन एयर फोर्स संभालेगी। मिराज, 03 एसयू 30 व एमआई 17 जैसे विमानों से सेना के जवान पैराशूट के जरिये छलांग लगाकर मैदान में उतरेंगे।

इसके बाद डीआरडीओ की ओर से स्वार्म ड्रोन डिस्प्ले होगा। इसमें मास्टर ड्रोन के साथ कई ड्रोन एक साथ उड़ेंगे। एक ड्रोन के ध्वस्त हो जाने पर दूसरा खुद ब खुद मास्टर ड्रोन बनकर कमान संभाल लेगा। आखिरी के सभी कार्यक्रम इंडियन आर्मी की ओर से प्रदर्शित किए जाएंगे। एयर हॉट बैलून उड़ाए जाएंगे, जिसमें स्कूली बच्चों को उड़ने का मौका मिलेगा, तो वहीं सेना के जवान पैरामोटर के जरिये कैंट क्षेत्र से उड़ान भरकर एलवीएम ग्राउंड में उतरेंगे। कार्यक्रम के अंत में सेना के बैंड देशभक्ति की धुनें छेड़ेंगे।

ये होंगे आयोजन

समय आयोजन

सुबह 11 बजे डॉग शो

सुबह 11.30 बजे हॉर्स जंपिंग शो

दोपहर 12 बजे पैराशूट जंपिंग

दोपहर 01 बजे स्वार्म ड्रोन डिस्प्ले

दोपहर 1.30 बजे हॉट एयर बैलून

दोपहर 3.30 बजे पैरा मोटर

शाम 04 बजे माइक्रोलाइट

शाम 4.30 बजे आर्मी बैंड

ढाई हजार स्कूली बच्चे देखेंगे प्रदर्शन

झांसी। सेना के प्रदर्शन के साक्षी चार हजार लोग बनेंगे। इनमें ढाई हजार स्कूली बच्चे होंगे। प्रत्येक स्कूल के 25 बच्चे व दो शिक्षकों को एलवीएम में जगह मिलेगी। ये तय करने की जिम्मेदारी शिक्षा विभाग को सौंपी गई है। जबकि, डेढ़ हजार अन्य लोगों को भी एलवीएम ग्राउंड में प्रवेश दिया जाएगा।

https://www.amarujala.com/uttar-pradesh/jhansi/army-personnel-will-jump-from-fighter-planes-jhansi-news-jhs2087139180

DRDO on Twitter

PRO Nagpur, Ministry of Defence
@PRODefNgp

On the opening Day of the #DubaiAirshow the @sarang_iaf & LCA Tejas showcased their superior flying skills and left an indelible impression of the capabilities of the @IAF_MCC and the rapid strides of the Indian aviation industry.

@SpokespersonMoD

7:30 PM · Nov 14, 2021

DD News
@DDNewslive

No sky too high! 😎

Indian Air Force's LCA Tejas, Suryakiran and Sarang aerobatics team soar through a precise, coordinated display on the opening day of #DubaiAirshow

@IAF_MCC @Suryakiran_IAF

8:17 AM · Nov 15, 2021

Press Trust of India
@PTI_News

IAF's Sarang team, Tejas aircraft showcase flying skills on opening day of Dubai Airshow

10:06 PM · Nov 14, 2021

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Expanding the envelope of indigenous MALE UAV Rustom II, critical technologies of Autonomous Take Off and Landing (ATOL) & also using GAGAN Satellite system successfully proven at Bengaluru.
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12:24 PM · Nov 13, 2021 · Twitter Web App

Defence News

Defence Strategic: National/International

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Ministry of Defence

Sat, 13 Nov 2021 12:14PM

Defence Secretary releases a book titled ‘Force in Statecraft’ at NDC

Defence Secretary Dr Ajay Kumar released a book titled ‘FORCE IN STATECRAFT’, an edited volume by Commandant of National Defence College (NDC) Air Marshal Diptendu Choudhury and President’s Chair of Excellence at NDC Air Vice Marshal (Dr) Arjun Subramaniam (Retd) in New Delhi on November 13, 2021.The book is a compilation of essays on topics viz. counter-insurgency operations, conflict in North East, air power, nuclear posture etc. which give conceptual understanding and facets of India's national security.

The contributors of the book are all stalwarts of the Armed Forces, who have vast operational experience and understanding of several important cornerstones of forces and its application. Since national security impacts every citizen, there has long been a need for a more sophisticated and nuanced understanding of the instrument of force in statecraft, which this book hopes to bridge.

In his address, the Defence Secretary praised the efforts of Commandant NDC Air Marshal Diptendu Choudhury and President’s Chair of Excellence at NDC Air Vice Marshal (Dr) Arjun Subramaniam (Retd) for obtaining the views of a galaxy of eminent authors and compiling them in the form of a book in a short period of time. He termed the launch of the book as a leadership act of NDC and called uponsimilar think-tanks and training institutes across the country to come out with such initiatives to provide an understanding on the fast-evolving nature of statecraft.

This academic endeavor, the first of its kind from NDC, gives a wider national security discourse which would generate better ideas to proliferate and morph into better policies, strategies and doctrines and how they can best be employed in current and future scenarios.It is a go-to book for policy makers, legislators, diplomats, academics, leadership at all levels in the various national security verticals.

The book has been endorsed by eminent personalities like former Governor of Jammu &Kashmir Shri NN Vohra;Director, Vivekananda International Foundation and former Deputy National Security Advisor Dr Arvind Gupta;Professor of International Relation, King’s College London & Director of Research, Observer Research Foundation, New Delhi Dr Harsh V Pant and Prof Rajesh Rajagopalan, JNU.

https://pib.gov.in/PressReleasePage.aspx?PRID=1771407

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sat, 13 Nov 2021 12:14PM

रक्षा सचिव ने एनडीसी में "फोर्स इन स्टेटक्राफ्ट" नामक पुस्तक का विमोचन किया

रक्षा सचिव डॉ. अजय कुमार ने 13 नवंबर, 2021 को नई दिल्ली में नेशनल डिफेंस कॉलेज (एनडीसी) के कमांडेंट एयर मार्शल दीप्तेंदु चौधरी और एनडीसी में प्रेसिडेंट्स चेयर ऑफ एक्सलेंस एयर वाइस मार्शल (डॉ.) अर्जुन सुब्रमण्यम (सेवानिवृत्त) द्वारा संपादित एक पुस्तक "फोर्स इन स्टेटक्राफ्ट" का विमोचन किया। यह पुस्तक आतंकवाद विरोधी अभियानों, पूर्वोत्तर में संघर्ष, वायु शक्ति, परमाणु स्थिति जैसे विषयों पर निबंधों का एक संकलन है, जो भारत की राष्ट्रीय सुरक्षा की वैचारिक समझ और पहलुओं की जानकारी देती है।

पुस्तक में योगदान देने वाले सभी व्यक्ति सशस्त्र बलों के शूरवीर रहे हैं, जिनका विशाल परिचालनगत अनुभव और बलों तथा इसके प्रयोग की कई महत्वपूर्ण आधारों की बारीक समझ रही है। चूंकि राष्ट्रीय सुरक्षा प्रत्येक नागरिक को प्रभावित करती है, इसलिए शासन कला में बलों के उपकरणों की अधिक परिष्कृत और महीन समझ की लंबे समय से आवश्यकता रही है, जिस अंतराल को यह पुस्तक पाटने की उम्मीद करती है।

अपने संबोधन में, रक्षा सचिव ने कमानडेंट एनडीसी एयर मार्शल दीप्तेंदु चौधरी तथा एनडीसी में प्रेसिडेंट्स चीयर ऑफ एक्सीलेंस एयर वाइस मार्शल (डॉ.) अर्जुन सुब्रमण्यम (सेवानिवृत्त) की इतने कम समय में कई विख्यात लेखकों के विचारों को एकत्रित करने तथा उन्हें एक पुस्तक के रूप में संकलित करने के प्रयासों की सराहना की। उन्होंने इस पुस्तक के विमोचन को एनडीसी के नेतृत्व का कदम करार दिया और देशभर में इसी प्रकार के विचार मंचों और प्रशिक्षण संस्थानों से शासन कला की तेजी से उभरती प्रकृति की समझ उपलब्ध कराने के लिए ऐसी पहलों के साथ सामने आने की अपील की।

यह शैक्षणिक प्रयास, जो एनडीसी की तरफ से की गई पहली पहल है, एक व्यापक राष्ट्रीय सुरक्षा चर्चा का अवसर प्रदान करता है, जो बेहतर नीतियों, रणनीतियों और सिद्धांतों के प्रसार तथा किस प्रकार उनका वर्तमान और भविष्य के परिदृश्यों में सर्वश्रेष्ठ तरीके से उपयोग किया जा सकता है, के बारे में बेहतर विचारों को जन्म देगा। यह राष्ट्रीय सुरक्षा के विभिन्न कार्य क्षेत्रों के सभी स्तरों पर नीति-निर्मातों, व्यवस्थापकों, राजनयिकों, शिक्षाविदों, नेतृत्व के लिए नियमबद्ध तरीके से कार्य करने से संबंधित पुस्तक है। इस पुस्तक का समर्थन जम्मू-कश्मीर के पूर्व राज्यपाल श्री एन.एन. वोहरा, विवेकानंद इंटरनेशनल फाउंडेशन के निदेशक तथा पूर्व उप-राष्ट्रीय सुरक्षा सलाहकार डॉ. अरविंद गुप्ता, लंदन के किंग्स कॉलेज के अंतराष्ट्रीय संबंध के प्रोफेसर तथा नई दिल्ली स्थित ऑब्जर्वर रिसर्च फाउंडेशन के अनुसंधान के निदेशक डॉ. हर्ष वी. पंत तथा जेएनयू के प्रो. राजेश राजगोपालन जैसे विख्यात व्यक्तियों ने किया है।

https://pib.gov.in/PressReleasePage.aspx?PRID=1771421

Press Information Bureau
Government of India

Ministry of Defence

Sun, 14 Nov 2021 9:52AM

Chief of Army Staff proceeds on a visit to Israel

General MM Naravane, the Chief of the Army Staff has proceeded on a visit to Israel from 15 to 19 November 2021. This is his first visit to Israel.

During the visit, he will be meeting the Country's senior military and civilian leadership where he will discuss avenues for further enhancing Indo-Israel defence relations. The Army Chief will take forward the excellent bilateral defence cooperation between Israel and India through multiple meetings with senior officials of the security establishment and exchange views on various defence related issues. He will interact with the Service Chiefs and visit the Headquarters of the Ground Forces element of the Israeli Defence Forces (IDF).

https://pib.gov.in/PressReleasePage.aspx?PRID=1771576

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Sun, 14 Nov 2021 9:52AM

थल सेना अध्यक्ष इजरायल के दौरे पर रवाना

थल सेनाध्यक्ष जनरल एम. एम. नरवणे 15 से 19 नवंबर 2021 तक इजरायल दौरे के लिए रवाना हो गए हैं। यह सेना प्रमुख का पहला इजरायल दौरा है।

अपनी यात्रा के दौरान जनरल एम. एम. नरवणे इजरायल के वरिष्ठ सैन्य व असैन्य अधिकरियों से मुलाकात करेंगे, और वह भारत-इजरायल रक्षा संबंधों को अधिक प्रगाढ़ करने के तौर-तरीकों पर चर्चा करेंगे। सेना अध्यक्ष सुरक्षा प्रतिष्ठान के वरिष्ठ अधिकारियों के साथ कई बैठकों के माध्यम से इजरायल और भारत के बीच उत्कृष्ट द्विपक्षीय रक्षा सहयोग को आगे बढ़ाएंगे तथा रक्षा क्षेत्र से संबंधित विभिन्न मुद्दों पर विचारों का आदान-प्रदान करेंगे। जनरल नरवणे सेवा प्रमुखों के साथ बातचीत करेंगे और इजरायली रक्षा बलों (आईडीएफ) के थल सेना मुख्यालय का दौरा करेंगे।

https://pib.gov.in/PressReleasePage.aspx?PRID=1771610

Press Information Bureau
Government of India

Ministry of Defence

Fri, 12 Nov 2021 5:22PM

Curtain Raiser: 6th edition of Indo France joint military exercise

"Ex Shakti 2021" to commence from 15 November 2021

India and France carry out three biennial training exercises namely, Exercise GARUDA with Indian Airforce, Exercise VARUNA with Indian Navy and Exercise SHAKTI with Indian Army. The 6th Edition of the biennial training exercise "EX SHAKTI 2021" is being conducted from 15 to 26 November 2021 in Frejus, France. A platoon strength of a Gorkha Rifles Infantry Battalion is representing the Indian Army in this bilateral exercise and the French side is being represented by troops of 21st Marine Infantry Regiment of 6th Light Armoured Brigade.

The Indian contingent of Gorkha Rifles contingent has a rich heritage marked by its military valour& supreme sacrifices with a glorious history of 68 years. Their contributions in 1971 war was recognized by Battle Honour SHINGO River Valley and Theatre Honour of Jammu & Kashmir. The French Army contingent was raised in 1831 under the name of 2nd Marine Regiment and later renamed as 21st Marine Infantry Regiment in 1901. It has an illustrious operational history of more than 120 Years and has participated in all the major wars of French Army. The Regiment specialises in amphibious warfare and has varied operational experiences in Africa, Yugoslavia, Afghanistan & Mali.

Exercise SHAKTI will focus on Counter Terrorism operations in backdrop of semi-urban terrain under United Nations Mandate with an aim to enhance military cooperation and inter-operability between the two Armies. The last edition of Exercise SHAKTI was conducted at Foreign Training Node in Mahajan Field Firing Ranges, Rajasthan from 31 Oct to 13 Nov 2019 in which Counter Terrorism operations in semi-desert terrain were practised and validated.

https://pib.gov.in/PressReleasePage.aspx?PRID=1771234

पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

Fri, 12 Nov 2021 5:22PM

भारत फ्रांस संयुक्त सैन्य अभ्यास का छठा संस्करण

15 नवंबर 2021 से शुरू होगा "युद्धाभ्यास शक्ति 2021"

भारत और फ्रांस तीन द्विवार्षिक प्रशिक्षण अभ्यास करते हैं, भारतीय वायु सेना के साथ अभ्यास गरुड़, भारतीय नौसेना के साथ अभ्यास वरुण और भारतीय सेना के साथ अभ्यास शक्ति। द्विवार्षिक प्रशिक्षण अभ्यास "युद्धाभ्यास शक्ति 2021" का छठा संस्करण 15 से 26 नवंबर 2021 तक फ्रेज़स, फ्रांस में आयोजित किया जा रहा है। गोरखा राइफल्स इन्फैंट्री बटालियन की एक प्लाटून इस द्विपक्षीय अभ्यास में भारतीय सेना का प्रतिनिधित्व कर रही है और छठी लाइट आर्मर्ड ब्रिगेड की 21वीं मरीन इन्फैंट्री रेजिमेंट के सैनिकों द्वारा फ्रांसीसी पक्ष का प्रतिनिधित्व किया जा रहा है।

गोरखा राइफल्स दल की भारतीय टुकड़ी के पास 68 वर्षों के गौरवशाली इतिहास के साथ अपनी सैन्य वीरता और सर्वोच्च बलिदान द्वारा प्रगट एक समृद्ध विरासत है। वर्ष 1971 के युद्ध में उनका योगदान बैटल ऑनर शिंगो रिवर वैली और जम्मू-कश्मीर के थिएटर ऑनर द्वारा मान्य है। फ्रांसीसी सेना की टुकड़ी को 1831 में दूसरी मरीन इन्फैंट्री रेजिमेंट के नाम से खड़ा किया गया था और बाद में 1901 में इसका नाम बदलकर 21वीं मरीन इन्फैंट्री रेजिमेंट कर दिया गया। इसका 120 से अधिक वर्षों का एक शानदार अभियानगत इतिहास है और इसने फ्रांसीसी सेना के सभी प्रमुख युद्धों में भाग लिया है। रेजिमेंट जल थल एवं नभ युद्ध में माहिर है और इसके पास अफ्रीका, यूगोस्लाविया, अफगानिस्तान और माली में विभिन्न अभियानगत अनुभव हैं ।

अभ्यास शक्ति संयुक्त राष्ट्र के तहत अर्ध-शहरी इलाके की पृष्ठभूमि में आतंकवाद विरोधी अभियानों पर ध्यान केंद्रित करेगा, जिसका उद्देश्य दोनों सेनाओं के बीच सैन्य सहयोग और अंतर-संचालन को बढ़ाना है। अभ्यास शक्ति का अंतिम संस्करण 31 अक्टूबर से 13 नवंबर 2019 तक महाजन फील्ड फायरिंग रेंज, राजस्थान में फॉरेन ट्रेनिंग नोड में आयोजित किया गया था, जिसमें अर्ध-रेगिस्तानी इलाकों में आतंकवाद विरोधी अभियानों का अभ्यास और सत्यापन किया गया था।

https://pib.gov.in/PressReleasePage.aspx?PRID=1771355

Hindustan Times

Mon, 15 Nov 2021

Army to get firepower boost in mountains with more M777 guns

The army has deployed M777s in Ladakh, where India and China have been locked in a border row for over 18 months, and also in Arunachal Pradesh across which the Chinese People's Liberation Army (PLA) has stepped up its activities

By Rahul Singh

The Indian Army is set to scale up its capabilities with more M777 ultra-light howitzers that can be swiftly deployed and redeployed in mountains, amid the ongoing border row with China in Ladakh, people familiar with the developments said on Sunday.

India ordered 145 howitzers from the US for $750 million in November 2016. "The army will receive 56 more M777 guns by June 2022. As of now, 89 howitzers have been delivered," said one of the persons cited above.

The army has deployed M777s in Ladakh, where India and China have been locked in a border row for over 18 months, and also in Arunachal Pradesh across which the Chinese People's Liberation Army (PLA) has stepped up its activities.

An M777 howitzer deployed at a forward location in Arunachal Pradesh's Bum La sector. (Rahul Singh/HT PHOTO.)

M777 manufacturer BAE Systems has delivered 25 ready-built howitzers and the remaining guns have been/are being built locally in collaboration with Mahindra Defence under the Modi government's Make in India initiative.

The 155 mm/39-caliber M777 howitzers have a range of up to 30km, but it is capable of striking targets at ranges of more than 40 km in some areas where the geography allows the shells to fly in rarefied air.

"The howitzer can be easily moved from one area to another depending on the requirement. The induction of the remaining M777s will provide a big boost to the army," said Lieutenant General SL Narasimhan (retd), a member of the National Security Advisory Board.

Built with titanium and aluminum alloys, the howitzers weigh 4,218 kg. In contrast, 155mm towed guns weigh twice as much. The Indian Air Force's CH-47F Chinook helicopters can carry the howitzers as underslung load for swift deployment in high-altitude areas.

"There are many places where heavier artillery guns cannot be deployed because of the terrain. But the M777s can be sling-loaded to Chinooks and swiftly inserted there," Brigadier Sanjeev Kumar, the commander of an artillery brigade in Arunachal Pradesh, previously said.

The M777s are a key component of the army's field artillery rationalisation plan (FARP), cleared in 1999. The ₹50,000-crore FARP lays down the road map for inducting new 155mm weaponry, including tracked self-propelled guns, truck-mounted gun systems, towed artillery pieces and wheeled self-propelled guns. The plan seeks to equip 169 artillery regiments with a mix of nearly 3,000 guns over the next decade.

The M777 order in 2016 was the first contract for artillery guns in almost 30 years after the Bofors scandal erupted in the late 1980s.

Apart from M777s, the army has also deployed the K9 Vajra-T self-propelled artillery guns and the 155 mm FH 77 BO2 guns (better known as Bofors) in the Ladakh sector.

Private sector defence major Larsen & Toubro and South Korea's Hanwha Techwin (HTW) have built the highly mobile K9 guns in India. The guns were meant to be deployed in the plains, but the army has carried out some minor changes to deploy them in high altitude.

India and China have hardened their positions on the Line of Actual Control (LAC) in Ladakh and Arunachal Pradesh with increased military activities on both sides of the boundary, infrastructure development, surveillance and combat manoeuvres by their armies.

Despite two rounds of disengagement at friction points on LAC this year, the two armies still have 50,000 to 60,000 troops each and advanced weaponry deployed in Ladakh.

PLA did not agree to suggestions made by the Indian Army at the 13th round of military talks on October 10 to cool tensions in Ladakh. The Indian Army said it made constructive suggestions for resolving outstanding problems but the Chinese side was not agreeable and also could not provide any forward-looking proposals, while China accused India of unreasonable and unrealistic demands in an unusually aggressive statement.

https://www.hindustantimes.com/india-news/army-to-get-firepower-boost-in-mountains-with-more-m777-guns-101636896249075.html

ThePrint

Sat, 13 Nov 2021

Army beefs up Leh-based 14 Corps to counter belligerent China as winter approaches

The Army has made key changes to its ORBAT to tackle threat from China and is focusing on building up both punitive and deterrence capability at the LAC

By Snehesh Alex Philip, Edited by Neha Mahajan

New Delhi: The Army has beefed up the Leh-based 14 Corps, in charge of the Line of Actual Control (LAC) in Ladakh, with additional troop formation to counter any possible Chinese belligerence in winters, ThePrint has learnt.

The changes have been done as part of the rebalance from the Western borders to those with China, sources in the defence and security establishment said.

While traditionally, the 14 Corps, also known as the Fire and Fury Corps, had just the 3 Division to take care of the LAC, sources said as per the new Order of Battle (ORBAT), an additional formation of troops has been permanently assigned to the 14 Corps.

Representational image of military equipment in Ladakh | Photo: ANI

While sources refused to get into the exact formation of additional troops that has been assigned, they said the numbers are significant and adds to the overall operational capability.

This means that besides the 3 Division, the Eastern Ladakh will now be secured by additional troops on a permanent basis.

The Army has made key changes to its ORBAT to tackle the threat from China and has focused on building up both punitive and deterrence capability at the LAC.

"Additional troops will stay put in winters to address the possible PLA belligerence in winters," a source said, adding the deployment is part of the new ORBAT.

30,000 troops remain operationally deployed in eastern Ladakh

As reported by ThePrint earlier, several units from Jammu and Kashmir were also pumped into Ladakh last year, besides others.

For example, following the Galwan clash last year, a Rashtriya Rifles (RR) sector was moved to the Galwan Valley area while units under Uniform Force, a formation in Jammu and Kashmir, were also brought in.

Sources explained that the RR troops were brought in as a back-up because, at that time, the focus was on pushing in large numbers of troops since India was not sure where the conflict was headed.

Sources said India has done more than just "mirror deployment" — a term used in the military as matching the deployment of enemy strength.

At present, there are about 30,000 troops on either side in Eastern Ladakh, sources said, adding that the overall additional deployment along the LAC continues to stand at around 50,000-60,000 soldiers by both India and China.

These numbers do not take into account the Reserve formations that are maintained to scale up deployment when needed.

"In the initial few months since May last year, the focus was on ramping up our presence since one never knew where the situation was headed. The Chinese were also forced to carry out mirror deployment as India beefed up. Rejig of troops have taken place on both sides since then," a second source said.

Talking about the additional troop presence, a third source explained, "It has been done considering the various operational necessities envisaged. Not all troops deployed are meant for the forward deployment all the time. Some would be in the front defending, some would be in reserve and some would be in standby to quickly mount any kind of operation," a third source said.

Besides the additional permanent deployment of troops, specialised elements of the rebalanced 1 Strike Corps have also conducted reorientation training and familiarisation in Ladakh.

Elements from the Strike Corps are also expected to carry out deployment in Ladakh during the winters as part of their reorientation training.

Focus remains on technology, coordinated surveillance

Sources said the focus is on deployment of technology and synchronised surveillance along the LAC. ThePrint had earlier reported that the Indian Army has sharpened its focus on technology rather than increased boots on the ground.

The Army has also taken steps on having advance knowledge about enemy movement. This includes setting up of integrated Aviation Brigades focused on the LAC.

It has beefed up its fire power with the induction of a range of systems including M-777 light weight howitzers, Bofors and the K 9 Vajra gun among others, and has pumped in additional armoured columns besides a number of key missile systems.

The IAF has also remained focused on the LAC and has carried out its own deployment in a coordinated manner.

https://theprint.in/defence/army-beefs-up-leh-based-14-corps-to-counter-belligerent-china-as-winter-approaches/765133/

Hindustan Times

Mon, 15 Nov 2021

Russia starts delivery of S-400 to India. Here's all about the surface-to-air missile system

The S-400 Triumf air defence missile system will give a major boost to India's capabilities to take out enemy fighter aircraft and cruise missiles at long range

By Meenakshi Ray

New Delhi: Russia has started delivering the S-400 Triumf surface-to-air missile system to India, the director of the Federal Service for Military-Technical Cooperation (FSMTC) Dmitry Shugaev has said.

"The supplies of the S-400 air defence system to India have started and are proceeding on schedule," Shugaev told Sputnik ahead of the Dubai Airshow.

The S-400 Triumf air defence missile system will give a major boost to India's capabilities to take out enemy fighter aircraft and cruise missiles at long range. The Indian Air Force (IAF) will induct the first unit of S-400 systems at a time when India is locked in a standoff with China in the Ladakh sector.

China has already deployed two S-400 squadrons at Hotan airbase in Xinjiang and Nyingchi airbase in Tibet. (Reuters File Photo)

China has already deployed two S-400 squadrons at Ngari Gar Gunsa and Nyingchi airbase in Tibet, across Ladakh and Arunachal Pradesh respectively.

News agency ANI reported citing people familiar with the development that the air defence system have started reaching India. They added the system will be first deployed at a location close to the western border of the country from where it can tackle threats from both parts of the borders with Pakistan and China.

The S-400 air defence system was contracted for by India in a deal worth around ₹35,000 crore and five squadrons would be provided to India for tacking air threats.

The news agency reported citing the people mentioned above that system is being brought to India through both sea and air routes. The first squadron deliveries are expected to be complete by the end of this year.

The air defence system would give India an edge as they would be able to take out enemy aircraft and cruise missiles from a distance of 400km.

The S-400 missile defence system is equipped with four different missiles, which can engage enemy aircraft, ballistic missiles, and Airborne Warning And Control System (AWACS) planes at 400km, 250km, the medium-range 120km and the short-range 40km.

The IAF, whose officers and personnel have trained in Russia on the system, will start focusing on the eastern borders along with providing resources for training of personnel within the country after the first squadron is deployed, the officials told ANI.

India signed a $5.43 billion deal with Russia for five S-400 regiments in October 2018 and officials have said that all deliveries are to be completed within five years.

https://www.hindustantimes.com/india-news/russia-starts-delivery-of-s-400-to-india-here-s-all-about-the-missile-system-101636878296283.html

THE WEEK

Mon, 15 Nov 2021

Russia starts supply of S-400 missiles to India. US sanctions' question remains

India had signed a deal with Russia for the advanced system in 2018

A Russian official has announced his country has begun delivery of the S-400 surface-to-air missile system to India, media reports said on Sunday.

An S-400 missile system being test-fired | Ministry of Defence of the Russian Federation

India had signed a deal with Russia for the advanced system in 2018, despite warnings from the US that the purchase would attract sanctions. The S-400 uses multiple types of surface-to-air missiles to shoot down aircraft, cruise missiles and even some types of ballistic missiles.

Dmitry Shugaev, director of the Federal Service for Military-Technical Cooperation (FSMTC), announced the news on the sidelines of the Dubai Airshow.

"The supplies of the S-400 air defence system to India have started and are proceeding on schedule," Shugaev said.

News agency *ANI* reported that the S-400 systems have started reaching India. *ANI* claimed the first S-400 systems would be deployed at a location on the western border, from where it can tackle airborne threats from both Pakistan and China.

Both the previous Donald Trump administration and Joe Biden dispensation had been warning India that proceeding with the S-400 purchase would invite sanctions under provisions of the Countering America's Adversaries Through Sanctions Act (CAATSA). CAATSA is a legislation that provides for sanctions to be imposed on companies in other countries trading with entities in Russia, Iran and North Korea. The US had imposed sanctions on China in 2018 for purchasing the Su-35 fighter and S-400 from Russia. China was the first export buyer of the S-400. Turkey also faced sanctions for deciding to continue with the purchase of the S-400.

In recent years, a number of US lawmakers have argued that the US should grant India a waiver on the S-400 deal given New Delhi's involvement in the Quad.

Bolton takes tough life

Last week, John Bolton, who briefly served as national security adviser to Trump, wrote an article warning of the risk of India proceeding with the purchase of the S-400.

Bolton wrote in *The Hill* that India's purchase of S-400 risked "compromising America's stealth technology or jeopardising seemingly mundane but often critical issues of interoperability among national militaries".

Bolton wrote it was "unfathomable in why India would acquire the same system China was buying, risking that Beijing's cyber warriors, perhaps exploiting Moscow-inserted back doors, could cripple their defences in a crisis". Bolton argued Washington D.C. should set stringent conditions on granting India a waiver such as "an agreed-upon timeline and metrics to reduce Indian purchases of sophisticated Russian weapons systems, regular Quad consultations on meeting these targets and more extensive politico-military planning for Indo-Pacific threats, thereby shaping future procurement requirements".

Bolton even argued in favour of a partnership like the recent AUKUS arrangement involving the US, UK and Australia. "America, Japan, Australia and others also could offer opportunities for defence cooperation with India along the lines of the AUKUS project on nuclear-powered submarines, to enhance India's own domestic weapons productions," Bolton wrote.

https://www.theweek.in/news/india/2021/11/14/russia-starts-supply-of-s-400-missiles-to-india-us-sanctions-question-remains.html

NDTV

Mon, 15 Nov 2021

Lockheed aims to address India's new-age military solutions needs

Lockheed is ready to look at addressing India's requirements including integrating existing systems and platforms with new generation applications

American aerospace major Lockheed Martin on Sunday said it is ready to address India's requirements for new-age military solutions in the domains of land, sea, space and cyberworld in sync with the robust framework of fast-expanding Indo-US strategic ties.

Lockheed Martin is ready to meet Indian Air Force's modern day requirements

William Blair, vice president and chief executive of Lockheed Martin's India operations, said the company is "well placed" to partner with Indian entities in areas of unmanned platforms, artificial intelligence, quantum computing and machine learning among others.

He also pitched Lockheed's F-21 aircraft, specifically configured to meet the Indian Air Force (IAF's) needs, as the best option in the force's hunt for 114 combat jets.

Mr Blair said the company will focus on the highest level of indigenisation in the plane and set up a production facility in India for the export market as well if it gets the contract.

Lockheed has already tied up with the Tata group to manufacture the aircraft in India and promised not to sell the F-21 to any other country provided it secures the multi-billion dollar deal.

"We are already mobilising actively through our joint ventures to establish capability and to start delivering in advance of requirements just as we did in the case of the C-130J programme," Mr Blair said.

"Simply put, it is actually going to meet and exceed the requirements as we believe in the highest level of indigenous content and the exclusive production-line will open up the greatest potential for exports. I think it is going to be unmatched," he added.

The company held a two-day conference with around 300 of its suppliers and partners in Bengaluru last week as part of efforts to further expand its overall involvement in India's aerospace and defence sector. Over two years back, the IAF had issued an RFI (request for information) to acquire 114 jets at a cost of around $18 billion, billed as one of the world's biggest military procurement in recent years.

Mr Blair said Lockheed is also looking to partner with Indian companies to meet the country's requirements of new-age military solutions and platforms in the domains of land, sea, space and cyberworld.

"I can't talk about any specifics right now but, of course, we would like to meet whatever the upcoming requirements are," he said.

In view of the myriad security challenges facing India, the country's top military planners have been focusing on acquiring next-generation technologies and products such as drones, robotics, artificial intelligence and quantum computing to boost the overall combat capabilities of the armed forces.

"I think India can really leapfrog going forward in the areas of artificial intelligence, machine learning, quantum computing, cyber and space. India has really an edge there," he said.

Mr Blair indicated that Lockheed is ready to look at addressing India's requirements including integrating existing systems and platforms with new generation applications that should be in line with provisions of the US regulations.

https://www.ndtv.com/business/lockheed-aims-to-address-indias-new-age-military-solutions-needs-2610644

THE TIMES OF INDIA

Mon, 15 Nov 2021

Gaganyaan: One astronaut to return from Russia

Bengaluru: One of the four astronaut-elects part of India's Gagnayaan programme is set to return from Russia where he spent one week, while three others will take turns to go for one week each.

The astronauts, who have already finished the basic training at the Gagarin Research & Test Cosmonaut Training Center in Moscow and begun portions of their India leg of the training are returning to Russia for activities relating to crew module seats and space suits.

The TOI had reported earlier this year that the astronaut-elects would be returning to Russia. A senior scientist from the Isro Human Space Flight Centre (HSFC), which is spearheading Gaganyaan, said: "Each one of them will be there for about a week. The first one is expected to return in the next couple of days after which another would go. They are not all going together."

Among activities planned there crew seat moulding, which needs to be done as per their body structure; flight suit trials, including depressurisation checks, etc.

Isro will be receiving the seats to be used on the crew module from Russia and the space agency has placed orders for four seats, while Russian research, development and production enterprise — Zvezda — will be supplying the space suit.

After their initial training in Russia, which lasted for more than a year, the astronaut-elects have completed some basic modules in India, including training in aerospace medicine at the Institute of Aerospace Medicine (IAM) of the Indian Air Force (IAF) and "continuity training" of flying at Bidar.

However, they are yet to begin their mission-specific training, which will be scheduled after they return from Russia again.

"The syllabus for their training is in place. The training will be in different stages with each stage dealing with specific requirements of their journey. We will also have simulators that will emulate the crew module and other instruments they will require to handle during the mission," the HSFC scientist said. As reported by TOI earlier, the Indian module of their training will happen in multiple cities and with the help of multiple agencies, including all three services of the armed forces.

For instance, the Gaganyaan module-specific training — different conditions and reactions they need — will all happen in Bengaluru, while buoyancy and water survival tests and training will happen at NIOT (National Institute of Ocean Technology) in Chennai. The flight and other training will be provided by the IAF, while Isro has also roped in the navy.

Some of the centrifuge tests will happen at the IAM, while physical and some simulator training will happen at Isro facilities.

The advanced training will involve familiarisation of systems, including launch vehicles. This will mostly be theory that will help astronaut-elects understand various systems that will launch them into space and bring them back safely.

After this, they will start flight simulation where they'll be taught how to use safety instruments, intervene manually to operate flight systems in case something goes wrong, how to take photographs of Earth and so on.

https://timesofindia.indiatimes.com/city/bengaluru/gaganyaan-one-astronaut-to-return-from-russia/articleshow/87705790.cms

Mon, 15 Nov 2021

SpaceX launches 53 Starlink satellites into orbit

By Alex Sanz

SpaceX expanded its constellation of low Earth orbit satellites on Saturday with the launch of 53 Starlink satellites from Florida.

This still image provided by SpaceX shows a SpaceX Falcon 9 rocket lifting off from Cape Canaveral, Fla., Space Force Station on Saturday, Nov. 13, 2021. SpaceX expanded its constellation of low Earth orbit satellites with the launch of 53 Starlink satellites from Florida.Credit: SpaceX via AP

A Falcon 9 rocket lifted off from Cape Canaveral Space Force Station at 7:19 a.m. EST and deployed the satellites about 16 minutes after launch.

The rocket's reusable first stage, which has been used for multiple launches, including the first crewed test flight of SpaceX's Crew Dragon spacecraft, successfully returned and landed on the "Just Read the Instructions" droneship in the Atlantic Ocean.

Starlink is a satellite-based global internet system that SpaceX has been building for years to bring internet access to underserved areas of the world.

Earlier this week, SpaceX launched four astronauts to the International Space Station, including the 600th person to reach space in 60 years.

It took 21 hours for the flight from NASA's Kennedy Space Center to reach the glittering outpost.

The astronauts got emotional when they first spotted the space station from 20 miles (32 kilometers) out, calling it "a pretty glorious sight."

Three astronauts welcomed the crew instead of the preferred seven.

That's because SpaceX brought four of them back on Monday, after the launch of their replacements kept getting delayed.

The new crew will spend the next six months at the space station and, during that time, host two groups of visiting tourists.

Russia will launch the first group in December and SpaceX the second in February.

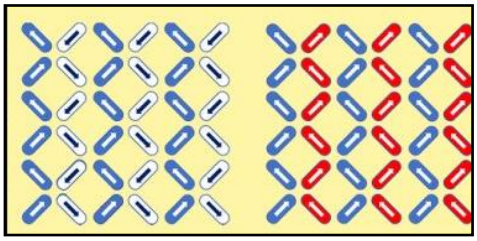
https://phys.org/news/2021-11-spacex-starlink-satellites-orbit.html

PHYS.ORG

Sat, 13 Nov 2021

Nanomagnets offer clues to how avalanches work

The behavior of avalanches has generated interest among physicists for the insights that they can provide about many other systems, not least of which is how snow falls down a mountainside. To that end, a team of researchers studied microscopic arrays of nanomagnets that provide the first experimental demonstration of a classic theoretical model, known as the "one-dimensional random field Ising model." The results were published today in *Physical Review Letters*.



Credit: Yale School of Engineering and Applied Science

For the study, researchers set up the arrays of nanomagnets in the lab of Peter Schiffer, the Frederick W. Beinecke Professor of Applied Physics, who led the experiment. The nanomagnets, which are a few millionths of an inch in dimension, interact with each other just like two refrigerator magnets put close together. The array is first initialized so that, in alternating rows, half of the nanomagnets had the north pole pointing up and half had the north pole pointing down.

Using a large electromagnet, the team applied a magnetic field to the array, causing a fraction of the nanomagnets to flip their poles and magnetically align in the other direction. To detect the changes, they used a magnetic force microscope that has an extremely small magnetic needle that is either pulled down toward or pushed up away from the magnet, depending on whether it's going over the north pole or the south.

Among their findings is that the magnet poles flip in clusters along the rows of the arrays, with each microscopic flipping begetting another group of magnets to flip poles—the way that an avalanche works.

"That's a key point, because when one flips, that adds an extra impetus on the next one," Schiffer said. "What we measure is really the distribution of these clusters that have flipped. How many small ones? How many bigger ones? And then the distribution of those clusters is what we compare to the model, which makes a prediction about how those clusters should be distributed."

It is the first experiment to accurately reflect the random field Ising model in one dimension, which is one of the fundamental models for physicists to describe how things happen in large groups. Specifically, it involves things that can be in one of two states—in this case, things that are either pointing up or pointing down.

"What the model predicts is what that distribution of avalanche sizes should be," he said. "And that's what we see very cleanly—we measured the distribution of how the magnet poles flip, and it matches incredibly well what the expectations were."

One benefit of having a clean experimental demonstration is that carefully designed variations on this well-controlled microscopic system could help researchers understand and predict much more complicated phenomena in the real world, such as how certain materials fall apart when pulled, or what causes electrical breakdowns in circuits.

More information: N. S. Bingham et al, Experimental Realization of the 1D Random Field Ising Model, *Physical Review Letters* (2021). DOI: 10.1103/PhysRevLett.127.207203

Journal information: *Physical Review Letters*

https://phys.org/news/2021-11-nanomagnets-clues-avalanches.html

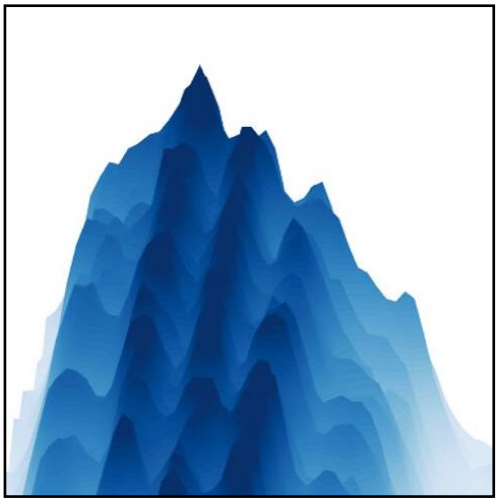
PHYS.ORG

Sat, 13 Nov 2021

A new method to measure quantum entanglement in a nuclear spin ensemble

By Ingrid Fadelli

One of the primary objectives of quantum physics studies is to measure the quantum states of large systems composed of many interacting particles. This could be particularly useful for the development of quantum computers and other quantum information processing devices.



This is the three-dimensional spectral data the team obtained from the proxy electron qubit, with spin-wave modes corresponding to each "peak". Horizontally, the qubit probes a fixed state of the nuclear ensemble. Vertically, the state of the nuclear ensemble is tuned by the qubit. The spectral asymmetry is a witness for quantum correlations amongst nuclei. It is also somewhat symbolic as this work is the result of almost two decades of continued research efforts, by the researchers at Cambridge and many other teams, to reach this demonstration of entangled nuclear ensemble. Credit: Gangloff et al.

Researchers at the University of Cambridge's Cavendish Laboratory have recently introduced a new approach for measuring the spin states of a nuclear ensemble, a system comprised of many interacting particles with long-lived quantum properties. This method, presented in a paper published in *Nature Physics*, works by exploiting the response of this system to collective spin excitations.

"For a dense ensemble of quantum objects, such as spins, it isn't possible to measure each individually, to learn how they interacted with each other," Claire Le Gall and Mete Atatüre, two of the researchers who carried out the study, told Phys.org. "Instead, one can look for tell-tale signals in the collective response of the ensemble; a bit like the behavior of a flock of birds might say something about how the birds engage with each other. Our system of interest is a large flock, or ensemble, of nuclear spins in a semiconductor quantum dot."

In 2002, three Harvard University physicists figured out that large ensembles of nuclear spins in a semiconductor quantum dot could be potential hosts for solid-state quantum memories, then published their work a year later. 19 years later, Le Gall, Atatüre, and their colleagues probed this type of nuclear ensemble using a 'proxy' quantum bit, an electron spin that simultaneously couples to all nuclear spins, as reported in their latest paper.

"We achieved a significant milestone recently, when we showed that collective modes of the nuclear ensemble (i.e., spin waves) could be excited coherently via the electron," Dorian Gangloff, the first author of the paper, said. "In our new study, we set out to use these electron-activated spin waves to change the state of the nuclear ensemble and to read it out. This would demonstrate a basic form of 'write-in' and 'read-out' via the electron spin."

The idea behind the approach proposed by the Cambridge scientists is that the type of nuclear spin-wave mode that can be activated by an electron spin depends on the state of the nuclear ensemble that is being examined. For instance, some spin-wave modes increase an ensemble's polarization (i.e., how much all spins point 'up') and others decrease it. The relative strength of these two different types of spin-wave modes depends on how much an ensemble already 'points up' or 'points down." Measuring both can thus offer valuable insight about how much each nuclear spin, on average, is already pointing up or down, ultimately allowing researchers to infer spin populations.

"But there is more: If the nuclear spins have interacted beforehand and built up some mutual information, which in this case can be quantum in nature, then the electron, as a quantum object with one-to-all coupling with these nuclei, will feel this pre-existing interaction," Atatüre said. "This modifies the strength of spin-wave modes it can activate, and this is what is entirely unique about our approach. As a result, combining measurements of multiple spin-wave modes, we were able to use the electron as a 'witness' for entanglement amongst the nuclei in the ensemble."

The researchers' method of observing many-body systems using a 'proxy' electron spin qubit opens new and interesting possibilities for probing nuclear ensembles without relying on individual spin readouts. In contrast with previously proposed methods, their approach leverages the native connectivity of a proxy qubit in contact interaction with a dense nuclear ensemble, ultimately extracting interesting information from these systems, including their quantum properties.

"Perhaps an analogy to our approach could be an orchestra, where one can tell if musicians are performing well together without prior knowledge of every instrument separately," Le Gall said. "Our study also showed for the first time that a nuclear spin ensemble in a semiconductor quantum dot (amongst the very best single photon sources in the world) can host many-spin entanglement and can therefore be used as a large quantum resource efficiently connected to light."

In the future, the new technique for probing the spin states of nuclear ensembles could pave the way toward the development of new quantum technology. The research team is now trying to engineer the quantum dots examined in their paper to ensure that their spin ensembles have greater coherence and exhibit more quantum properties.

"This will be critical if we want to use quantum dot nuclei for a quantum memory," Gangloff said. "Once we achieve more coherence—particularly with a new generation of quantum dots, based on a different growth method, that show a very promising hundredfold improvement over the quantum dots used thus far—our plans involve crafting the nuclei into evermore controlled quantum states, understanding how entanglement is lost and can be preserved in this many-body system, and demonstrating that this resource can be used in quantum computing and quantum communication."

More information: Dorian A. Gangloff et al, Witnessing quantum correlations in a nuclear ensemble via an electron spin qubit, *Nature Physics* (2021). DOI: 10.1038/s41567-021-01344-7

J. M. Taylor et al, Long-Lived Memory for Mesoscopic Quantum Bits, *Physical Review Letters* (2003). DOI: 10.1103/PhysRevLett.90.206803

D. A. Gangloff et al, Quantum interface of an electron and a nuclear ensemble, *Science* (2019). DOI: 10.1126/science.aaw2906

Journal information: *Nature Physics* , *Science* , *Physical Review Letters*

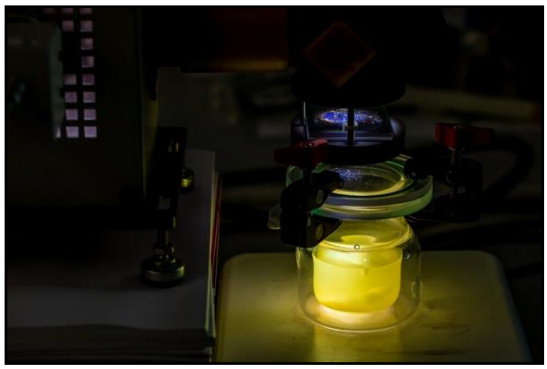
https://phys.org/news/2021-11-method-quantum-entanglement-nuclear-ensemble.html

PHYS.ORG

Sat, 13 Nov 2021

Quantum confinement discovered in porous nano-photocatalyst

Green hydrogen production from solar water splitting has attracted a great deal of interest in recent years because hydrogen is a fuel of high energy density. A research team co-led by scholars from City University of Hong Kong (CityU) and Germany discovered the quantum confinement effect in a photocatalyst of a 3D-ordered macroporous structure. The quantum confinement effect was found to enable hydrogen production under visible light. The findings offer an option for addressing energy and environmental challenges.



The City University of Hong Kong research team used this photocatalytic reactor to do experiments on the hydrogen-producing photocatalyst. Credit: City University of Hong Kong

The research was co-led by Dr. Ng Yun Hau, Associate Professor in CityU's School of Energy and Environment (SEE), and researchers from Germany. Their findings were published in the scientific journal *ACS Energy Letters*, titled "Unveiling Carrier Dynamics in Periodic Porous $BiVO_4$ Photocatalyst for Enhanced Solar Water Splitting."

New hydrogen-producing function of oxygen-producing photocatalyst

Dr. Ng, an expert in photocatalysis research, pointed out that the typical photocatalyst for solar water splitting can absorb ultraviolet light only from the solar spectrum, which accounts for about 4% of the energy from sunlight. In contrast, bismuth vanadate ($BiVO_4$), a metal oxide photocatalyst responsive to both ultraviolet and visible light, can absorb up to 30% of the energy in the solar spectrum.

$BiVO_4$ in a 3D-ordered macroporous (3DOM) structure has received considerable attention owing to its superior performance. The improved photocatalytic activities of this structure are often attributed to the larger surface area, high light absorption, and suppressed charge recombination.

However, there were no systematic studies that correlate the influence of the charge transport of highly ordered porous nanostructure on photoactivity. Dr. Ng and his team took on this challenge and investigated the distinct carrier dynamics of 3DOM and plate-like $BiVO_4$ samples, as well as their efficiency in photocatalysis.

The team discovered that in the water-splitting process under visible light, the amount of oxygen produced by the 3DOM $BiVO_4$ photocatalyst is almost two times that produced by the plate-like $BiVO_4$. Furthermore, the 3DOM $BiVO_4$ photocatalyst exhibited higher anodic photocurrent density than the plate-like form. Therefore, 3DOM $BiVO_4$ has higher photocatalysis efficiency. "To our surprise, $BiVO_4$, originally an oxygen-producing photocatalyst, also produced hydrogen during water splitting under visible light when it was in the 3DOM structure. This had never previously been reported," said Dr. Ng.

Quantum confinement effect discovered

How can $BiVO_4$ in a 3DOM structure produce hydrogen? Dr. Wu Hao, the first author of the paper, who is the energy stream leader in Dr. Ng's laboratory, shared one of the highlights of this study. "We discovered that quantum confinement arising from the ultrathin, crystalline wall of 3DOM $BiVO_4$ raised its conduction band. It enables photocatalytic proton reduction to hydrogen under visible-light illumination, allowing hydrogen to be generated from water splitting." Quantum confinement refers to changes in electronic and optical properties such as energy levels and band gaps when the size of the material is reduced to nanoscale.

"$BiVO_4$ in general cannot produce hydrogen because of its position of the conduction band. Now thanks to the quantum confinement effect, which raised its conduction band, hydrogen can be produced. This is also the first time that quantum confinement effect was found in 3DOM $BiVO_4$," Dr. Ng explained.

The research team also discovered that even without using a co-catalyst, 3DOM $BiVO_4$ can still produce hydrogen from solutions under visible-light illumination, while the plate-like $BiVO_4$ showed only negligible hydrogen production. A co-catalyst is a substance that facilitates the function of a catalyst. It can provide accumulating sites for photo-generated charges and promote charge separation.

The team also applied advanced techniques, including time-resolved microwave conductivity, to investigate $BiVO_4$ photocatalyst in 3DOM and plate-like structures. They discovered that compared with the plate-like structure, 3DOM $BiVO_4$ has about six times higher charge mobility, about 18 times longer charge carrier lifetime, and about nine times longer effective diffusion length, thus enhancing the efficiency of photocatalysis.

Next goal: Waste-water splitting

This study represents a fundamental step in understanding charge transport in metal oxide semiconductors and highly ordered porous structure.

The next goal of Dr. Ng and his team is to split wastewater and explore methods to scale up photocatalytic systems. "Hydrogen produced from solar water splitting is a green process without any carbon emissions," said Dr. Ng. "Hydrogen can be used for industrial purposes and in fuel cells for electricity. We expect this technology to have a wider application in the future, as there is high demand for producing hydrogen from green resources."

More information: Hao Wu et al, Unveiling Carrier Dynamics in Periodic Porous $BiVO_4$ Photocatalyst for Enhanced Solar Water Splitting, *ACS Energy Letters* (2021). DOI: 10.1021/acsenergylett.1c01454

https://phys.org/news/2021-11-quantum-confinement-porous-nano-photocatalyst.html

Sat, 13 Nov 2021

Diabetic foot ulcer treatment could kill COVID-19 virus, researchers say

The solution has yet to be tested on coronavirus variants

By Julia Musto

A new foot ulcer formulation developed by scientists at the University of South Australia could be used to kill the COVID-19 virus, according to new research.

In a study published in the journal Applied Physics Letters, the team looked at the treatment of antimicrobial-resistant bacterial infections, experimenting to find an effective non-antibiotic antimicrobial strategy to combat the infections in diabetic foot ulcers.

The authors found that enhancing cold plasma ionized gas with peracetic acid was "highly effective" at eradicating common wound pathogenic bacteria and at inactivating SARS-Cov-2.

"This paper presents a strategy utilizing cold plasma for the "on-demand" activation of acetyl donor molecules. The process generates an aqueous-based antimicrobial formulation comprising a rich mixture of highly oxidizing molecules: peracetic acid, hydrogen peroxide, and other reactive oxygen and nitrogen species," the group explained. "The synergistic potent oxidative action between these molecules is shown to be highly effective at eradicating common wound pathogenic bacteria (Pseudomonas aeruginosa and Staphylococcus aureus) and at inactivating a virus (SARS-CoV-2)."

In a statement to the university, Endre Szili said that they initially found that combining cold plasma gas with acetyl donor molecules to improve its oxidation completely killed bacteria found in chronic wounds.

Next, Szili wrote, the researchers investigated whether the same technology could be effective at killing the SARS-CoV-2 virus, and "it appears that it is."

"We showed that we could achieve an 84% reduction in viral load using plasma combined with acetyl donor molecules based on a standard dosage that is safe for human cells. However, it is highly possible with some modifications that we could eradicate it completely," he said.

The technology, owned by U.K.-based AGA Nanotech, could be used to disinfect surfaces in hospitals and through air conditioning systems, the author noted.

The solution has yet to be tested on COVID-19 variants, like delta.

For diabetic people impacted by chronic foot wounds, the findings were also significant.

"Foot ulcers are a huge problem for diabetics. Antibiotics are usually the first line of treatment, but bacteria are increasingly becoming resistant to antibiotics and we need a new solution," Szili said.

Combining cold plasma with the acetyl donor molecules, generating hydrogen peroxide and releasing peracetic acid, resistant bacteria is killed.

For Pseudomonas aeruginosa, which can cause infections in the blood and lungs after surgery, the technology using the plasma without the acetyl donor molecules was completely effective.

Staphylococcus aureus, also known as "golden staph," necessitated the combined treatment.

"We urgently need an antibiotic-free solution to address the global escalation in antimicrobial resistance and we believe we have made an important first step with this new strategy," he said, adding that the formulation could be used in a cream, gel, aerosol or wound dressing.

The University of South Australia said the latter option is currently in a trial at Royal Adelaide Hospital and Queen Elizabeth Hospital.

More than 122 million Americans are living with diabetes or prediabetes, according to the Centers for Disease Control and Prevention.

Diabetes is the seventh leading cause of death in America and about half of all people with diabetes suffer some kind of nerve damage, with feet and legs often the most affected.

That nerve damage, along with poor blood flow, puts individuals at risk of developing a foot ulcer that could become infected.

"If an infection doesn't get better with treatment, your toe, foot, or part of your leg may need to be amputated (removed by surgery) to prevent the infection from spreading and to save your life," the agency warned.

The International Diabetes Federation reports that 1 in 10 adults aged 20-79 is living with diabetes and that diabetes was responsible for one death every five seconds in 2021.

https://www.foxnews.com/health/diabetic-foot-ulcer-treatment-kill-covid-researchers