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समाचार पत्रों से चयित अंश
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DRDO Technology News

Tue, 31 May 2022

Indian Military के फाइटर जेट्स में लगेंगी अस्त्र एमके-I मिसाइलें, 2971 करोड़ की डील

भारतीय वायु सेना (Indian Air Force) और भारतीय नौसेना (Indian Navy) के लड़ाकू विमानों में अब अस्त्र एमके-I मिसाइलें लगाई जाएंगी. इसके लिए रक्षा मंत्रालय ने भारत डायनेमिक्स लिमिटेड के साथ 2971 करोड़ रुपये की डील की है! 'आत्मनिर्भर भारत' प्रोग्राम के तहत रक्षा मंत्रालय ने भारतीय वायु सेना (Indian Air Force) और भारतीय नौसेना (Indian Navy) के लिए 2,971 करोड़ रुपये की लागत से अस्त्र एमके-I बेयॉन्ड विजुअल रेंज (BVR) एयर टू एयर मिसाइल (AAM) और संबंधित उपकरण की आपूर्ति के लिए भारत डायनेमिक्स लिमिटेड (BDL) के साथ 31 मई, 2022 को एक अनुबंध किया है

अभी तक इस श्रेणी की मिसाइल को स्वदेशी रूप से बनाने की तकनीक उपलब्ध नहीं थी. अस्त्र एमके-I बीवीआर एएएम को रक्षा अनुसंधान और विकास संगठन (DRDO) ने स्वदेशी रूप से डिजाइन और विकसित किया है. इससे विदेशी मिसाइलों पर निर्भरता कम होगी. बेयॉन्ड विजुअल रेंज यानी जो टारगेट नहीं दिखते, उन्हें मार गिराने में यह मिसाइल काम आएगी.

दुश्मन को पता ही नहीं चलेगा कब और कहां से हुआ हमला

BVR क्षमता के साथ हवा से हवा में मार करने वाली मिसाइल अपने लड़ाकू विमानों को बड़ी स्टैंड ऑफ रेंज प्रदान करती है. दुश्मन को यह पता ही नहीं चलने देगी कि यह कब और कहां आ गई. इससे हवाई क्षेत्र में ताकत मिलती है. यह मिसाइल तकनीकी और आर्थिक रूप से ऐसी कई आयातित मिसाइल प्रणालियों से बेहतर है. डीआरडीओ इस मिसाइल का कई सफल परीक्षण कर चुका है! पूरी तरह से सुखोई-30 एमके-आई लड़ाकू विमान में लगाया गया है. इसे हल्के लड़ाकू विमान (तेजस) सहित चरणबद्ध तरीके से अन्य

लड़ाकू विमानों के साथ भी जोड़ा जोड़ा जाएगा. भारतीय नौसेना मिग 29के लड़ाकू विमान में भी इस मिसाइल को लगाएगी. ये मिसाइल 154 किलोग्राम वजनी होती है. करीब 12.6 फीट लंबी होती है.

इसके हमले और गति से परेशान हो जाएगा दुश्मन

अस्त्र एमके-I BVR AAM मिसाइल में 15 किलोग्राम वजनी हाई-एक्सप्लोसिव प्री-फ्रैगमेंटेड हथियार लगाए जा सकते हैं. इसकी मारक रेंज 110 किलोमीटर है. यह 20 किलोमीटर की ऊंचाई तक जा सकती है. यानी फाइटर जेट से लॉन्च करने के बाद भी यह इतनी ऊपर और जा सकेगी. सबसे खतरनाक बात है इसकी गति यह मैक 4.5 की गति से दुश्मन की ओर बढ़ती है. यानी 5556.6 किलोमीटर प्रतिघंटा की गति से. यानी दुश्मन को बचने का मौका नहीं मिलेगा!

https://www.aajtak.in/india/news/story/indian-air-force-gives-contract-to-bdl-for-astra-mki-beyond-visual-range-air-to-air-missile-system-tstrd-1474032-2022-05-31

THE HINDU

Tue, 31 May 2022

Defence Ministry Signs 2,971-Crore Deal for Indigenous Astra Beyond Visual Range Missiles

The Defence Ministry on Tuesday signed a contract with defence public sector undertaking Bharat Dynamics Limited (BDL) for supply of the indigenously developed Astra Mk-I Beyond Visual Range (BVR) air to air missiles and associated equipment for the Indian Air Force (IAF) and the Navy at a cost of 2,971 Crore. “Astra Mk-I missile and all associated systems for its launch, ground handling and testing has been developed by Defence Research and Development Organisation (DRDO) in coordination with the IAF,” a Ministry statement said. The missile, for which successful trials have already been undertaken by the IAF, is fully integrated on the Su-30 MK-I fighter aircraft and will be integrated with other fighter aircraft in a phased manner, including the Light Combat Aircraft, the statement said. “The Navy will integrate the missile on the MiG-29K fighter aircraft,” it stated.

Astra has a range of over 100 kms with modern guidance and navigation techniques and has midcourse guidance and RF seeker based terminal guidance to achieve target destruction with pin point accuracy, the DRDO had stated earlier. In July 2020, the Defence Acquisition Council (DAC) headed by Union Defence Minister Rajnath Singh had approved the purchase of 248 Astra-MK1 missiles, of which 200 are meant for the IAF and 48 for the Navy. Air to Air missile with BVR capability provides large stand off ranges to fighter aircraft which can neutralise the adversary aircraft without exposing itself to adversary air defence measures, thereby gaining and sustaining superiority of the air space. “This missile is technologically and economically superior to many such imported missile systems,” the Ministry said.

As per the statement, Transfer of Technology from DRDO to BDL for production of Astra-MkI missile and all associated systems has been completed and production at BDL is in progress.

“This project will act as a catalyst for development of infrastructure and testing facilities at BDL. It will also create opportunities for several Micro, Small and Medium Enterprises (MSME) in aerospace technology for a period of at least 25 years,” it added.

A longer range and more sophisticated Astra-Mk2 is under development by DRDO and once it is inducted will free up dependency on imports in the BVR segment.

https://www.thehindu.com/news/national/defence-ministry-signs-2971-cr-deal-for-indigenous-astra-beyond-visual-range-missiles/article65480432.ece

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Wed, 01 Jun 2022

Astra Mk- I: All You Need to Know about Beyond Visual Range Air-to-Air Missile

In a bid to strengthen security arrangements of the country, the Defence Ministry has signed a contract with Bharat Dynamics Limited (BDL) for the supply of ASTRA MK-I beyond visual range (BVR) air-to-air missile (AAM) and associated equipment for the Indian Air Force and Indian Navy. It should be mentioned that the deal is being viewed as a major boost to Prime Minister Narendra Modi's vision of 'Aatmanirbhar Bharat'. The Rs 2,971 crore deal was signed on May 31, 2022. Here in this article, we will share all the details about ASTRA MK-I and about the contract.

The project will act as a catalyst for the development of infrastructure and testing facilities at BDL. The deal is a major boost to PM Narendra Modi's vision of 'Aatmanirbhar Bharat'. It should be mentioned that the Rs 2,971 crore deal was signed on May 31, 2022. The missile is designed to engage and destroy highly manoeuvring supersonic aircraft

Design and Other Details

While ASTRA is a BVR class of AAM system designed to be mounted on fighter aircraft, the missile is designed to engage and destroy highly manoeuvring supersonic aircraft. It should be mentioned that the missile has all-weather day and night capability. Apart from this, the ASTRA MK-I Weapon System can be fitted to Su-30MKI fighter aircraft. It is interesting to note that ASTRA BVRAAM (beyond visual range air-to-air missile) has a range of more than 100 kms with modern guidance and navigation techniques. Apart from this, the missile has midcourse guidance and RF seeker-based terminal guidance to achieve target destruction with pinpoint accuracy.

While Hindustan Aeronautics Limited (HAL) has played a role in modifying the aircraft for weapon integration, more than 50 public and private industries have contributed to building the ASTRA weapon system. The Defence Research Development Organisation (DRDO) has successfully flight-tested 'ASTRA' from the Su-30MKI platform off the coast of Chandipur in 2019.

About Bharat Dynamics Limited

Bharat Dynamics Limited (BDL), a manufacturer of ammunitions and missile systems, was founded in 1970 in Hyderabad, Telangana, India. It was incorporated as a public sector undertaking under the Defence Ministry on July 16, 1970. The Defence Research Development Organisation has transferred technology to Bharat Dynamics Limited for the production of these missiles and associated systems. BDL also handles launchers, test equipment, refurbishment/life extension of missiles, and countermeasures systems for domestic as well as international markets.

Defence Ministry On ASTRA MK-I

"The Transfer of Technology from DRDO to BDL for production of ASTRA MK-I missile and all associated systems has been completed and production at BDL is in progress," said the Defence Ministry in its statement. It further pointed out that the project will act as a catalyst for the development of infrastructure and testing facilities at BDL. It will also create opportunities for several MSMEs in aerospace technology for a period of at least 25 years. The project essentially embodies the spirit of 'Aatmanirbhar Bharat' and will help facilitate realising the country's journey towards self-reliance in air-to-air missiles.

http://www.indiandefensenews.in/2022/06/astra-mk-i-all-you-need-to-know-about.html

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Wed, 01 Jun 2022

DRDO Advances its AEW&C MK-II Variant

DRDO is currently developing an enhanced variant of its 'NETRA' AEW&C system (MK-II) mounted on a larger airborne platform. The system shall provide enhanced situational awareness through increased performance in the mission parameters taking advantage of the larger size of the aircraft. The project is estimated to cost around 11,000 crore. Images of the upcoming AWACS being developed by the Centre of Airborne Systems (CABS) a wing of the Defence Research and Development Organisation (DRDO) laboratory have appeared on Twitter.

The model of the new AWACS has a 240 degree radar similar to the ‘NETRA’ early warning system developed by the CABS-DRDO. It will also have a nose mounted active electronically scanning array (AESA) radar, the chopped off nose in the model seems to suggest. Last December, India's Ministry of Defence (MoD) okayed the development of six new AWACS planes to be built by the DRDO and based on modified Airbus A321 jets sourced from Air India. The NETRA early warning system was inducted only in 2017 and since then indigenous

AWACS systems developments have been quite rapid. Besides the NETRA, the Indian air force (IAF) has the Israeli Phalcon system mounted on an Russian Il-76 platform.

Salient Features of New Platform

Enhanced Radar, IFF, ELINT and COMINT capabilities at par with similar systems in the international markets Enhanced communication technologies catering for higher data rates and encryption capabilities and integration with India's Integrated Command & Control Centre (IACCS) State-of-the-Art multi sensor data fusion capable of identifying and classifying hostile airborne systems and assessing accurate threat perception. Included in the MK-II version will be DRDO's latest AESA (Active Electronically Scanned Array) radar that utilize Gallium Nitride technology that offers improved detection and tracking performance and better cooling of the main radar unit.

The aircraft will also be equipped with DRDO developed synthetic aperture radar (SAR) as a secondary sensor to create high-resolution images that will also be used for imaging stationary ships and small vessels, coastal and overland surveillance 12 mission operator stations capable of carrying our command and control operations in air to neutralize enemy forces.

http://www.indiandefensenews.in/2022/05/drdo-advanced-its-aew-mk-ii-version.html

The Sentinel
of this land, for its people

Wed, 01 Jun 2022

Defence Research Laboratory Celebrates Yoga Mahotsav at Tezpur

Defence Research Laboratory (DRL), one of the premier Life Sciences laboratories of DRDO, located at Tezpur, organised Yoga Mahotsav on Monday, as part of the countdown day programme of International Day of Yoga (IDY) at Agnigarh, an iconic place located at the banks of the mighty river Brahmaputra. Dr. Dev Vrat Kamboj, Director DRL, welcomed all the dignitaries and participants in the event. He highlighted the importance of ancient Indian practice of yoga and urged the participants to make yoga practice as part of the daily life to keep oneself sound & healthy.

Chatra Bhukhon Gogoi, District & Session Judge of Sonitpur district graced the occasion as the chief guest of the event. In his address, he emphasized on the benefits of yoga and its importance in maintaining a healthy lifestyle. Dr. P K Bora, Director, NERIWALM, Professor B Ramakrishnan, Head, ISI NE Centre, Tezpur and D K Sinha, DIG, Frontier HQ, SSB, Tezpur participated along with officers, staff and research scholars of DRL. Momita Gogoi, coach of Yogasana Sports Association, Assam conducted the Yoga session. She deliberated on the importance and various aspect of yoga.

https://www.sentinelassam.com/north-east-india-news/assam-news/defence-research-laboratory-celebrates-yoga-mahotsav-at-tezpur-594443

DRDO On Twitter

DRDO
@DRDO_India

#DRDOforIndia | Strengthening #AatmaNirbharta in Defence, @bharat_dynamics received Rs 2971Crs order from @DefenceMinIndia for supply of DRDO developed BVRAAM Astra Mk-1 & associated equipment to @IAF_MCC & @indiannavy. #LeadingSwadeshiPathway

@PMOIndia

pib.gov.in/PressReleseDet...

9:09 PM · May 31, 2022 · Twitter for iPhone

Defence News

Defence Strategic: National/International

THE TIMES OF INDIA

Tue, 31 May 2022

No Impact on Availability of IAF Spare Parts: Air Chief

Chief od Air staff (COAS) Air chief Marshal VR Chaudhari on Monday said the Russia-Ukraine crisis has not made any 'huge impact' on the availability of spare parts and items with the ( ) due to its 'robust' spare stocking policy. The IAF imports a variety of electronics and niche spare parts and items, including circuit boards, for the maintenance of its Sukhoi-30 MK-I aircraft - the frontline fighter jets of the air force. Chaudhari said the IAF had adopted a policy of making 'barest minimum' purchases from foreign countries. "Anything we will buy in the future will be made in India. We will not import any weapon systems and radars. Most of these are being purchased from Indian industries," he said on the sidelines of the passing out parade of the 142nd course at the National Defence Academy in Khadakwasla near Pune.

We are dependent on many items from Russia, but the ongoing crisis has not made a huge impact on us as we have a robust spare stocking policy and have already taken care of our future requirements. We have indigenised many spares, which were importing from Russia for many years. In that sense, we are reasonably assured of not being deprived of spare parts during the years ahead," the CoAS said. He said, "The IAF has accorded importance to the government's 'Atmanirbhar Bharat' and 'Make in India' initiatives, which will change India's status from the largest importer (defence products) to an exporter in the future. The IAF is collaborating with Indian industries, including smallscale units, and academia to meet its future requirements, the CoAS said. "All the three services and Air Force have set up dedicated departments of their own for direct interacting with Indian industries. The government has given us a negative import list. These items will never be imported. Now, we are working on a 'positive indigenization list'. We will wait for these items even if it takes time. But, we will buy them from Indian industries only."

https://timesofindia.indiatimes.com/city/pune/no-impact-on-availability-of-iaf-spare-parts-air-chief/articleshow/91902666.cms

THE HINDU

Tue, 31 May 2022

MSMEs Urged to Tap Opportunities in Defence Sector

As much as 70% of defence budget is reserved for Indian industries, says official, With the Centre making a budgetary allocation of ₹1.5 lakh crore for capital expenditure in the defence sector, opportunities are high for Indian companies and Micro, Small and Medium-scale Enterprises (MSMEs), Vivek Virmani, project officer (general) and chief operating officer of Department of Defence Production, said on Monday.

Speaking virtually at an outreach event for Defence India Startup Challenge (DISC 6) and iDEX Prime, organised by by CODISSIA Defence Innovation Centre in association with NITI Aayog and Atal Innovation Mission, he said there were both large-scale projects and open challenges in which MSMEs, startups, and academia could take part. Jatin Arora, programme executive of Defence Innovation Organisation, said, "iDex is one of the flagship schemes of the Government of India. India is going through massive change to promote Indian startups, innovations, and MSMEs and reduce imports with indigenisation. iDEX aims to create an ecosystem for innovation."

The Indian defence ecosystem stakeholders included armed forces, DPSUs, and PSUs. They gave very defined problem statements and these were launched at DISC. In April this year, DISC 6.0 was launched. There was also an open challenge for startups that had pre-defined solutions. "As much as 70% of defence budget is reserved for Indian industries," he added. V. Sundaram, director of CODISSIA Defence Innovation and Atal Incubation Centre, said the Centre had 14 incubatees and planned to induct 12 more startups this year. It had submitted a revised Detailed Project Report to procure the required machinery. "We have suggested to the government to permit MSMEs to be equity partners of startups that are working in the defence sector so that the products can be brought to production soon," he said.

https://www.thehindu.com/news/cities/Coimbatore/msmes-urged-to-tap-opportunities-in-defence-sector/article65479528.ece

The Tribune

Wed, 01 Jun 2022

2nd Phase of Coastal Surveillance on Track

The second phase of the coastal surveillance network that includes setting up of 46 radars was on track and expected to be completed soon, said Defence Minister Rajnath Singh while addressing commanders of the Indian Coast Guard on Monday. Besides the three armed forces, the coast guard is a force under the Ministry of Defence with a mandate to protect the coastline and the exclusive economic zone against illegal fishing and drug smuggling. The coastal surveillance network was launched after the November 2008 terror attack on Mumbai. The first phase had

chain of radars, automatic identification system (AIS), day/night cameras and Met sensors at 46 locations along the coastline and islands.

The second phase plans to achieve near gap-free surveillance of the entire coastline, 38 additional radar stations and eight mobile surveillance systems that will connect with vessel (ship) traffic management system for Gulf of Kutch and Gulf of Khambat. He said, “Due to these efforts, the country has not witnessed any terror activity from the sea route since the 2008 Mumbai attacks.” He spoke about the importance of a free and open Indo-Pacific, terming the region as an important aspect of India’s maritime security. “Terrorism, drug trafficking and piracy are some non-traditional challenges in front of us today,” he said.

https://www.tribuneindia.com/news/nation/2nd-phase-of-coastal-surveillance-on-track-399664

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Wed, 01 Jun 2022

Dassault Systèmes' Fully Aligned with 'Make in India' Vision; Wants Drones to be Like Plug and Play; As Simple As Feature Phones: Tanuj Mittal

'Bharat Drone Mahotsav 2022': On the sidelines of the event, Tanuj Mittal, Director Sales, Customer Process Experience - India at Dassault Systèmes, spoke to Zee Business Digital about plans, Make in India, jobs, technology, platforms and more. "Dassault Systèmes is completely aligned with the Make In India vision of Modi government and wants to make for India first with entire design to manufacturing locally only."

Inaugurated by PM Narendra Modi, India's biggest drone festival - 'Bharat Drone Mahotsav 2022', a 2-day event, witnessed over 70 exhibitors displaying various use cases of drones at the exhibition. Who's who of aviation and aerospace, visitors and the likes visited the Pragati Maidan, New Delhi to know more about what's there in store for India in terms of drones, related technology, usage and more. On the sidelines of the event, Tanuj Mittal, Director Sales, Customer Process Experience - India at Dassault Systèmes, spoke to Zee Business Digital about plans, Make in India, jobs, technology, platforms and more.

Dassault Systèmes: Indian At Heart

Explaining how Dassault Systèmes is headquartered in France but Indian at heart, Tanuj Mittal said, "We have 2 R&D centres in India, and this is my 12th year in the organisation. We have had a great learning curve when it comes to providing services in India. India is a very important market to Dassault Systèmes."

Drones' Demand: Growth Is Exponential

Further, talking about how demand for drones has grown in the past, Mittal said, "The growth is exponential. Over the period of time, the demand has increased for drones meant for irrigation purposes as well. Nowadays, drones are being used a lot for many areas for which it was completely unexplored, and new arenas are getting opened for drone applications." "When

Covid-19 pandemic hit India, nobody imagined that drones will be utilised to deliver vaccines in remote areas. In case of massive event like Kumbh Mela, drones came up as a big help for monitoring purposes for safety and security of visitors," he added.

Bharat Drone Mahotsav 2022: Make In India Vision

When asked about how Bharat Drone Mahotsav 2022 will help drone industry, manufactures and the relevant people involved in the domain, Mittal said, "Government has a huge focus on drone and its technology. The government by means of events like these giving a big push and removing the roadblocks. This is really helpful."

Heaping praises on Modi government's Make In India vision, he said, "Dassault Systèmes has the same vision as that of the government as our products right from designing them virtually to transforming into the real product, every thing is being done in India, that too with Indian manpower, technology and logistics. And, this is how jobs are also being created in India."

3D Platform: Dassault Systèmes

Explaining how idea of any drones transforms into reality in India at Dassault Systèmes, he said, "Right from the designing of the drone at 3D platform to finally making the actual product, every thing will be taking place in India only. However, the time that a particular product takes from designing to actual manufacturing varies depending on the purpose of the drone - defence, irrigation, monitoring, surveillance, etc.

Drones: Technology - Ahead of Times

"Prior to manufacturing every details needs to be ascertained, and iterations might crop up to ensure that what we have dreamt is coming to shape in the same form and format. Dassault Systèmes ensures that all the requirements like - height, range, weight carrying capacity, etc have been taken care of before the final demo and simulation. Mittal says, "We should always keep in mind that whatever we are designing for drones should be ahead of times otherwise by the time the product will come out in physical form then the technology used will be obsolete because technology is growing so fast."

Drones: Plug & Play

Explaining the level of comfort they want to give to end consumers when it comes to using drones, Mittal said, "Operating drones should be like plug and play or as simple as feature phone operations." "Dassault Systèmes is completely aligned with the Make In India vision of Modi government and wants to make for India first with entire design to manufacturing locally only," he concluded.

http://www.indiandefensenews.in/2022/06/dassault-systemes-fully-aligned-with.html

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Tue, 31 May 2022

Rafale Reportedly Losing Ground to Super Hornet in Indian Navy Competition

Technical hurdles are reportedly hampering Dassault Rafale's position to win the contract to provide the Indian Navy with new airborne fighters, in which it competes against the Boeing Super Hornet. The Indian Navy wants to acquire 26 multi-role carrier-borne fighters under the MRCBF program to form the embarked fighter wing of the new locally designed and built aircraft carrier INS Vikrant.

The French Dassault Rafale and the American Boeing F/A-18E/F Super Hornet are competing in this program. The navy already has more than 40 Russian MiG-29K/KUBs, but their chronic unreliability led to the search for a Western option. Both the Rafale and the Super Hornet were tested at the Hansa base, where the Indian Navy has a Ski-jump runway to simulate take-off conditions from the aircraft carriers it operates.

And while the Rafale has the important advantage of already being operated by the Indian Air Force, according to media reports, there are technical aspects that would make it difficult to implement at INS Vikrant, and would favour the U.S. option. First, the Rafale's inability to fold its wings not only makes it take up more space on deck and in the hangar than a Super Hornet, but would also force the removal of the missile launcher rails from the wingtips to fit into the INS Vikrant's elevators, which are narrower than those of French or American aircraft carriers. Quite an inconvenience.

On the other hand, given its limited production of less than 50 units (the only operator is the French Navy), the price of the Rafale M is higher than that of the conventional take-off versions operated by the French Air Force, India Air Force, and several export customers. Also, there are about 1400 Super Hornet cells produced, which would lower certain operating costs, due to economies of scale. Another aspect that would favour the choice of the Super Hornet is the engine.

The U.S. naval fighter uses two General Electric F414 engines, which is the same powerplant chosen by India to equip its own design of carrier based fighter, the Twin Engine Deck Based Fighter (TEDBF) for the Navy (which coincidentally bears a strong resemblance to the Rafale design) and which will also be the engine of the Air Force's Tejas MK-2. The F414 is expected to be manufactured in India under license from General Electric. But, it is also true that SAFRAN, the manufacturer of the M-88 engine that equips the Rafale, was selected by India to provide technical assistance in the development of the propulsion system of the AMCA, the future indigenously developed fifth-generation fighter. The French presence in India's defence industry will therefore be guaranteed for many years to come.

http://www.indiandefensenews.in/2022/05/rafale-reportedly-losing-ground-to.html

Wed, 01 Jun 2022

INS Akshay, INS Nishank Decommissioned

A glorious era will come to an end on June 3, when two naval ships INS Nishank and INS Akshay are decommissioned at a solemn ceremony at Naval Dockyard in south Mumbai. Making an announcement to this effect, the Western Naval Command (WNC) tweeted on Tuesday: "#INSNishank (K43) part of the 22 Missile Vessel Sqn & #INSAkshay (P35) part of the 23 Patrol Vessel Sqn, both under the operational control of Flag Officer Commanding, Maharashtra Naval Area, will be decommissioned on #03June 2022 after 32 years of glorious service to the nation".

A defence spokesperson said here that INS Nishank and INS Akshay were constructed and commissioned at Poti Shipyard in present-day Georgia. "They have been in active naval service for more than 32 years and participated in a number of naval operations including Op Talwar during the Kargil War and Op Parakram that was launched consequent to the Parliament attack in 2001," he said. INS Nishank was commissioned into the Indian Navy on September 12, 1989.It is a Veer class corvette ship of a length of 56 meter (184 ft), 10.5 meter (34 ft) beam and 2.5 meter (8.2 ft) draught. It could notch up a speed of 32 knots (59 km/h). It had a displacement capacity of 455 tons (full load). Commissioned into the Indian Navy on December 10, 1990, INS Akshay is Abhay class corvette ship. The 56 meter (183.7 ft) long ship with 10.2 meter (33 ft) beam and 3.3 meter (11 ft) draft, had a displacement capacity of 485 tonnes (full load). Propelled by two diesel motors with 16,184 hp and 2 shafts, the ship could travel at a speed of 28 knots (52 km/h).

https://www.dailypioneer.com/2022/india/ins-akshay--ins-nishank-decommissioned.html#:~:text=A%20glorious%20era%20will%20come,Naval%20Dockyard%20in%20south%20Mumbai.

Tue, 31 May 2022

UK Eyes Investment Opportunities in Coimbatore's Defence, Ev Sector

British Deputy High Commissioner Oliver Ballhatchet said that the UK is looking at investment opportunities for British companies to invest in the defence, renewable energy, and electric vehicle (EV) sectors in Coimbatore. During his interaction with industry representatives, Ballhatchet said that UK and Coimbatore can cooperate in emerging sectors owing to the huge potential for companies. Highlighting Coimbatore's manufacturing might, he said it is a major centre in the defence corridor and offers opportunities.

It also has an exposure to on shore wind energy generation and hence, can look at manufacturing for off shore wind mills. EV manufacturing is another area for mutual cooperation, he added. Coimbatore, one of the larger tier-two cities in the country, is growing rapidly in the services sector and flow of talent between the two countries should be promoted, Ballhatchet said. With India-Britain Free Trade Agreement on cards he said that there is scope for Defence sector business mission to visit Coimbatore.

https://knnindia.co.in/news/newsdetails/sectors/uk-eyes-investment-opportunities-in-coimbatores-defence-ev-sector

Tue, 31 May 2022

Turkey Developing Siper Missile Defence System: Will it Rival the Russian S-400?

Reports claim the country has test-fired the Siper high-altitude long-range missile system. The missile is likely to enter Turkey's military next year.

Siper high-altitude long-range

Turkey is developing the Siper high-altitude long-range air defense missile system. The project was started with Turkey's Aselsan, Roketsan and the Scientific and Technological Research Council of Turkey (TÜBITAK). Reports claim the country had test-fired the missile defence system. İsmail Demir, head of Turkey's Presidency of Defence Industries (SSB) had said the country has "successfully completed another stage in the development of our long-range and multi-layered national air defence system, the Siper". The missile is likely to enter into Turkey military service next year. It is seen as a rival to the Russian S-400 missile defence system. It is likely to have dual-pulse engine with radar and imaging infrared seeker.

Turkish combat drones in Ukraine war

The pride of Ankara, Turkish combat drones were quickly put into action by Ukraine following Russia's invasion. But while they have proved their worth in several recent conflicts -- from Syria to Libya to Nagorno-Karabakh -- the terrain this time is less favourable, experts say. Kyiv has around 20 Bayraktar TB2 drones, built by the Turkish military. Relatively cheap and effective, President Recep Tayyip Erdogan has been their number one salesman, securing deals with around 15 countries around the world.

Drones target Russian columns

The Ukrainian ambassador in Ankara has regularly tweeted images of explosions attributed to the drones, targeting Russian columns and artillery, with accompanying phrases like: "#c -- "Mashallah (God be praised)" and strings of joyous emojis. "These TB2 strikes are, in comparison to ground combat, relatively small in number, but important for Ukrainian morale

precisely because it shows Russia does not control the skies," said Aaron Stein, of the Foreign Policy Research Institute.

Russian air power vs Ukraine's drones

But the positive assessment also rests on Russia's surprising reticence to use its full airpower. "The Russian air campaign has baffled experts, including myself, who made the incorrect assumption that they would be far more active over Ukraine," said Stein. Russian air power will overwhelm Ukraine's drones "at some point in the near future," he predicted.

'21st century AK47'

Several conflicts in recent years have offered a shop window for Turkey's drones. They were a determining factor in Nagorno-Karabakh in November 2020, giving Azerbaijan's forces the edge over Armenia in the disputed region. In Libya a year earlier, they were crucial to repelling a protracted offensive by rebel commander, General Khalifa Haftar, against the government in Tripoli. Turkey has also deployed drones against Kurdish militants and government forces in Syria -- the latter backed by Russia.

TB2 vs US Reaper

The TB2 is 6.5 metres long and half the weight of its US counterpart, the Reaper, carrying four laser-guided munitions. Its maker Baykar says it can fly for 27 hours, at up to 220 kilometres per hour, and is operational between 18,000 and 25,000 feet. "The fact that a relatively light and inexpensive drone could not only evade but actively search out and destroy modern surface-to-air missile and electronic warfare systems, while suffering little losses in return, has rightfully garnered worldwide attention," said Stijn Mitzer and Joost Oliemans, of the specialist ORYX blog. "The result of the TB2's entry into combat was a stunning upset of the status quo, forcing many countries to rethink their approach to defence."

Russia has estimated inventory of 500 UAVs

They may be able to hit scattered Russian equipment, Ulgen added, but are unlikely to reach the most important and best protected assets, particularly those stationed around the capital. Twenty drones is "just not enough the tip the tide of battle, even if they were highly effective," agreed Mark Cancian, of the Center for Strategic and International Studies in Washington. "We should keep in mind that the Russians have an estimated inventory of 500 UAVs (unmanned air vehicles), many of which are more capable than Ukraine's. Russia is certainly using them as well."

UAVs in the Syrian conflict

Russia has advanced UAV programmes with its world-class Orion combat drone. Russia has used its expertise in UAVs in the Syrian conflict since 2015. Russia reportedly uses EW training as part of its drill. The country had reportedly used counter-UAV exercises while deploying the Silok-01 R-934BMV jamming station. It can reportedly render the UAS toothless by disabling the communication system

https://www.wionews.com/photos/turkey-developing-siper-missile-defence-system-will-it-rival-the-russian-s-400-483787#russia-has-estimated-inventory-of-500-uavs-458263

Science & Technology News

Wed, 01 Jun 2022

GSAT-24 Satellite Undergoing Checks at French Guiana Ahead of June 22 Launch

The 4,180 kg 24-Ku band communication satellite, to be launched by an Ariane Rocket from Kourou on June 22 is presently undergoing health and performance checks at clean room facilities in French Guiana. In an update on mission activities, the Indian Space Research Organisation (ISRO) on Tuesday said the satellite after completing assembly, integration and environmental test was cleared by PSR (Pre-Shipment Review) committee on May 2, 2022. The Satellite and its allied equipment were shipped to Kourou, French Guiana on May 18 using C-17 Globemaster aircrafts and it was received in Kourou on May 19, 2022.

As part of launch campaign activities, the satellite is presently undergoing health and performance checks at clean room facilities in French Guiana, ISRO said. The satellite, with pan India coverage for meeting DTH application needs, will be launched Launch by Ariane-V VA257 flight on June 22.NewSpace India Limited (NSIL) under the Department of Space (DoS) is undertaking GSAT-24 satellite mission as its 1st Demand Driven mission post space reforms. NSIL has leased the entire satellite capacity to M/s Tata Play.

http://www.indiandefensenews.in/2022/06/gsat-24-satellite-undergoing-checks-at.html

Mon, 30 May 2022

Low-Cost Gel Harvests Drinking Water from Dry Desert Air

More than a third of the world's population lives in drylands, areas that experience significant water shortages. Engineers and scientists at The University of Texas at Austin have developed a unique solution that could help people in these areas access clean drinking water. The researchers developed a low-cost gel film comprised of abundant materials that can pull water from the air in even the driest climates. The materials that facilitate this reaction cost just $2 per kilogram, and a single kilogram can produce more than 6 liters (~1.6 gallons) of water per day in areas with less than 15% relative humidity and 13 liters (~3.4 gallons) in areas with up to 30% relative humidity.

The research builds on previous breakthroughs from the research team, including the ability to pull water out of the atmosphere and the application of that technology to create self-watering soil. However, these technologies were designed for relatively high-humidity environments. “This new work is about practical solutions that people can use to get water in the hottest, driest places on Earth,” said Guihua Yu, professor of materials science and mechanical engineering in the Cockrell School of Engineering’s Walker Department of Mechanical Engineering. “This could allow millions of people without consistent access to drinking water to have simple, water generating devices at home that they can easily operate.”

The new paper was published on May 19, 2022, in the journal *Nature Communications*.

The researchers used renewable cellulose and a common kitchen ingredient, konjac gum, as a main hydrophilic (attracted to water) skeleton. The open-pore structure of gum speeds up the moisture-capturing process. Another designed component, thermo-responsive cellulose with hydrophobic (resistant to water) interaction when heated, helps release the collected water immediately so that overall energy input to produce water is minimized. Other attempts at pulling water from desert air are typically energy-intensive and do not produce much. And although 6 liters does not sound like much, the researchers say that creating thicker films or absorbent beds or arrays with optimization could drastically increase the amount of water they yield.

The reaction itself is a simple one, the researchers said, which reduces the challenges of scaling it up and achieving mass usage. “This is not something you need an advanced degree to use,” said Youhong “Nancy” Guo, the lead author on the paper and a former doctoral student in Yu’s lab, now a postdoctoral researcher at the Massachusetts Institute of Technology. “It’s straightforward enough that anyone can make it at home if they have the materials.” The film is flexible and can be molded into a variety of shapes and sizes, depending on the need of the user. Making the film requires only the gel precursor, which includes all the relevant ingredients poured into a mold. “The gel takes 2 minutes to set simply. Then, it just needs to be freeze-dried, and it can be peeled off the mold and used immediately after that,” said Weixin Guan, a doctoral student on Yu’s team and a lead researcher of the work.

https://scitechdaily.com/low-cost-gel-harvests-drinking-water-from-dry-desert-air/