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Technologies, Defence Technologies, Defence Policies,
International Relations and Science & Technology

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शुक्रवार, 01 जुलाई 2022

भारत ने किया गुप्त स्टेल्थ ड्रोन का सफल परीक्षण; DRDO की मेहनत हुई सफल; जानें इसकी खासियत!

आत्मनिर्भर भारत के अभियान को आगे बढ़ाते हुए डीआरडीओ (DRDO) ने शुक्रवार को कर्नाटक के चित्रदुर्ग रेंज से देश के पहले ऑटोनॉमस फ्लाईंग विंग टेक्नोलॉजी डेमोंस्ट्रेटर का सफल परीक्षण किया। डेमोंस्ट्रेटर के पहली उड़ान भरने को इसे स्वचालित विमानों की तकनीक के क्षेत्र में अब तक की सबसे बड़ी उपलब्धि बताया गया। ऑटोनॉमस फ्लाईंग विंग टेक्नोलॉजी डेमोंस्ट्रेटर के सफल परीक्षण पर रक्षा मंत्री राजनाथ सिंह ने डीआरडीओ को बधाई दी।



ऑटोनॉमस फ्लाईंग विंग टेक्नोलॉजी डेमोंस्ट्रेटर

रक्षा मंत्री राजनाथ सिंह ने ट्वीट कर कहा कि यह ऑटोनॉमस एयरक्राफ्ट्स की दिशा में एक बड़ी उपलब्धि है जो महत्वपूर्ण सैन्य प्रणालियों

के मामले में आत्मनिर्भर भारत का मार्ग प्रशस्त करेगा। डीआरडीओ के वैज्ञानिकों ने बताया कि यह परीक्षण एक मानव रहित लड़ाकू एरियल व्हीकल (यूसीएवी) या लड़ाकू ड्रोन विकसित करने की दिशा में उनके प्रयासों में एक मील का पत्थर है। रक्षा मंत्रालय द्वारा जारी एक बयान में बताया गया, “डेमोंस्ट्रेटर पूरी तरह से ऑटोनॉमस मोड पर उड़ा, टेक ऑफ फ्लाइट और टचडाउन सभी स्तरों पर यह बिल्कुल सटीक साबित हुआ।” देश में अनमैंड एयरक्राफ्ट के विकास में इस स्वदेशी तकनीक को बड़ी उपलब्धि के तौर पर देखा जा रहा है। इससे रक्षा तकनीक के क्षेत्र में भारत की आत्मनिर्भरता और बढ़ेगी। इसको एक छोटे टर्बोफन इंजन के साथ स्लीक और ताकतवर बनाया गया है। एयरक्राफ्ट के लिए उपयोग किए

जाने वाले एयरफ्रेम, अंडर कैरिज और फ्लाइट कंट्रोल और एवियोनिक्स सिस्टम स्वदेशी रूप से विकसित किए गए हैं। डीआरडीओ के चेयरमैन डॉ जी सतीश रेड्डी ने सिस्टम के डिजाइन, विकास और परीक्षण से जुड़ी टीमों के प्रयासों की सराहना की है।

इस तकनीक के सफल होने से देश को अपनी जरूरत के हिसाब से अनमैंड एरियल व्हीकल मिल सकेंगे। वर्तमान में, सेना में इजरायल और अमेरिका से मंगाए गए अनमैंड एरियल व्हीकल तैनात किए गए हैं। भारत लगातार रक्षा क्षेत्र में हार्डटेक उपकरण विकसित कर रहा है और दुश्मनों को मुंहतोड़ जवाब देने के लिए अपनी ताकत में इजाफा कर रहा है। इस दिश में डीआरडीओ तेजी से काम कर रहा है।

<https://www.jansatta.com/national/drdo-successfully-tests-precursor-to-future-combat-drones-in-chitradurga/2252376/>

TIMES NOW

शुक्रवार, 01 जुलाई 2022

देश को मिला पहला स्वदेशी ऑटोनॉमस फ्लाइंग विंग टेक्नोलॉजी डेमोंस्ट्रेटर, डीआरडीओ ने किया सफल परीक्षण

आत्मनिर्भर भारत के मिशन को आगे बढ़ाते हुए डीआरडीओ ने शुक्रवार को कर्नाटक के चित्रदुर्ग रेंज से पहले ऑटोनॉमस फ्लाइंग विंग टेक्नोलॉजी डेमोंस्ट्रेटर का सफल परीक्षण किया। देश में निर्मित ऑटोनॉमस फ्लाइंग विंग टेक्नोलॉजी डेमोंस्ट्रेटर ने जब चित्रदुर्ग के एयरोनॉटिकल टेस्ट रेंज में अपनी पहली उड़ान भरी तो इसे स्वचालित विमानों की तकनीक के क्षेत्र की अब तक की सबसे बड़ी उपलब्धि कहा गया।



स्वचालित विमान तकनीक के क्षेत्र में बड़ी उपलब्धि

डीआरडीओ ने इसे एक बड़ी सफलता बताते हुए कहा कि ये डेमोंस्ट्रेटर पूरी तरह से ऑटोनॉमस मोड पर उड़ा, टेक ऑफ फ्लाइट और टचडाउन सभी स्तरों पर यह बिल्कुल सटीक साबित हुआ। देश में अनमैंड

एयरक्राफ्ट के विकास में इस स्वदेशी तकनीक को एक बड़ी उपलब्धि माना जा रहा है। इससे रक्षा तकनीक के क्षेत्र में भारत और अधिक आत्मनिर्भर बनेगा।

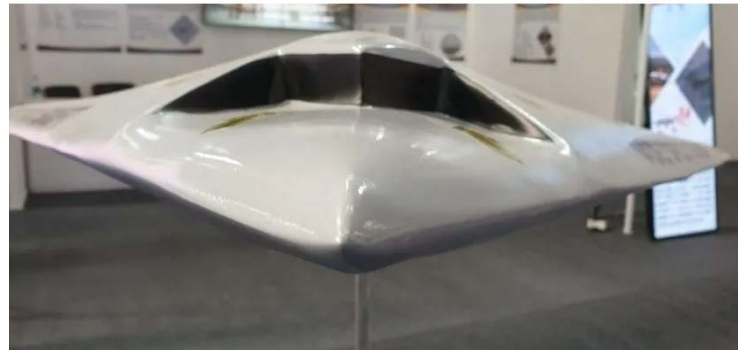
इस लैब ने किया डिजाइन और डिवेलप



बेंगलुरु की एरोनॉटिकल डेवलपमेंट एस्टेब्लिशमेंट में डिजाइन और डिवेलप किए गए इस डेमॉस्ट्रेटर को एक छोटे टर्बोफन इंजन के जरिए स्लीक और ताकतवर बनाया गया है। इस डेमॉस्ट्रेटर का एयरफ्रेम, निचला हिस्सा, एविओनिक्स और सभी तकनीक भारत में ही निर्मित हुई हैं। यह पहला भारतीय ऑटोनॉमस फ्लाइट डेमॉस्ट्रेटर है जिसके सफल परीक्षण के बाद इजरायल और दूसरे देशों पर यूएवी इसके लिए भारत की निर्भरता खत्म हो सकेगी।

सेना को मिलेगा स्वदेशी यूएवी

भारत की सीमाओं पर अनमैंड एरियल व्हीकल यानि मानव रहित विमान, चीन और पाकिस्तान की हर गतिविधि पर नजर रखते हैं। पिछले कुछ सालों में भारतीय सेना में इनके इस्तेमाल में बढ़ोतरी हुई है ताकि देश की सीमाओं पर निगरानी में किसी भी तरह की चूक ना हो सके। भारत में इस तकनीक के सफल होने से देश को अपनी जरूरत के मुताबिक अनमैंड एरियल व्हीकल मिल सकेंगे। फिलहाल देश की सेना में इजरायल और अमेरिका से मंगाए गए 100 से ज्यादा अनमैंड एरियल व्हीकल तैनात हैं।



रक्षा मंत्री ने बताया बड़ी उपलब्धि

रक्षा मंत्री राजनाथ सिंह ने भी डीआरडीओ को ऑटोनॉमस फ्लाइंग विंग डेमॉन्स्ट्रेटर के सफल परीक्षण पर बधाई देते हुए कहा कि इस तकनीक पर भारत काफी समय से काम कर रहा था और इसके सफल होने से इस क्षेत्र में नए यूएवी देश में बनाए जा सकेंगे। डीआरडीओ के चेयरमैन डॉक्टर जी सतीश रेड्डी ने भी इस परीक्षण के लिए डीआरडीओ के वैज्ञानिकों को बधाई दी।

<https://www.timesnowhindi.com/india/article/the-country-got-the-first-indigenous-autonomous-flying-wing-technology-demonstrator-drdo-successfully-test-fired/419883>



Fri, 01 Jul 2022

DRDO Flight Tests New Autonomous Flying Wing Technology Demonstrator

The Defence Research and Development Organisation (DRDO) on Friday successfully carried out the maiden test flight of a new Unmanned Aerial Vehicle (UAV), an autonomous Flying Wing Technology Demonstrator, from the Aeronautical Test Range, Chitradurga, Karnataka. “Operating in a fully autonomous mode, the aircraft exhibited a perfect flight, including take-off, way point navigation and a smooth touchdown,” DRDO said in a statement. “This flight marks a major milestone in terms of proving critical technologies towards the development of future unmanned aircraft and is significant step towards self-reliance in such



The autonomous Flying Wing Technology Demonstrator. Photo: Twitter/@rajnathsingh

strategic defence technologies.”

The autonomous Flying Wing Technology Demonstrator

It is a reduced sized autonomous aircraft and is proving various technologies for autonomous aircraft to be built in future, a DRDO official explained. The Unmanned Aerial Vehicle (UAV) is powered by a small turbofan engine. The airframe, undercarriage and entire flight control and avionics systems used for the aircraft were developed indigenously, DRDO said. The engine is Russian TRDD-50MT originally designed for cruise missiles. “A small turbo fan engine is being developed indigenously for meeting the requirement,” another official told *The Hindu*. The UAV was designed and developed by Aeronautical Development Establishment (ADE), Bengaluru, a premier research laboratory of DRDO. DRDO is in the process of developing UAVs of different classes to meet the requirements of the armed forces. Rustom-2, the indigenous Medium Altitude Long Endurance (MALE) UAV under development, had crossed a milestone by reaching an altitude of 25,000 feet and an

endurance of 10 hours in December 2021 and is being designed to reach an altitude of 30,000 feet and 18 hours endurance. An Unmanned Combat Aerial Vehicle is also on the drawing board.

<https://www.thehindu.com/news/national/drdo-flight-tests-new-autonomous-flying-wing-technology-demonstrator/article65589041.ece>



Sat, 02 Jul 2022

Explained: What is the Autonomous Flying Wing Technology Demonstrator that India Successfully Tested?

India on Friday conducted the maiden flight test of the Autonomous Flying Wing Technology Demonstrator, said to be the precursor to the future combat drones. We explain what the test means to the development of stealth unmanned combat air vehicles for the armed forces.

The Test

The demonstrator vehicle was tested at the Aeronautical Test Range located at Chitradurga in Karnataka on Friday. While being operated in a completely autonomous mode, it exhibited a perfect flight, according to the Defence Research and Development Organisation (DRDO). The take-off of the vehicle, the automatic



While being operated in a completely autonomous mode, it exhibited a perfect flight, according to the Defence Research and Development Organisation

navigation tracing the designated points — waypoint navigation and a touchdown — were all executed with the desired precision. “This flight marks a major milestone in terms of proving critical technologies towards the development of future unmanned aircraft and is a significant step towards self-reliance in such strategic defence technologies,” the Ministry of Defence said.

The demonstrator has been developed by the Aeronautical Development Establishment (ADE), a Bengaluru-based facility of the DRDO working in the fields of unmanned aerial vehicles, flight simulators, pilotless target aircraft, flight control systems and air weapons. Congratulating the DRDO, Defence Minister Rajnath Singh said that it is a major achievement towards autonomous aircraft and will pave the way for ‘Aatmanirbhar Bharat’ in terms of critical military systems.

What is special about it?

DRDO officials highlighted the flying wing structure of the technology demonstrator, which refers to a tailless fixed-wing aircraft which houses its payload and fuel in its main wings and does not have a defined fuselage-like structure found in the conventional aircraft. The design, DRDO scientists say, has the potential to deliver high fuel efficiency and stealth, if executed

with precision, as demonstrated by some of advanced bombers in the USA's arsenal like B-2 bomber. The officials added that the flying wing type of aircraft has a key operational advantage because it has low reflective cross sections resulting in low radar signature, making it a stealth machine. Because of the shape, the aircraft also has very low drag or air resistance. However, this unique design also comes with its issues related to stability and thus requires additional systems.

The airframe — the basic mechanical structure of the aircraft, the undercarriage — the landing gear used for take-off and landing and the entire flight control along with avionics systems used for the demonstrator have been developed indigenously. The vehicle is powered by a small turbofan engine which is an airbreathing type jet engine.

How will it help develop future combat drones?

DRDO scientists said that this technology demonstrator will further undergo tests for examining other technologies in the development of future combat drones. Tests would also be conducted on the scale and capability of the vehicle. Sources said that the Autonomous Flying Wing Technology Demonstrator is precursor to an autonomous stealth Unmanned Combat Air Vehicle (UCAV) being developed by the DRDO, primarily for the Indian Air Force. A deck launched version for the Indian Navy is also said to be in the pipeline. The UCAV will be capable of launching missiles and precision-guided munitions.

The DRDO has in the past developed various drones, like Nishant, Rustom, Tapas and Lakshya among others, which have different capabilities and operational roles. In July last year, the DRDO also unveiled its anti-drone technology aimed at neutralising enemy attacks. The system has the capability of counter attacks, including detection, soft kill — for jamming the communication links of drone) and hard kill — and laser based hard kill to destroy the drone to neutralise the adversary drones.

Several scenarios in the recent past, both in India and abroad, have highlighted the strategic importance of having stealth combat drones in the arsenal. While the Indian armed forces currently operate a mix of indigenously developed and imported drones, a fully homegrown stealth combat machine is the need of the hour, experts said.

While some reports suggest that the UCAV will be titled Ghatak (deadly) or Autonomous Unmanned Research Aircraft, the agency has not officially released the details.

<https://indianexpress.com/article/explained/explained-features-unmanned-combat-aircraft-india-successfully-tested-8004985/>



**Press Information Bureau
Government of India**

Ministry of Defence

Fri, 01 Jul 2022 2:31 PM

DRDO Conducts Successful Maiden Flight of Autonomous Flying Wing Technology Demonstrator

Maiden flight of the Autonomous Flying Wing Technology Demonstrator was carried out successfully by Defence Research and Development Organisation (DRDO) from the Aeronautical Test Range, Chitradurga, Karnataka on July 01, 2022. Operating in a fully autonomous mode, the aircraft exhibited a perfect flight, including take-off, way point navigation and a smooth touchdown. This flight marks a major milestone in terms of proving critical technologies towards the development of future unmanned aircraft and is significant step towards self-reliance in such strategic defence technologies.



The Unmanned Aerial Vehicle is designed & developed by Aeronautical Development Establishment (ADE), Bengaluru, a premier research laboratory of DRDO. It is powered by a small turbofan engine. The airframe, undercarriage and entire flight control and avionics systems used for the aircraft were developed indigenously.

Raksha Mantri Shri Rajnath Singh has congratulated DRDO and said it is a major achievement towards autonomous aircraft and will pave the way for 'Aatmanirbhar Bharat' in terms of critical military systems.

Secretary, Department of Defence R&D and Chairman DRDO Dr G Satheesh Reddy appreciated the efforts of the teams associated in the design, development and testing of the system.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1838507>



Sat, 02 Jul 2022

DRDO Holds First Flight of Unmanned Aircraft Aircraft

The airframe, undercarriage and flight control and avionics systems used for the aircraft tested on Friday have been developed indigenously. India inched closer towards developing unmanned aircraft technology, with the Defence Research and Development Organisation (DRDO) on Friday carrying out the maiden flight test of the 'autonomous flying wing technology

demonstrator' in Karnataka, officials familiar with the matter said. The test, carried out from the Aeronautical Test Range in Chitradurga, is being seen as an important milestone in the development of unmanned aircraft.

“Operating in a fully autonomous mode, the aircraft exhibited a perfect flight, including take-off, waypoint navigation and a smooth touchdown. This flight marks a major milestone in terms of proving critical technologies towards the development of future unmanned aircraft and is a significant step towards self-reliance in such strategic



defence technologies,” the defence ministry said in a statement. The airframe, undercarriage and flight control and avionics systems used for the aircraft tested on Friday have been developed indigenously. “For long we have been waiting for advances in DRDO’s unmanned programme. The ‘flying wing’ is the design of most modern aircraft and unmanned aerial vehicles in the world. The first successful flight reflects the technological advances India has made in this field,” said Air Marshal Anil Chopra (retd), director-general, Centre for Air Power Studies.

Defence minister Rajnath Singh congratulated DRDO, saying the successful test was a major achievement toward autonomous aircraft and would pave the way for ‘Aatmanirbhar Bharat’ in critical military systems. “Congratulations to @DRDO_India on the successful maiden flight of the Autonomous Flying Wing Technology Demonstrator from Chitradurga ATR. It is a major achievement towards autonomous aircraft which will pave the way for Aatmanirbhar Bharat in terms of critical military systems,” Rajnath said on Twitter. DRDO chief G Satheesh Reddy appreciated the efforts of the teams associated with the design, development and testing of the system.

<https://www.hindustantimes.com/india-news/drdo-holds-1st-flight-of-unmanned-aircraft-autonomous-flying-wing-technology-demonstrator-101656698915190.html>



Mon, 04 Jul 2022

Malaysia Shortlists India's Tejas for its Air Defence Fleet

India's Tejas light combat aircraft has emerged as the top choice for Malaysia as the Southeast Asian nation looks at replacing its ageing fleet of fighter jets and the two sides are holding negotiations to firm up the procurement. Malaysia has narrowed down on the Indian aircraft notwithstanding the stiff competition from China's JF-17 jet, South Korea's FA-50 and Russia's Mig-35 as well as Yak-130, Chairman and Managing Director of Hindustan Aeronautics Limited, R Madhavan, said.

As part of the package, India has offered to set up an MRO (Maintenance, Repair and Overhaul) facility in Malaysia for its Russian-origin Su-30 fighter fleet as it is facing difficulties in procuring spares for the aircraft from Russia in view of western sanctions against Moscow. "I am very confident about it unless some political shift takes place," Madhavan said when asked whether the deal would be closed soon. The top executive of the state-run aerospace behemoth said if the deal is sealed, it will give a "very good signal" to other prospective buyers of the aircraft and boost its overall export potential. "It (the negotiation) is almost in the final stages. We are the only country which is offering them the support for their Su-30 aircraft as other than Russia, we are the only one who can support them to the extent that they require for the Sukhoi fleet," Madhavan said. It is learnt that the Chinese JF-17 was cheaper but could not match the technical parameters of the Tejas Mk-IA variant and the offer of maintenance of the Su-30 fleet as proposed by India. A team of high-ranking officials and experts is expected to visit India soon to take forward the procurement process. Malaysia is procuring the aircraft to replace its ageing fleet of Russian MiG-29 fighter planes.



The number of aircraft that Malaysia is looking at procuring is not immediately clear. Madhavan said Tejas is a much superior aircraft compared to JF-17 and FA-50 and that the selection of the Indian aircraft would provide Malaysia with the option to go in for future upgrades of the fleet. Tejas, manufactured by HAL, is a single-engine and highly agile multi-role supersonic fighter aircraft capable of operating in high-threat air environments. In February last year, the defence ministry sealed a Rs 48,000-crore deal with HAL for the procurement of 83 Tejas fighter aircraft for the Indian Air Force (IAF).

India has started work on the MK2 version of the Tejas as well as on an ambitious USD 5 billion project to develop a fifth-generation Advanced Medium Combat Aircraft (AMCA). "We actually are the only one who covered everything that they require and we met their budget requirements as well," Madhavan said. "Nobody will offer them upgrades so fast as we would offer. They will have an alternative available in Tejas Mark 2 and they can even think of AMCA," the HAL chief added. He said HAL is going to maintain the same level of services to Malaysia as it has been giving to the IAF. Asked whether the supply of Tejas jets to the IAF will be impacted if HAL wins the Malaysian contract, Madhavan said the production of the aircraft would be ramped up depending on the requirement. According to the plan, the HAL would start delivering the jets (Mk-IA variant) to the IAF in 2025 and all 83 jets will have to be handed over by 2030. Madhavan said if the deal with Malaysia is sealed, it will signal the acceptability of the aircraft, which would result in the opening up of many other options. "We now have a very good platform. It is the best in this category," he said.

<https://www.thehansindia.com/news/national/malaysia-shortlists-indias-tejas-for-its-air-defence-fleet-751767>

DRDO Twitter



Defence News

Defence Strategic: National/International



Sun, 03 Jul 2022

DESI Defence Co's Armour System Optimises Soldiers' Mobility

Against the backdrop of modern personal protection equipment for soldiers promising 70 per cent less fatalities in theatres like Jammu and Kashmir, Indian defence major MKU has claimed its Kavro Body Armour System is designed for hydration and load distribution and also has quick release features during tactical operations optimizing soldiers' mobility and efficiency. The new system comprises an integrated Kavro ruck-sack ranging from 30 Kg to 60 Kg capacity,

which can easily be attached, mounted and managed, the company said in a statement. “Soldiers need to carry a lot of equipment, both standard and special issue, such as heavy weapons, tactical devices, battery packs and ammunition. The Kavro Body Armour System’s patented and acclaimed quick release system allows either the entire system, or components of it to be divested by the soldier quickly,” MKU Managing Director Neeraj Gupta said. Also, an extremely versatile combination of rugged, laser cut webbing and special tactical pouches on the over vest platform, to organise carried equipment,” he said.

<https://www.dailypioneer.com/2022/india/desi-defence-co---s-armour-system-optimises-soldiers---mobility.html>

ThePrint

Fri, 01 Jul 2022

Days of Soft Power are Over. Defence is the New Diplomacy Tool for India Around the World

By SNEHESH ALEX PHILIP

Last week, three Sukhoi 30 MKI fighter jets along with two C-17 aircraft and 57 Indian Air Force personnel landed in Egypt to participate in a tactical leadership programme at the Egyptian Air Force Weapon School. At the same time, INS Satpura, a 6000-tonne guided missile stealth frigate, entered Pearl Harbour in Hawaii to participate in a RIMPAC-22, an exercise in which 26 other countries are also participating. Incidentally, the Army has also been hosting its counterparts from Australia and discussions on promoting defence cooperation have taken place.

As I write this, the Navy sent inputs that INS Tarkash has been deployed for five months during which it will make 14 port calls in eleven countries in Europe, South America and Africa, even as INS Talwar made a port call to Bahrain. Not to miss out on the INS Aditya, which is making a port call at Jeddah in Saudi Arabia.

Defence Minister Rajnath Singh, who visited Vietnam earlier this month, is all set to visit the United Kingdom next in July and held parleys with his Malaysian counterpart this week, pitching for a stronger partnership, especially looking at the possibility of exporting the Tejas fighter aircraft.

Defence over soft power

Traditionally, diplomacy has always been about diplomats steering the country’s interest, be it for India or anyone else. However, given the fact that plain civil diplomacy has failed to reign in China, or for that matter, Russia, over the past few years, defence has emerged as a key foreign policy instrument.

And India is not shying away. It is now focusing on defence and hard power capabilities equally as the traditional soft power. Government sources that ThePrint spoke to about changing defence dynamics say that military cooperation has emerged as a key component of diplomacy and building relationships. Even as India focuses on more bilateral and multilateral military

exercises, it is seriously pushing forward its hard power when it comes to striking defence deals. India is in talks with both Malaysia and Egypt to try and sell the Tejas fighter jets. It has already struck a deal with the Philippines for the BrahMos supersonic cruise missile and is also in talks with some other countries, including Vietnam, for more such possible sales.

Sources point out that there are detailed talks being held within the defence establishment to fine-tune a proper policy that will allow the export of defence equipment through, not just direct purchase, but also through the extension of credit lines or discounts. They say that the market for Indian defence equipment is very clear. While China has managed to make heavy inroads into Africa, India will focus on its immediate neighbours and those who have a running problem with China—Indian Ocean Region (IOR) and ASEAN. Moreover, they also say that Africa is still an open field because countries there have realised that Chinese products might be cheap but not dependable. “China might give you huge loans and cheap products but it is like a python’s grip which gets stronger every second till one is left balling for breath,” a source explained. They argue that the way forward for India is focusing big on defence opportunities to create and cement relations with like-minded countries.

Case for PSUs

ThePrint had reported last year that the NarendraModi government has taken a decision that it will be making a serious effort in presenting itself as an “alternative to China” when it comes to providing quality defence items. This, the sources had then said, will not only help New Delhi check China’s policy of encircling India but also bolster its image as a security partner for friendly countries. As part of the process, India has already come up with a list of over 150 items that are available for exports. It has also set up an aggressive target of \$5 billion worth of defence exports by 2025. Sources said that while the focus has been on defence PSU-manufactured goods, there needs to be a bigger focus on handholding the private sector when it comes to exports.

“Be it the US, French or the Brits, they have always pushed for their private firms to get deals. This is what the Indian government should also do. Why just push for Defence PSUs? Why not private firms who are making quality items that are now being used by the Indian armed forces,” a source in the Indian defence industry said. The sources said there has been a positive change as far as the government’s push for them is concerned but more can be done.

<https://theprint.in/opinion/brahmastra/days-of-soft-power-are-over-defence-is-the-new-diplomacy-tool-for-india-around-the-world/1019624/>

ThePrint

Sat, 02 Jul 2022

India and Egypt Work Towards Building Strategic Relationship with Focus on Defence & Security

BY NAYANIMA BASU

India and Egypt are charting out an increasingly strategic bilateral relationship with more focus on defence and security aspects. While New Delhi is looking at Cairo as its next big market for

arms exports, Egypt is eager to play a key role in yielding its influence in Asia as a representative of both Africa and the Arab world. India and Egypt are now partnering with each other across all spectrums of their bilateral ties based on a sound historical and traditional relationship. From exporting wheat to Egypt despite a ban on its shipments to greater military-to-military relationship, India is leaving no stone unturned to bring Egypt under its strategic embrace.

A delegation from the Egyptian Air Force will be visiting this month led by their Air Chief Mahmoud Foad Abd El-Gawad “to scout for India’s defence equipment” as New Delhi eyes more and more markets to export its defence items post the success of sale of Brahmos to the Philippines in January this year, official sources told ThePrint. India and Egypt are currently holding a major exercise between both the Air Forces touted to be a “unique exercise with Air assets in a Large Force Engagement environment, simulating various conflict scenarios. The exercise is aimed at enhancing defence cooperation between the two countries and exchange of best practices”, according to a statement issued by the Defence Ministry last week.

“In the present geopolitical scenario, this exercise provides a unique opportunity to showcase the reach and capability of the IAF. It will also provide an opportunity to showcase the Su-30 MKI manufactured in India by HAL and our country’s expertise for deeper indigenisation of spares and components,” it said.

Sources also said that encouraged by the Brahmos deal — talks for which are also on with Vietnam — New Delhi is increasingly looking at Egypt for a range of its defence produce as Cairo looks to consistently expand and diversify its military hardware.

With concerns growing about India being unable to source repair and spare parts for its Russian equipment, New Delhi is now relying on Cairo to provide these as Egypt also has robust defence ties with Russia, sources said.

India and Egypt are also closely aligning themselves on the security situation in Afghanistan. External Affairs Minister S. Jaishankar [met](#) his Egyptian counterpart Sameh Shoukry on the sidelines of the United Nations General Assembly last year to discuss the issue.

Anil Trigunayat, a former Indian envoy to Jordan, Libya, and Malta, told ThePrint that Egypt was looking for more defence items with India but that “they want joint collaborations”.

“Egypt is an important country. It is a unique part of Africa and the Arab world. They have continued to maintain a good relationship with Russia in terms of defence partnership, which is good for India,” he said. “They regard themselves to be a major player. India also wants to collaborate with them on counterterrorism.”

The balancing act

According to another official, like India, Egypt is also playing the “fine balancing act” wherein it’s trying to keep a balance not only between the West and Africa but also with the Arab world and Asia. Thus, the country is now featuring prominently in India’s foreign policy.

Last Tuesday, the Indian Navy’s INS Kochi, deployed in the Red Sea, visited Port Safaga in Egypt. Personnel from both the navies also carried out ship visits. On her departure from Safaga on 30 June, INS Kochi participated in a Maritime Partnership Exercise with the Egyptian Navy ships ENS Al Zubair and ENS Abu Ubadah (Lurssen Class Offshore Patrol Boats).

“Cairo plays a hybrid role in Africa. Egypt is positioning itself as a political, economic, and security gateway to the rest of the continent and is itself a rising strategic player with a growing security and intelligence footprint across Africa. Egypt has staked its geoeconomic strategy on its engagement with the rest of the continent,” said a report by the Middle East Institute (MEI).

According to the MEI report, by “reshaping” their bilateral ties New Delhi and Cairo can “establish a new security architecture for West Asia that addresses the region’s challenges in light of the US’s pivot to the Indo-Pacific”.

From wheat exports to pharmaceuticals

Egypt has been a historical friend of India as both are founding members of the Non-Alignment Movement. However, as a result of a number of high-level visits of late between both sides, India and Egypt are now looking at a joint balancing act.

Starting from Prime Minister Narendra Modi’s visit there in 2015, which was followed up by a visit to India by Egyptian President Abdel Fattah Al-Sisi, both sides have been helping each other across other sectors too such as health and food security.

In 2020, during the peak of the Covid pandemic Prime Minister Modi had spoken to Abdel Fattah Al-Sisi, President of Egypt over a phone call. Recently, despite putting a ban on the export of wheat from India, New Delhi ensured that shipments to Cairo continued.

India exported Covid vaccines to Egypt in March 2021. Egypt is now depending on India for its wheat supplies as its main suppliers Russia and Ukraine have stopped doing it due to the ongoing war. Last month, President Sisi praised Indian pharmaceutical firms for their contribution to Egypt.

‘Security ties with Egypt is key’

According to Ashok Sajjanhar, a veteran diplomat, security ties with Egypt are key for India’s own interests. “Egypt is emerging as a significant player and they are trying to maintain a balance between the main powers similar to what India is doing. This is also part of India’s multi-alliance strategy. India is a partner with which we can collaborate. Countries these days don’t want to pick sides. Countries are now looking at their own interests. They want to have greater options and greater possibilities,” he said.

Sajjanhar, who was India’s envoy to Kazakhstan, also said: “Egypt straddles across many different areas, both geographically as well as politically. It’s the only country in Africa to do so. It is also part of the Arab World and it is also very close to the Gulf, so in that way also our partnership with Egypt will prove to be fruitful. In both these areas, India will find it useful to partner with Egypt”.

<https://theprint.in/diplomacy/india-and-egypt-work-towards-building-strategic-relationship-with-focus-on-defence-security/1021843/>

Sat, 02 Jul 2022

BDL Contribution to Make in India Atmanirbhar in Defence is Commendable: Rajnath

Defence Minister Rajnath Singh on Saturday said the contribution made by Bharat Dynamics Limited (BDL) to make India Atmanirbhar in Defence was commendable. The Defence Minister, who visited the BDL Bhanur Unit in Telangana, expressed happiness to note that the company was keeping itself future ready by upgrading its strategic infrastructure, as well as the skills of its human resources. The Union Minister wished the Management for achieving more laurels to make the nation Atmanirbhar in the coming years. BDL CMD Commodore Siddharth Mishra said the BDL, under the Atmanirbhar Bharat mission initiated by the Government of India, has taken several measures to contribute to the realisation of a self-reliant India. The manufacturing facilities being inaugurated today by DM, are among these measures taken up by BDL. The facilities meet international standards and have been completed in record time. He also stated that BDL products have high export potential and the Company has received leads for export from several countries. As an endeavour to contribute towards realisation of Atmanirbhar Bharat in Defence sector, BDL has set up a warhead manufacturing facility at its Bhanur Unit. With the setting up of this facility, BDL will be one more step towards self-reliance as the facility will be used both for its current as well as futuristic missiles. An amount of Rs 44 crore has been invested by the company in setting up the facility, he added.

Earlier, besides unveiling the statue of Mahatma Gandhi at BDL premises, the Defence Minister inaugurated the Warhead facility followed by virtual inauguration of RF (Radio Frequency) Seeker facility located at BDL, Kanchanbagh Unit, Central Storage facility at BDL Visakhapatnam Unit, which have been set up towards realisation of Atmanirbharta in Defence manufacturing by the Company, a BDL statement said.

Rajnath also inaugurated virtually the infrastructure facilities (viz Multipurpose Community Hall, Gymnasium, Science Laboratories at Govt Junior College, nine additional class rooms at ZillaParishad School, two additional class rooms at elementary school) in Military Madhavaram village, West Godavari District, Andhra Pradesh, which have been constructed by BDL, as part of Corporate Social Responsibility initiatives of the company

<http://www.uniindia.com/bdl-contribution-to-make-in-india-atmanirbhar-in-defence-is-commendable-rajnath/south/news/2770789.html>

Mon, 04 Jul 2022

'HAL Better Placed to Join Hands with Any Foreign Aerospace Major for MRFA Project': Ceo Madhavan

Hindustan Aeronautics Limited (HAL) is better placed to partner with any foreign military plane maker to produce combat jets in India under the ambitious Multi-Role Fighter Aircraft (MRFA) program, Chairman and Managing Director of the state-run aerospace behemoth, R Madhavan, said on Sunday. The government is moving forward to procure 114 jets for the Indian Air Force (IAF) at a whopping cost of USD 20 billion, billed as one of the world's biggest military acquisition programs in recent years. It was initially indicated that the aircraft will be procured under the strategic partnership (SP) model that mandates a foreign manufacturer to join hands with an Indian company to manufacture major military platforms.

The top HAL executive also said the government should decide on the aircraft for the IAF under the MRFA project and it should be left to the manufacturer of the plane to decide on its Indian partner. "With our infrastructure and experience, HAL is much better placed to join hands with a foreign entity to produce the aircraft. Definitely, we are looking at being the Indian entity for the project," Madhavan told PTI in an interview.

Asked whether the mega project should be implemented under the strategic partnership model, the HAL chief only said it should be left to the businesses to find their own solution. "Once a decision is taken on the aircraft, let the manufacturer decide on its Indian partner and let them quote (the price) together. It is a possibility," Madhavan said. "If the original equipment maker finds HAL to be comfortable to join hands with, let it come. If it finds somebody else, let them go there," he added.

In April 2019, the IAF issued an RFI (Request for Information), or an initial tender, to acquire 114 jets. The top contenders for the deal include Lockheed Martin's F-21, Boeing's F/A-18, Dassault Aviation's Rafale, the Eurofighter Typhoon, Russian aircraft MiG 35 and Saab's Gripen. Last week, Chief of Air Staff, Air Chief Marshal VR Chaudhari told PTI that the winner of the mega project will have to ensure the transfer of technology as it would be implemented under the framework of the "Make in India" initiative. Madhavan also cited the groundwork between HAL and Dassault Aviation around a decade ago for the production of Rafale jets in India as part of negotiations for the procurement of a fleet of 126 Medium Multi-Role Combat Aircraft (MMRCA).

In the original proposal, 18 planes were to be manufactured in France and 108 in India in collaboration with HAL. The final negotiations for the MMRCA continued till early 2014 but the deal could not go through. In 2016, the NDA government signed a Euro 7.87-billion (Rs 59,000-crore) deal with France to procure 36 Rafale jets. "We did a lot of leg work then. But it is not that we should look at only Dassault Aviation for the MRFA project. If they select Boeing or Lockheed or any other manufacturer, we are ready to join hands with any aerospace major," Madhavan said. HAL is the producer of the TEJAS aircraft, which is a highly agile multi-role supersonic fighter jet capable of operating in high-threat air environments.

In February last year, the defence ministry sealed aRs 48,000-crore deal with HAL for the procurement of 83 TEJAS fighter aircraft for the IAF. The much-talked-about strategic partnership model allows domestic defence manufacturers to join hands with leading foreign defence majors to produce high-end military platforms.

The policy is aimed at reducing import dependence. Initially, the strategic partners will be selected in four segments -- fighter aircraft, helicopters, submarines and armoured fighting vehicles or main battle tanks.

<http://www.indiandefensenews.in/2022/07/hal-better-placed-to-join-hands-with.html?m=1>



Sat, 02 Jul 2022

Indian Army Looking for Indigenous LAMVS; Sends out RFI for 800 Vehicles

For high altitude areas, deserts and plains, the Indian Army is looking to buy around 800 light armoured multipurpose vehicles (LAMVs). On Friday a Request for Information was sent to several vendors for LAMVs which will be deployed with the mechanised and armoured units of the Indian Army. In the recent conflicts including the ongoing Russia-Ukraine war, when the US led troops were in Afghanistan or Iraq, these LAMVS proved that these are the “to-go” vehicles which are needed in a war zones where the troops need to be moved around and be protected from threats posed by small arms fire, hidden explosive devices and shell splinters.

The main requisite of the RFI that has been issued to identify the vendors here in India who can deliver the 800 vehicles from the time the contract is signed. These vehicles will be in line with the government’s “Atmanirbhar Bharat” initiative and will be used for surveillance as well as reconnaissance operations once they are deployed in different terrains across the country. According to the RFI these LAMV should have adequate mobility, and should also be able to protect the troops inside. Besides carrying troops these vehicles will also be used for carrying loads of ammunition, surveillance and communication systems to be used for mandated operational tasks. Since the vehicles will be deployed in different terrains –desert, plains and high altitude they have to have the capability to issue early warning and intelligence and also be adaptable with drones.

TATA Motors displayed LAMV in 2014

For the first time, an Indian company TATA Motors had put on display LAMV at the DefExpo in New Delhi in 2014. This LAMV showcased its capability to be used for reconnaissance mobility, protection and firepower.

The vehicle was displayed at the TATA stand in 2014 and had a modular design which could be upgraded and also retains its functional superiority throughout its service life. With technological edge the vehicle is good for tactical battlefields and can be deployed in different terrains in the country. It also has low life cycle cost as it is mostly indigenised and as was reported back then the subsystems shared commonality with the other standard vehicles.

Reports in the public domain have identified the TATA built LAMV among the top such vehicles in the world. The TATA vehicle also has composite and ceramic armouring, there is a separate crew compartment and a blast deflecting “V” shaped hull. There are bulletproof windscreens too and take a six person crew.

<https://www.financialexpress.com/defence/indian-army-looking-for-indigenous-lamvs-sends-out-rfi-for-800-vehicles/2580662/lite/>



Sun, 03 Jul 2022

North Korea Slams U.S.-South Korea-Japan Military Cooperation

North Korea has long cited what it calls hostility by the United States and its allies as a reason to pursue a nuclear program. North Korea on Sunday slammed the United States, South Korea and Japan for pushing to boost their trilateral military cooperation targeting the North, warning that the move is prompting urgent calls for the country to reinforce its military capability.

North Korea has long cited what it calls hostility by the United States and its allies as a reason to pursue a nuclear program. Sunday's statement comes as North Korea's neighbours say the country is ready for its first nuclear test in five years as part of its provocative run of weapons tests this year. "The prevailing situation more urgently calls for building up the country's defense to actively cope with the rapid aggravation of the security environment of the Korean Peninsula and the rest of the world," the North Korean Foreign Ministry said in a statement, without elaborating how it would boost its military capacity.

The statement took issue with a trilateral meeting among the U.S., South Korean and Japanese leaders on the sidelines of a NATO summit last week, during which they underscored the need to strengthen their cooperation to deal with North Korean nuclear threats. "The chief executives of the U.S., Japan and South Korea put their heads together for confrontation with (North Korea) and discussed the dangerous joint military countermeasures against it including the launch of tripartite joint military exercises," the statement said.

North Korea views U.S.-led military exercises in the region, particularly ones with rival South Korea, as an invasion rehearsal, though Washington and Seoul have repeatedly said they have no intentions of attacking the North. During the recent trilateral meeting, U.S. President Joe Biden said he was "deeply concerned" about North Korea's continued ballistic missile tests and apparent plans to conduct a nuclear test. South Korean President Yoon Suk Yeol said the importance of trilateral cooperation has grown in the face of North Korea's advanced nuclear program, while Japanese Prime Minister Fumio Kishida said joint anti-missile drills would be important to deter North Korean threats.

Earlier in June, the defense chiefs of the U.S., South Korea and Japan agreed to resume their combined missile warning and tracking exercises as part of their efforts to deal with North Korea's escalating weapons tests. The North Korean statement accused the United States of

exaggerating rumors about North Korean threats “to provide an excuse for attaining military supremacy over the Asia-Pacific region including the Korean Peninsula.”

U.S. officials have said Washington has no hostile intent toward Pyongyang and urged it to return to disarmament talks without any preconditions. North Korea has rejected the U.S. overture, saying it would focus on buttressing its nuclear deterrent unless the United States drops its hostile policies toward the North, an apparent reference to U.S.-led economic sanctions and its regular military training with South Korea. North Korea claimed the recent NATO summit proves an alleged U.S. plan to contain Russia and China by achieving the “militarization of Europe” and forming a NATO-like alliance in Asia. It said “the reckless military moves of the U.S. and its vassal forces” could lead to dangerous consequences like a nuclear war simultaneously taking place in both Europe and Asia-Pacific. Pyongyang has often released similar warlike rhetoric and warned of the danger of nuclear war in times of heightened animosities with Washington and Seoul.

<https://www.thehindu.com/news/international/north-korea-slams-us-south-korea-japan-military-cooperation/article65595634.ece>

THE TIMES OF INDIA

Sat, 02 Jul 2022

Israel Focuses on Training Next-Gen to Drive its Cyber Systems

As Isarel continues to invest heavily in hitech innovation and R&D, the Israeli National Cyber Directorate (INCD) is working actively on advancing the next generation of human capital which will lead the field of cyber-systems, steer the Israeli cyber-industry, and leverage it in both the local and international arenas. This is being done by advancing training programs and educational projects that seamlessly integrate Israeli youth into the worlds of cyber and information security. As former Israeli Prime Minister Naftali Bennett shared at the cyber week event only a couple of days ago, “We have plenty of investment and everything, we just need more good people and we’ve exhausted the immediate bucket of talent”.

This is being done by advancing training programs and educational projects that seamlessly integrate Israeli youth into the worlds of cyber and information security. As former Israeli Prime Minister Naftali Bennett shared at the cyber week event only a couple of days ago, “We have plenty of investment and everything, we just need more good people and we’ve exhausted the immediate bucket of talent”. Israel is a pioneer in the field of cyber security, having attracted 8.8 billion dollars worth of investment and 41% of the total global investments in the sector in 2021. Much of Israel’s cyber security talent pool comes from years of scouting, training and conditioning of young recruits by the Israeli Defence Forces. A background with IDF cyber defense and 8200 unit of Intelligence corps has spawned many a success story in cyber tech startups, but Israel is now looking at four different sources of new talent — Haredims, Arab

women, those from the periphery and even Palestinians — according to Bennett. Haredim, the ultra-orthodox Jewish community are exempt from mandatorily serving in the Army while they complete their religious pursuits at the yeshivas. “They’re really smart and not inside of the economy. My approach wasn’t popular and now it’s policy, we need to provide them with an exemption for the military and let them join the workforce instead of forcing them to stay in the yeshivas until 24. It’s challenging because they don’t know English. It might not be the just thing, but it’s the right thing,” says Bennett. The move has its own critics among the Orthodox voices who see it as an attempt to drive the community away from tradition.

The second talent pool that the nation — which has built an enviable national cyber ecosystem that covers the defence forces, government agencies, private sector actively facilitated by the government, an education system that introduces cyber literacy as early as middle school and thriving start ups, many of which are driven by ex-IDF and 8200 unit of intelligence corps — is looking at is powered by Arab women whose employment levels are abysmally low. “Lots of smart Arab women we want to bring in and we’re working on it. The hitech sector needs to be open to bringing in those who are different and not part of the same club,” says Bennett. The third talent pool are hi-tech professionals from the periphery areas outside of Tel Aviv like Haifa, Jerusalem and Beersheba (the desert town of Beersheba, incidentally, is already the new cyber tech hub with the defence units, CertIL, start up coordinator Cyber 7 and Ben Gurion University located there). “It’s only 40 minutes away. For many years the north and south were underserved and it’s just stupid policy of Israel and when I was minister I pushed to give them access to 5 unites math. We’re working hard in 11th and 12th grade to bring them into 8200,” Bennett told a session at the cyber week held from June 27 to 30 here. Interestingly, Bennett has also approved the immediate joining of Palestinian employees to Israeli hi-tech, including free movement to come here.

Israel, meanwhile, is also eyeing its 1.5 lakh-strong hitech diaspora and offering them incentives to work in Israel and close the immediate shortage of trained cyber security personnel. A key example is that of Sidney Gottesman, the Israeli-origin CEO of Mastercard who gave up US citizenship to relocate to Israel and set up the Finsec Innovation Lab at Beersheba.

“Our top mission in the defence establishment is to foster this community, to train our personnel and to keep them with us. We are constantly assessing force build up in terms of human resources, training and missions,” Israel defence minister Benny Gantz said while addressing the cyber week. In the last few years, the INCD has unveiled special programmes to expand human capital in cyberspace beyond the commonly accepted boundaries. These include Mamriot (Rising Up) focused on Zionist high school girls; Magshimim AI for talented high school students from Israel’s geo-socio periphery; Odyssey, a national program focused on extremely gifted and highly talented students in 9th-12th grades, that involves students studying academic coursework whilst also developing their cognitive, personal, and interpersonal skills; and Gsharim (Bridges) Program that offers junior high school students who live in the social-geographical periphery of Israel, an opportunity to positively experience the foundational skills required in the future of the

work force through tech and computer studies. Marriott (Rising Up) is a joint venture of Israeli National Cyber Directorate (INCD) and Cyber Education Centre of Rashi Foundation, this programme targets high school girls from the religious Zionist sector who intend to volunteer for National Service, and helps them qualify for serving in Israel's leading cyber defense agencies. For over three years, from 10th to 12th grade, the program provides specialized cyber and technology training in weekly after-school sessions, as well as personal guidance. The program was launched in 2018; in 2021 it was extended to 9th grade in dozens locations. Magshimim AI is a comprehensive AI (Artificial Intelligence), data, and computer science program for talented high school students from Israel's geo-socio periphery. The program's goal is to equip its participants with knowledge and skills needed to serve in key positions in IDF (Israel's Defense Force) units that focus on these technology fields. Over three years, from 10th to 12th grade, the program provides specialized data science, advanced mathematics, statistics and computer science training in weekly afterschool sessions, as well as personal guidance. The program was launched in 2021 with 4 classes.

The program was launched in 2021 with 4 classes.

Odyssey is a national program operated by the Maimonides Fund's Future Scientists Center, in collaboration with the Education Ministry's Department for Talented and Gifted Youth, and INCD. The program is designed for extremely gifted and highly talented students in 9th-12th grades, and it involves students studying academic coursework whilst also developing their cognitive, personal, and interpersonal skills. Within the framework of the program, participants earn academic credit as students for Bachelor Degree. The program operates in six of Israel's leading academic institutions, Many graduates get admitted to the elite IDF programs, such as Talpiot, 8200, while continuing to complete their studies before/during their military service. Under Gsharim (Bridges) Program, the participants overcome barriers, enabling them to choose to major in cyber security fields in High School. Participants in the program learn and experiment with diverse technological know-how such as App & Website development, cyber security and AI; Through basic coding, they develop logical thinking, express their creativity and strengthen selfconfidence. Participants develop technological products, from ideation to design and programming. The teachers in the classroom are soldiers from the IDF's Education and Youth Corps. Gsharim is led by the Israeli IDF – 8200 unit of the Intelligence corps.

<https://timesofindia.indiatimes.com/world/middle-east/israel-focuses-on-training-next-gen-to-drive-its-cyber-systems/articleshow/92610619.cms>

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DRDO Chairman Inaugurates Innovation, Science and Technology Foundation in Tirupati

The Defence Research and Development Organisation (DRDO) chairman Dr G Satheesh Reddy formally inaugurated the Innovation, science and technology foundation in Tirupati on Saturday.

During his inaugural address, the DRDO chairman invited the young brains to take up innovation on a large scale to take the nation forward. The Defence Research and Development Organisation (DRDO) chairman G Satheesh Reddy has invited the young brains to take up innovation on a large scale to take the nation forward. He spoke on the opportunities provided by the DRDO to the 'ignited minds' to come up with innovative products and services. Listing out the scores of schemes under which startups, innovation hubs and MSMEs can apply, he said the organisation had earmarked Rs 50 crore to support such novel ideas. "The response is encouraging, but we want to take the number to 500", Dr Reddy added. He said the products developed locally through such innovation hubs would even be acquired by the armed forces. Dr Reddy asked the young brains to focus on cybersecurity-related aspects to come up with path-breaking products. He asked ISTF founder and president D Narayana Rao to act as a facilitator in creating a congenial innovation ecosystem and bringing institutions together. Hailing Tirupati as a unique destination having seven universities, national institutes like the IIT, IISER and IIIT (Sri City), research laboratories and installations like National Atmospheric Research Laboratory (NARL Gadanki) and SHAR Centre at Sriharikota, he saw a great scope to harness talent.



DRDO chairman Dr G Satheesh Reddy inaugurating the science and technology foundation in Tirupati, on Saturday.

The galaxy of academicians including Vice-Chancellors K Raja Reddy (SVU), Jamuna Duvvuru (SPMVV), Ram Rao Nagarajan (Mohan Babu University), directors KN Satyanarayana (IIT Tirupati), KN Ganesh (IISER Tirupati) and NARL director AK Patra acknowledged their role in taking ISTF forward. ISTF Secretary T Narayana Rao welcomed, while vicepresident V Narayana Reddy proposed a vote of thanks. Dr Satheesh Reddy also opened the ISTF website and launched its logo.

<https://timesofindia.indiatimes.com/city/amaravati/drdo-chairman-inaugurates-innovation-science-and-technology-foundation-in-tirupati/articleshow/92623371.cms>

US Researchers Develop Rapid Test that Identifies Covid Variants in Hours

A team of US researchers has developed a rapid Covid-19 test that might help in identifying different variants of the SARS-CoV-2 in just hours. After developing 'CoVarScan', a rapid Covid-19 test that detects the signatures of eight hotspots on the SARS-CoV-2 virus, last year, the team now tested that on more than 4,000 patients' samples. The researchers reported that their test is as accurate as other methods used to diagnose Covid and can successfully differentiate between all current variants of SARS-CoV-2. "Using this test, we can determine very quickly what variants are in the community and if a new variant is emerging," said researcher Jeffrey SoRelle from the University of Texas Southwestern in the US. "It also has implications for individual patients when we are dealing with variants that respond differently to treatments," SoRelle added.

Compared to whole-genome sequencing, CoVarScan had 96 per cent sensitivity and 99 per cent specificity, the researchers said, in a study, published in the journal *Clinical Chemistry*. It identified and differentiated Delta, Mu, Lambda, and Omicron variants of Covid-19, including the BA.2 version of Omicron, once known as "stealth Omicron" because it did not show up on some tests designed to detect only the Omicron strain. While several other tests for Covid-19 exist, they generally detect either a fragment of SARS-CoV-2 genetic material or small molecules found on the surface of the virus and don't provide information to identify the variant. In addition, many researchers worry that these tests aren't accurate in detecting some variants—or may miss future strains. To determine which variant of Covid-19 a patient has, scientists typically must use whole-genome sequencing, which is time-consuming and expensive, relying on sophisticated equipment and analysis to spell out the entire RNA sequence contained in the viruses, the team said.

In early 2021, SoRelle and his team wanted to track how well current tests were detecting emerging variants of SARS-CoV-2. But they realised that sequencing a lot of specimens would not be timely or cost-effective, so they designed their own test. A common critique of this kind of test is that it requires constant adjustment for new variants, but CoVarScan has not needed any adjustment in more than a year; it is still performing very well," said SoRelle. "In the future, if we did need to adjust it, we could easily add as many as 20 or 30 additional hotspots to the test," he added.

<https://www.dailypioneer.com/2022/india/us-researchers-develop-rapid-test-that-identifies-covid-variants-in-hours.html>

Risks in Cyber Space

As we continue to evolve in the wake of the pandemic, our children are back to school. However, they are spending time virtually at least for some time and many parents are still working from home. So, everyone is sharing a network ~ and the underwhelming state of cyber security education creates immense cyber risks. Encouragingly the new school curriculum in Kerala promises to include cyber security with focus on its effective usage in academic and administrative areas. Prior to the pandemic situation, most school systems had no provision for distance learning and cyber security was not a priority. But cyber criminals did learn that kids could be easy targets for social engineering attacks.

Lack of security awareness training in schools means that children are not likely to be as cautious about cybercrime risk as they should be ~ and with parents and children sharing networks and devices they can cause greater risk to vulnerable pieces of business of their elders. Cyber security is a complex issue that cuts across multiple domains and calls for multidimensional initiatives. Cyber space has expanded dramatically in its brief existence due to rapid development of Information Technology and commercial applications associated with it. All the infrastructures depend on relay data for communication and commercial transactions.

The operational stability and security of critical information infrastructure is vital for the economic security of the country. Cyber threats vary from simple hacking of an email to waging a war against a state. Use of cyberspace, i.e., computer, internet, cellphone, and other technological devices to commit a crime by an individual or organized group is called cybercrime. They exploit the weakness of the software and hardware design using malware. Various crimes may be facilitated by computer networks in the form of economic frauds to destabilize the economy, attacks on banking transaction systems, extraction of money through fraud and intellectual theft of property. Impairing the operation of a website or service through data alteration and data destruction may also be facilitated.

Spreading pornography, copyright infringement, cyber stalking and obscene content to harm others' reputation may be done by cyber criminals. Other harmful practices may be the misuse of social media in fanning intolerance, instigating commercial business, and posting inflammatory materials that tend to invite hate crime. As the education sector is making progress in its digital way, educational institutions are becoming vulnerable to be targeted for cyber bullying ~ from ransomware attacks to data breaches. It is high time that academic leaders prioritize cyber security through cyber education. Admittedly, the Internet has its great potential for benefiting everyone, but it is certainly harmful when it leads to cyber risks.

At a time when there is considerable increase in societal, market and technological innovations and the use of the Internet is growing fast, the role of education providers becomes important in teaching critical digital literacy to students as well as guiding parents regarding their wards' Internet use at home. The aim of cyber security education should be to educate users on the potential risks they face when using Internet communication tools, such as social media chat, online gaming, email, and messaging. The growing world of cyber space may have adverse

effects on Internet users, such as through cybercrime. Such issues should be contained early. Cyber security education is necessary because cybercrimes may take place anywhere, anytime.

Hence the need for cyber security ~ which may be defined as the activity, process, ability, or state whereby information and communication systems and the information contained therein are protected from damage and exploitation. Cyber security education is required to control addiction to computer games. It is necessary to educate children on the safe and responsible use of online resources and platforms, to establish a culture of cyber safety. Social media platforms such as Facebook, Instagram, Twitter, and YouTube are the most popular Internet applications. The explosion of available information contributes to risks involving security.

Children need to be equipped enough to defend themselves against possible cyber threats. Teachers should also be trained enough to promote critical understanding rather than restrictive approaches to cyber safety. Building the cybersecurity workforce of the future and integrating cyber security awareness across all industries are top priorities for national security. Cyber security education may become one of the fastest growing streams in higher education and vocational training. It is also time for our higher education institutions to introduce programmes that could increase their relevance to students. Integrating cyber security programmes is critical to both technological and non-technological degrees. Cyber security education may be executed in a variety of ways.

Professional development for adult learners or in-depth training for a career in cyber security may be offered. In addition, students in business, law and criminal justice may use advanced cyber intelligence skills to conduct better due diligence, online research, litigation, anti-money laundering measures, market analysis and other functions. For students in non-technological degrees, a deep understanding of cyber crime protection measures and intelligence methods may be provided. It is crucial for schools to become knowledge centres to expose issues around cyber security to the community. School administrators and teachers may discuss together and organise programmes about cyber security. Video cartoons may be identified as resources for teachers to use when discussing cyber security principles with learners.

The school curricula need to be improved to include cyber topics. Providing knowledge to upgrade teachers and students' understanding of cyber issues could serve as one step that may be taken to protect such groups from evolving cyber threats. Security awareness programmes can promote cyber security education in schools. The principles of cyber awareness have been refined over the years of research in the social psychological arena but have not yet caught much attention of the IT professionals. School administrations can also set up cyber organizations on their premises. Students themselves can follow a learner centred approach whereby they find information about cyber security from the Internet. In fact, challenges to cyber security education include the level of teachers' knowledge and the lack of expertise, funding, and resources.

<https://www.thestatesman.com/opinion/risks-cyber-space-1503086885.html>

Explained: Why Telangana's Floating Solar Plant is Greener than Ground-Mounted Ones

India's largest floating solar plant is now fully operational at Ramagundam in Telangana's Peddapalli district. The 100-megawatt (MW) floating solar power photovoltaic project was commissioned by the National Thermal Power Corporation, the country's foremost public-sector power generator. As of July 1, following the commissioning of the plant, the total commercial operation of floating solar capacity in the southern region has risen to 217 MW, according to the NTPC.



At Ramagundam, the solar modules are placed across 500 acres on floaters manufactured with high-density polyethene material that keeps floating irrespective of water-level fluctuations.

According to an official release, the 100MW floating solar plant spread over 500 acres of the NTPC's reservoir at Ramagundam is built at a cost of Rs 423 crore through Bharat Heavy Electricals Limited on an EPC (engineering, procurement and construction) contract. Having moved past fossil fuels to hydro-, nuclear and renewable energy sources for power generation, the NTPC has set a target of producing 60GW (gigawatts) capacity through renewable energy sources, constituting nearly 45 per cent of its overall power generation capacity, by 2032.

What are floating solar plants?

Solar plants or solar farms can be either ground-mounted or set up on the surface of waterbodies. Though these floating farms are a bit more expensive than the traditional ones mounted on land surfaces, there are advantages as well.

At a time when large tracts of land are unavailable, floating farms do not require land to be acquired for the installation of photovoltaic panels. They are more efficient as the presence of water underneath helps them keep cool. They also reduce water evaporation, thereby saving more water for hydropower generation.

How are these panels kept floating?

At Ramagundam, the solar modules are placed across 500 acres on floaters manufactured with high-density polyethene material that keeps floating irrespective of water-level fluctuations. The entire spread is divided into 40 blocks, each having a capacity of 2.5 MW. Each of these blocks consists of a floating platform and an array of 11,200 solar modules. The floating platform consists of an inverter, transformer, and a high-tension circuit breaker.

How is the project unique?

This project is unique because all the electrical equipment from the inverter, transformer, high-tension panel to supervisory control and data acquisition are also set up on floating ferro-cement

platforms. According to the NTPC, the entire floating system is anchored through special high-modulus polyethylene ropes to the dead weights (concrete blocks) placed in the balancing reservoir bed. The generated power is evacuated up to the existing switch yard through 33KV underground cables.

How does it help the environment?

The solar panels floating on the water surface will reduce the evaporation rate and thereby help water conservation. Also, with a minimum land requirement, mostly for associated evacuation arrangements, available land can be put to better use unlike in the case of ground-mounted solar farms, which require large land surface areas.

At Ramagundam, approximately 32.5 lakh cubic metres per year of water evaporation can be avoided. The waterbody underneath the solar modules helps in maintaining their ambient temperature, thereby improving their efficiency and generation. Similarly, coal consumption of 1,65,000 tons can be avoided per year; carbon dioxide emissions of 2,10,000 tons per year can be avoided, according to the NTPC.

Future expansions

The commercial operation of a 92MW floating solar plant at Kayamkulam in Kerala and a 25MW floating solar plant at Simhadri in Andhra Pradesh were announced by the NTPC earlier. Even at its Ramagundam reservoir, the public-sector undertaking has currently utilised only about 500 acres of the spread to generate 100 MW.

At present, NTPC Ramagundam has a traditional ground-mounted solar farm too, spread across 50 acres along the national highway, generating 10MW power. With land not easily available, an official said there is a scope for expansion to generate another 400 MW in the same reservoir. Meanwhile, the Telangana government is also learnt to be keen on using the technology of floating solar farms at its many mega reservoirs to promote clean energy. The state and the NTPC had held a round of talks earlier.

<https://indianexpress.com/article/explained/telangana-floating-solar-plant-environment-ntpc-explained-8005585/>

