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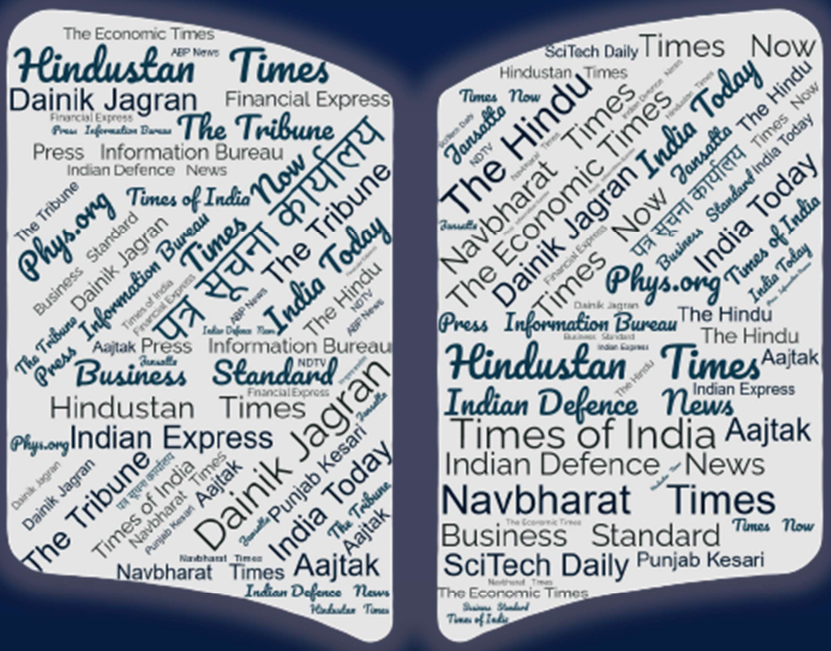

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DRDO News

DRDO Technology News

ThePrint

Thu, 01 Sep 2022

CCS Clears Indigenous LCA Mark 2 Fighter Aircraft Project

In a major boost to indigenous fighter aircraft development initiatives, the Cabinet Committee on Security on Wednesday cleared the development of LCA Mark 2 fighter aircraft which would be a replacement for the Mirage 2000, Jaguar and MiG-29 combat aircraft in the Indian Air Force.

"LCA Mark 2 fighter aircraft development project has been cleared by the government. This would pave the way for designers to develop an advanced 17.5-tonne single-engine aircraft. Development of new aircraft is to be completed by 2027," Aeronautical Development Agency chief Girish Deodhare told ANI on the project.

In a telephonic conversation from Bengaluru, Deodhare said the project would benefit from the progress made in the LCA Mark 1A programme and would help in the development of the fifth generation Advanced Medium Combat Aircraft project.

He said the government has cleared the development of prototypes of which, the first is likely to roll out in a year and the project is scheduled to be completed by the year 2027 after extensive flying trials and other related work.

The DRDO feels that the aircraft would be in the category of the Rafale class aircraft in terms of avionics and capabilities but lighter in weight.

The government has also cleared that the engines to be used in the aircraft should be Made in India after the initial development phase.

The DRDO would be developing the aircraft with a GE-414 engine which is the advanced version of the GE-404s that power the existing LCAs in service and the 83 LCA Mark 1As which would start getting inducted into IAF in the next couple of years.

At present, 30 LCAs are in service with the IAF and two are being used by the HAL to develop the Mark 1As. The AMCA aircraft development proposal is also with the government and is expected to be approved in near future but with a lot of Indigenisation inputs from the government.

https://theprint.in/india/ccs-clears-indigenous-lca-mark-2-fighter-aircraft-project/1111127/

TIMESNOW

Thu, 01 Sep 2022

Centre Gives Nod to Tejas Mark-2 Development Project - Details

The Centre has given its nod to the development of the next generation variant and a more potent version of the indigenous light combat aircraft (LCA) Tejas – Tejas Mark 2.

The Prime Minister Narendra Modi-led Cabinet Committee on Security (CCS) on Wednesday approved the project to develope LCA Mark 2 multirole fighter jet, a more capable and powerful version of the indigenous aircraft. The fighter jet will be developed at a cost of over Rs 6,500 crore, in addition to the Rs 2,500 crore previously sanctioned for it.

"LCA Mark 2 fighter aircraft development project was cleared by the government. This would pave way for designers to develop an advanced 17.5-tonne single-engine aircraft," Aeronautical Development Agency chief Girish Deodhare said, ANI reported. The development of new aircraft will be completed by 2027, he said.

Tejas is a single-engine and highly agile multi-role supersonic fighter manufactured by the state-run Hindustan Aeronautics Ltd (HAL). Last year, Chairman and Managing Director of HAL R Madhavan had said that the upgraded version of the jet will have a bigger fuselage, longer range, better maintainability, greater load carrying capability, much stronger engine power and superior net-centric warfare systems. He had also said that the first high-speed trial of the jet will start in 2023 and the production is expected to begin somewhere around 2025.

Tejas is a potent platform for air combat and offensive air support with reconnaissance and anti-ship operations as its secondary roles.

The Tejas project will be followed by another mega project for fifth-generation medium weight deep penetration fighter, which is estimated to cost around USD 5 billion.

https://www.timesnownews.com/india/centre-gives-its-nod-to-tejas-mark-2-project-details-article-93921205

Defence News

Defence Strategic : National/International

FINANCIAL EXPRESS
Read to Lead

Wed, 31 Aug 2022

Indian Navy's Journey Towards Atmanirbhar Bharat: Work Starts on India's Anti-Submarine Warship

In a boost to the Indian Navy efforts towards `Atmanirbhar bharat' in defence, the keel for the first warship (BY 523, Mahe) of Anti-Submarine Warfare Shallow Craft (ASW SWC) was laid at Kochi based Cochin Shipyard Limited (CSL).

On Tuesday speaking at the occasion Indian Navy's Controller of Warship Production and Acquisition (CWP and A) VAdm Kiran Deshmukh expressed his appreciation of the efforts put in by the yard in achieving the milestone.

He indicated that the keel laying is a significant milestone activity in the shipbuilding process and how it helps in paving the way for incorporating various aspects of a fully constructed ship. According to the naval officer, these platforms would undertake sub-surface surveillance in In his address, CSL CMD Madhu S Nair reiterated the shipyard's commitment to delivering quality ships on time to the Indian Navy.

Background

Back in 2014, a deal was inked by the government with two shipyards to construct 8-8 ASW-SWC vessels worth $ 1.9 billion.

Steel Cutting

According to the Indian Navy the Steel Cutting of 6th and 7th ships (BY 528 and BY 529) of ASW SWC project was also undertaken on Tuesday at CSL.

What is the significance of Steel Cutting?

A big milestone in the process of shipbuilding, the significance is that the preparatory process is over and the construction phase of the ships has started.

More about Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) project

These are required by the Indian Navy to replace the ageingAbhay-class corvettes. This potent anti-submarine platform will further enhance anti-submarine warfare capabilities of the Indian Navy and will help in safeguarding the maritime interests of the country. In the coastal areas these can help in carrying out the day and night search and rescue missions. They can also help in laying mines in the sea bed and to defend intruding jets. The ships are going to be part of the Indian Navy and are being constructed by CSL and Garden Reach Shipbuilders & Engineers.

Delivery Time

Due to two years of global lockdown because of the global pandemic of coronavirus, the delivery of the platform which was expected to be delivered in October as per the contracts in place might get delayed. All the vessels are expected to be delivered by the end of April 2026.

The platform will have displacement of 750 tonnes, and be fitted with high-performance signature and stealth technologies. With these technologies the platform will make them undetected by the enemy submarines and other underground surveillance systems.

More details

Has the capacity to accommodate a total of 57 personnel onboard.

With a maximum draught of 2.7m at full load, the overall length and breadth of the vessel will be 78m and 11.3m. With niche technologies on board they will be able to relay details about the enemy submarine. Fitted with a water jet propulsion system powered by diesel engines, these will be equipped with rockets, torpedoes, and two 12.7mm stabilised remote control guns. These guns will have optronic control systems. Will be capable of cruising at a maximum speed of 25k at full load. And can achieve a range of 1,800nm at 14k speed.coastal areas. And they will help in detecting and neutralizing underwater threats.

https://www.financialexpress.com/defence/indian-navys-journey-towards-atmanirbhar-bharat-work-starts-on-indias-anti-submarine-warship/2651069/

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Wed, 31 Aug 2022

New Mission Computer for Indian Navy Mig-29k Under Trial

HAL is testing a new mission computer for the Indian Navy's MiG-29K carrier-borne fighter aircraft. The new system has been designed to give the navy the ability to integrate a wide range

of domestic and international air-launched weapons with the MiG-29K Janes has reported. The Indian Navy is test-flying a new mission computer for its Mikoyan-Gurevich MiG-29K/KUB carrier-borne fighter aircraft. The mission computer has been developed by the state-owned defence company, Hindustan Aeronautics Limited (HAL). The new system is intended to give the navy the flexibility to integrate domestically developed and western-origin, air-launched weapons with the Soviet-era MiG-29K, HAL told Janes.

An industry source familiar with the project told Janes that the programme was launched in January 2021 after Russia declined to upgrade the mission computer or provide the source code to HAL. The former Chairman and Managing Director of HAL, R Madhavan, said in a statement that the MiG-29K/KUB is limited to carrying Russian-origin weapons on air-to-air and air-to-surface missions.

“The aircraft cannot be operated with non-Russian-origin weapons without extensive modifications,” Madhavan said. “Integration of indigenous weapons or western-origin weapons with the MiG-29 is challenging because we do not have any design data or documentation on the architecture of the system.”

HAL told Janes that the Indian Navy assesses that the MiG-29K's inability to mount domestic weaponry is a “serious limitation”.

Janes has learnt that the flight computer has been in trials with the navy since June 2022. “The trials are currently ongoing. The system is being tested along various parameters,” HAL said.

“We estimate that the trials may take between six to eight months to be concluded,” an industry source added.

http://www.indiandefensenews.in/2022/08/new-mission-computer-for-indian-navy.html

Wed, 31 Aug 2022

DEFEXPO 2022: Defence Expo Registrations Now Open — Here's How to Register

Asia's largest defence expo — DefExpo 2022 — will be held this year from October 18 to 22 at Gandhinagar, Gujarat. The theme for this year's expo is ‘Path to Pride’, which is aimed at invoking nationalistic pride and encouraging citizens to partake in nation building through establishing a capable indigenous defence industry.

A PIB release spells out the details for registrations for this year's DefExpo. As per the latest information, the online media registration is now open and those interested can register on the official website — https://defexpo.gov.in/

> Online Media registration for Asia's Largest Defence Expo #DefExpo2022 is open now!
>
> Those who have registered earlier in Feb 2022 for the same are also required to visit media registration Webpage & validate the previously filled details by 5 Sept 2022
>
> https://t.co/PH1AHRbdvk pic.twitter.com/aHk0qrLRTq
>
> — Defence Production India (@DefProdnIndia) August 29, 2022

Those who have registered earlier in February 2022 for the same are also required to visit media registration page to validate the previously filled details by 5 September 2022.

The five-day event will witness live demonstrations showcasing the equipment and skillset of the armed forces, DPSUs and the defence industry on all five days at Sabarmati river front.

DefExpo 2022 will be held in a three-venue format at Helipad Exhibition Centre; inaugural event and seminars at Mahatma Mandir Convention and Exhibition Centre and live demo at the Sabarmati river front.

The exhibition is being planned with events such as Bandhan for forging of partnerships between companies; seminars and webinars showcasing start-ups/MSMEs, including cutting-edge technology solutions for future battlefield; Artificial Intelligence in defence; student visits and showcasing Gujarat as an investment destination for aerospace and defence sector, etc.

At DefExpo-2022, the participants will get an opportunity to showcase their equipment and platforms and also be able to explore the strengths and capabilities of the expanse of Indian defence industry for forging business partnerships.

DefExpo 2022 — which is in line with the vision of Prime Minister Narendra Modi to achieve self-reliance in defence and achieve export of $5 billion by 2025 — will help boost investment, expand manufacturing capacities and capabilities, and discover avenues for technology absorption.

The exhibition will be held at Helipad Exhibition Centre (HEC) and inaugural/official functions and seminars will be held at Mahatma Mandir Convention and Exhibition Centre (MMCEC).

https://www.zeebiz.com/india/news-defexpo-2022-new-date-venue-latest-news-theme-defence-registration-what-gujarat-held-update-196692

INDIA TODAY

Wed, 31 Aug 2022

How the War in Ukraine has Forced India to Step Up its Defence Indigenisation Programme

As a solution to the Indian military's requirement for spares amidst the protracted Russia-Ukraine war, the Narendra Modi government is turning towards the domestic industry to meet the supply gaps. Defence minister Rajnath Singh has given the go-ahead for domestic procurement of 780 critical components and sub-systems used in fighter jets, helicopters, transport planes, armoured tanks and submarines. This means all this military hardware will come under a phased import ban between December 2023 and December 2028.

The new Positive Indigenisation List includes critical spares and sub-systems for India's frontline fighter jet Sukhoi-30, Jaguar, LCA Tejas and Dornier-228 planes. Some spares for the Indian Navy's operational Kilo-class submarines as well as equipment for the Indian Army's T-90 and Arjun tanks are also part of the list. With this list, the government aims to further reduce imports by DPSUs (defence public sector undertakings).

India is the world's second biggest importer of arms, accounting for 9.2 per cent of the total global arms imports. Next comes Saudi Arabia. There has, however, been a push by the Modi government for self-reliance in defence. About 80 per cent of the country's domestic defence industry is owned by the government.

The ministry of defence (MoD) has set a target of Rs 1.75 lakh crore worth of indigenous defence production by 2025, including exports to the tune of Rs 35,000 crore. DPSUs will have to play a major role in achieving this goal.

The MoD says the new Positive Indigenisation List is in continuation of two such lists for sub-systems, assemblies and components issued in December 2021 and March 2022. The first two lists together contain 2,500 items that are already indigenised and 458 which will be indigenised within the given timelines. Indigenous development of these sub-systems and components will give a boost to the DPSUs and reduce dependence on imports.

The war in Ukraine has adversely impacted several upcoming projects of the Indian military. India uses more than 70 Russian military platforms. More than 80 per cent of the products made by India's ordnance factories are Russian-based and the units continue to depend on Russia for critical spares. A majority of fighter jets of the Indian Air Force (IAF) are Russian, including the 272 Su-30MKIs and over 100 MiG 21 'Bison'. The IAF also operates the Russian-made Mi-17 and Mi-8 helicopters.

Military observers say the Russia-Ukraine conflict has cast a shadow on critical defence equipment supplies from both nations. Besides new purchases, existing platforms of the Indian military—fighter planes, air defence missiles, artillery guns, tanks—are heavily dependent on Russia and Ukraine for critical spares. The impact is showing on key projects, such as the upgrade of IAF's Antonov AN-32 fleet, supply of critical R-27 air-to-air missiles for Sukhoi Su-30MKI and MiG-29, upgrades of existing artillery and air defence systems, and sourcing of engines for four guided-missile frigates of the navy.

https://www.indiatoday.in/india-today-insight/story/how-the-war-in-ukraine-has-forced-india-to-step-up-its-defence-indigenisation-programme-1994851-2022-08-31

The Tribune

Wed, 31 Aug 2022

IAF to Upgrade Bases Along Borders

Immediate plans to bolster the firepower of the Indian Air Force (IAF) along the northern borders include upgrade of airbases, Sukhoi-30 MKI jets and Mi 17 copters, besides induction of fighter jets, new radars, surveillance planes and armed unmanned aerial vehicles (UAVs).

The IAF Chief, Air Chief Marshal VR Chaudhari, while speaking at United Services Institution, a think tank, yesterday listed out the priorities, threats and how the force was adapting to these.

As part of the upgrade, sources said, the IAF was looking at landing grounds, including one in Eastern Ladakh and multiple helipads along the Himalayas.

More planes were needed for intelligence surveillance and reconnaissance and also specialised surface-to-air guided weapons for high altitude.

The IAF Chief said the Mi-17 fleet of copters was being upgraded. He said the IAF was leading the tri-services' procurement of 127 indigenous UAVs that could fly at medium altitude (about 25,00 ft) while the Navy was leading the tri-services' plan for high altitude (over 50,000 ft) UAVs. On procurement of missiles, the IAF Chief said they were in advanced stages of negotiations over the "Hammer, Mistral, Spike and Spice" missiles. On the much-discussed two-front war with China and Pakistan, the IAF chief said China was itself "two-front". He possibly meant about threats in the east and north, both fronts separated by hundreds of kilometres. On the western front the "no war, no peace" situation was likely to continue, the IAF chief said.

https://www.tribuneindia.com/news/nation/iaf-to-upgrade-bases-along-borders-427288

ThePrint

Wed, 31 Aug 2022

US Grounds Chinook Choppers Over Engine Fire Episodes, but Indian Fleet Safe

The United States Army has grounded its entire fleet of CH-47 Chinook helicopters over a "small number" of engine fires, but the development is unlikely to have an impact on India, which operates the same choppers.

Sources in the defence and security establishment told ThePrint that the Indian Air Force is in touch with both US defence officials and Boeing, the manufacturer of the chopper.

It has been learnt that there have been incidents involving some US Army Chinooks that underwent a maintenance repair overhaul (MRO) process, the sources said.

India, on the other hand, hasn't faced any fire issues with its Chinook fleet till date, as the parts in question are different, added the sources.

The US grounded its fleet "out of an abundance of caution", but more than 70 aircraft were being examined as they "contained a part that is suspected to be connected" to the fires. The grounding could "pose logistical challenges" for US soldiers, The Wall Street Journal (WSJ) reported, quoting US officials. The engines for the Chinooks are made by North Carolina-based Honeywell International . However, a company spokesman told WSJ that the firm and the US Army had determined that the engine components called O-rings "didn't meet the company's design specifications".

"He said the parts were installed during routine maintenance at an Army facility. While he declined to name the company that made the parts, the Honeywell spokesman said the company is working to supply the Army with replacements," WSJ reported, adding that the root cause identified by the US Army was fuel leaks that caused engine fires to several choppers.

How India uses its Chinook fleet

Named after a Native American community from the Pacific Northwest, the CH-47 Chinook is a heavy-lift helicopter that can not only transport troops, artillery and fuel, but also supplies and refugees amid disasters and humanitarian crises. It has been in use by the United States since 1962. As ThePrint had previously reported, India got its first four Chinook helicopters in February 2019, after ordering 15 of them from the US in 2015, as part of a nearly $3 billion deal that also included 22 Apache helicopters. The Chinooks are India's main heavy lift choppers for transferring troops and equipment, especially in the mountains.

The big factor behind the purchase of the choppers was that they're capable of slinging the M777 lightweight howitzers from one location to the another, especially in mountainous terrain like along the borders with China.

Following the India-China standoff in eastern Ladakh in 2020, Chinooks have been deployed in the region and have been used extensively.

https://theprint.in/defence/us-grounds-chinook-choppers-over-engine-fire-episodes-but-indian-fleet-safe/1109369/

The Statesman

Thu, 01 Sep 2022

India, China Hold Military Level Talks to Discuss Routine Matters Along LAC in Ladakh

The Indian and Chinese armies have once again held talks on the Line of Actual Control (LAC). It is being told that this conversation has taken place at the Division Commander level. According to defence sources, an Indian Army and Chinese Army Division Commander level meeting was held on Wednesday to discuss routine matters related to maintaining peace along the Line of Actuality in the Ladakh sector.

Sources familiar with the matter said such meetings are held regularly after every three months at various levels to discuss the issues of maintaining peace and border management.

The meeting comes at a time when it is being claimed that the Chinese PLA is continuing heavy construction activities along the LAC to further upgrade its military infrastructure and connectivity in the region.

During the talks, the Indian and Chinese sides under the leadership of the division commanders discussed issues related to peace in the Daulat Beg Oldi (DBO) sector and other areas.

Earlier, India and China held talks in the Chushul sector in the wake of recent airspace violations by the Chinese Air Force, where India warned China against any misadventure.

https://www.thestatesman.com/world/india-china-along-lac-ladakh-1503106369.html

TIMESNOW

Wed, 31 Aug 2022

India to Host US for 'Mini 2+2' on September 7

While Defence Minister Rajnath Singh and External Affairs Minister S Jaishankar will be participating in the 2+2 with their Japanese equivalents in Tokyo early next month, India will host the United States for a "mini" 2+2 in Delhi.

Both Donald Lu, Assistant Secretary of State for south and central Asian affairs and Ely Ratner, Assistant Secretary of Defence for Indo-Pacific Security affairs will be in Delhi on September 7 to meet their Indian counterparts of the External Affairs and Defence Ministry. The meeting is likely to discuss three important points. First, a date has to be decided for the visit of US Secretary of State Anthony Blinken and Lloyd Austin early next year for the big one - the 2+2 with Jaishankar and Singh. An agenda for the meeting, including a discussion on possible deliverables for the big meeting, will be decided upon. Besides, both countries will speak about the security challenges they are facing. The United States is likely to bring up the situation in the Ukraine and also, Taiwan. India will bring up the problem with China, including Ladakh and also, the terror threat from Pakistan and also, Afghanistan. Besides, the economic meltdown in Sri Lanka and other neighbourhood problems could come up. Food and cyber security could also be discussed

Thirdly, the United States is well aware of India's atmanirbharata thrust. So, there is not likely to be much discussion on outright sale of weaponry. But the possibility of the lease of weapons and co-production (which the Americans have not got into with India) could come up. India has a 2+2 structural dialogue with only a handful of countries. They include all of India's Quad partners (Australia, Japan and the United States) and Russia.

https://www.timesnownews.com/india/india-to-host-us-for-mini-22-on-september-7-article-93902009

FINANCIAL EXPRESS
Read to Lead

Wed, 31 Aug 2022

Japan Wants to Join India's Self-reliance Journey. Offers Expertise for Building Fighters and Subs

At the first India-Japan Defence Industry Dialogue, to enhance defence equipment and technology cooperation India and Japan have identified projects in various areas. The bilateral

relations between India and Japan have witnessed expansion and deepening of 'Special Strategic and Global Partnership' and this means cooperation in Strategic areas have expanded with more Joint military exercises, in Outer Space, R&D cooperation in the defence and security area, and in Peaceful Uses of Nuclear Energy. On Tuesday, SIDM and the International Security Industrial Council – Japan with the support of the Department of Defence Production and the Acquisition, Technology & Logistics Agency, Japanese Ministry of Defence had organised a Virtual India – Japan Defence Industry Dialogue.

In his opening remarks, Ambassador of India to Japan Sanjay Kumar Verma, stated that for enhancing cooperation in the defence and security, the two countries should explore new areas like electromagnetic spectrum, space, cyberspace, underwater domain awareness, high energy lasers, cryptography, sensors, optic cables, robotics and artificial intelligence. Adding, with its technical capability and established avenues for research in future technology Japan has much more to offer to not only the Indian Armed Forces but also to Indian PSUs and defence industry as a whole.

And on the other hand India has a huge pool of trained and young manpower; it is a huge market for high end military equipment, combined with investor friendly initiatives by the government.

Atmanirbhar Bharat in Defence

According to Ambassador of Japan to India Satoshi Suzuki, his country through co-development, co-design and co-manufacture under 'Make in India' his country can be part of Atmanirbhar Bharat journey. He highlighted various sectors where the two sides could collaborate – like building naval vessels and submarines, participate in India's Advanced Medium Combat Aircraft (AMCA) project. And also in parts, components, and materials which are used in making these different platforms. Adding, "we are sure to find items that can match the needs of India".

Indigenous Positive Lists

The Japanese envoy offered that companies from his country would be able to cooperate at the component or material level.

Projects under discussion

The two countries are already in discussions for various projects including:BEL and M/s Toshiba Corporation of Japan for Li-Ion Battery Technology.

The Indian DPSU BEL has also submitted a proposal to another Japanese company M/s Jupitor Corporation, for supply of Anti Drone System for the end requirement of the Ministry of Defence of that country. In projects related to the UGV/Robotics Project, Silicon carbide (SiC) single crystal bulk growth, Wafer fabrication process technology, among others, ATLA and DRDO have collaborated. And also projects related to underwater maritime security like — Underwater wireless power transmission and underwater communication, Cooperative and

distributive intelligence technologies, Fabrication facility for development of case less brushless micro motors, and more. During the previous JWG-DETC meeting Indian Navy had offered cooperation to ATLA in ship design and construction and also in Li-ion Batteries.

Japan gets ready to export military equipment

In May this year there were reports from Japan indicating that soon the government of that country will allow exports of lethal military equipment to 11 countries including India. These will include fighter jets and missiles and such a move which will start next year will help the two sides to work together in defence manufacturing.

Comment of SIDM Chairman

Highlighting that India and Japan are regional powers with similar goals and values, Neeraj Gupta, Chairman, SIDM International and Exports Committee urged the two sides to pool resources to develop technologies of the future. Artificial Intelligence, 3D Printing, Internet of Things (IoT) etc among other emerging technologies that can be developed by the two sides, he said. Also, to identify collaborative opportunities with friendly foreign countries across the globe.

Who participated in the discussion?

The discussion was moderated by Prof Tomohiko Taniguchi, who is Former Special Adviser to late former Prime Minister Shinzo Abe. Those who participated included Takahiro Araki, Head of International Cooperation Office, ATLA, Japan Ministry of Defence; Cmde Mukesh Bhargava, Former, Chairman, SIDM Naval Systems Committee; Junichi Nishiyama; Former Deputy Manager Aerospace, Mitsubishi Heavy Industries.

https://www.financialexpress.com/defence/japan-wants-to-join-indias-self-reliance-journey-offers-expertise-for-building-fighters-and-subs/2650695/

IDN INDIAN DEFENCE NEWS
Global Defence, Aerospace & Security

Wed, 31 Aug 2022

Robust BDL-MBDA Partnership Emboldened, Mistral Missile to be Big Takeaway from Manufacturing Deal

by Girish Linganna

At the global defence and security event, Eurosatory 2022, that took place in Paris in June this year, European firm MBDA and India's Bharat Dynamics Limited (BDL) signed an agreement to manufacture the Mistral missiles in India.

The two companies have had a robust relationship, reflected in several agreements over the years. In 2019, MBDA inked a Memorandum of Understanding with India's Bharat Dynamics Limited (BDL) for the final assembly, integration and test (FAIT) of Mistral and Advanced Short Range Air-to-Air Missiles (ASRAAM) in India.

The deal, announced at Defence and Security Equipment International in London in September 2019, expanded on MBDA and BDL's long-standing collaboration. MBDA stated that it has collaborated with BDL in Hyderabad for 50 years, during which more than 50,000 MBDA-designed missiles have been manufactured in India. In August 2021, following this development, the two firms signed a licencing agreement to establish the facility in India.

India already relies on MBDA missiles to power its military assets. The firm prides itself on its comprehensive product catalogue and on being the only company that is able to meet the guided weapons requirement of all three armed forces- the air force, army, and navy. The most prominent use of the European firm's munition is seen with India's Rafales. The French fighter jet uses the powerful SCALP, Meteor, and Mistral missiles- all manufactured by MBDA. In addition to this, the company has also provided the Indian Army and the Indian Navy with lethal armament. The former's use of MILAN– a man-portable anti-tank guided missile (ATGM) that BDL has a license to build– is widely known, while the latter is known to use MBDA's Exocet anti-ship missile.

However, the MBDA projectile that has made the most ripples recently is the Mistral missile that has been selected and integrated into the Air-to-Air Missile (ATAM) helicopter launch systems of indigenously developed Light Combat Helicopter (LCH) and Advanced Light Aircraft (ALH) Dhruv.

Mistral Air-to-Air Missile

The Mistral missiles can be counted on the list of one of the most powerful short-range missiles made by MBDA. Mistral-1 was the baseline model, while Mistral-2 was an improvement of its predecessor. Mistral-3 is the latest missile in the series; it features some upgrades over Mistral-2.

India had successfully conducted weapon integration tests of the Mistral-2 ATAM on its indigenously built choppers. Mistral-2 is a portable short-range air defence (SHORAD) missile system that personnel can launch from land vehicles, surface ships, and fixed and rotary-wing aircraft. It is a fully digital, heat-seeking munition. Reportedly, the missile is effective against targets of all kinds, including Unmanned Aerial Vehicles (UAVs) and highly manoeuvring fixed and rotary-wing aircraft capable of high speed. The makers claim that this weapon has been designed to cater to the requirements of all three services.

This version of the Mistral projectiles can function in severe conditions, operating in temperatures as low as -46°C to as high as 71°C. Additionally, it can be used in both day and night operations. The missile also has an edge in the market because of its superior warhead. The

munition can carry a homing head 40% larger than what any other player can provide. Compared to the 1.2-kilogram warhead that MBDA claims its competitors provide, the Mistral is capable of integrating a three-kilogram one- providing it with much greater destructive power.

Mistral ATAM

The Mistral's Air-to-Air System- Mistral ATAM- is worthy of special attention in the Indian Air Force's context. It features the Mistral missile's fire-and-forget engagement mode, is easy to operate, and flaunts unrivalled kill probability.

The system is based on two launchers. Each launcher bears two missiles, and when mounted on combat choppers, they can be connected to its combat system. In the case of multi-purpose helicopters, they can be installed through simplified control equipment. Either way, the system is able to provide a high performance level while also ensuring a very low crew workload. Mistral ATAM offers operational speeds of up to 370 kilometres per hour and can often climb to altitudes of over 4,500 metres. Missiles used in this system have a diameter of 90 millimetres and a length of 1.86 metres. They weigh 18.7 kilograms each and have an intercepting range spanning 0.5 to 6.5 kilometres.

MBDA says that currently, this is the only helicopter-mounted air-to-air missile in full operational service. The system is already integrated into the LCH and ALH. With the missile manufacturing unit powered by the partnership between BDL and MBDA finally picking up wind, India is set on the path to receiving the technology and knowledge that will aid its quest for Atmanirbharta, or self-reliance, in the defence manufacturing sector. However, it will be essential to identify and eliminate past patterns that caused delays and stagnation.

http://www.indiandefensenews.in/2022/08/robust-bdl-mbda-partnership-emboldened.html

ThePrint

Wed, 31 Aug 2022

Ukrainian Troops Found Using Pakistan-Made Artillery: Report

In a development that may come as a surprise for many, the Ukrainian Army's growing need for ammunition amid the war with Russia is now being met with the help of Pakistan. Ukrainian artillerymen were spotted using 122mm HE artillery projectiles made by Pakistani Ordnance Factories (POF), according to a series of posts making rounds on Twitter. "Ukraine: The massive needs of the Ukrainian Army when it comes to artillery are being met from some unorthodox sources – Ukrainian artillerymen were spotted using 122mm HE artillery projectiles made by Pakistani Ordnance Factories (POF)," Ukraine Weapons Tracker tweeted.

This tracker, which posted a thread of tweets, claims to debunk, and track the usage of defence material in Ukraine. Though not verified, this handle is being followed by several eminent defence experts.

"We can identify these projectiles through a few key aspects, even though the marking differs from what has been seen before: firstly, distinct British-origin packaging widely used by POF and then LIU-4 fuzes, unique to Pakistani 122mm," the tracker said in another tweet.

The tracker further claimed that these projectiles were manufactured only a few months ago. "These projectiles were manufactured only a few months ago – highly likely explicitly for export to Ukraine going by factors we won't detail here. Yet another demonstration of just how Western partners obtain the most needed material for the Ukrainian Armed Forces."

The report of weapons supplies to Ukraine comes in the backdrop of Pakistan's bid to cosy up with Russia. Earlier this year, former Pakistan Prime Minister Imran Khan was severely slammed at home and abroad for an ill-timed visit to Moscow.

Hoping to strengthen bilateral ties with Russia, Imran landed in Moscow in February just when President Vladimir Putin ordered the "special military operation" in Ukraine.

Experts believe this latest report on the presence of Pakistan-made weapons in Ukraine will not bode well for Russia, and they will be forced to rethink their ties with Islamabad.

https://theprint.in/world/ukrainian-troops-found-using-pakistan-made-artillery-report/1110378/

The Indian EXPRESS

Wed, 31 Aug 2022

US Navy Says Iran Seized, Later Let Go of American Sea Drone

Iran's paramilitary Revolutionary Guard seized an American sea drone in the Persian Gulf and tried to tow it away, only releasing the unmanned vessel when a U.S. Navy warship and helicopter approached, officials said Tuesday.

It was the first time Iran targeted the Navy's Mideast-based 5th Fleet's new drone task force.

While the interception ended without incident, tensions remain high between Washington and Tehran as negotiations over the Islamic Republic's tattered nuclear deal with world powers hang in the balance.

The Guard's Shahid Baziar warship attached a line to the Saildrone Explorer in the center of the Persian Gulf in international waters late Monday night, said Cmdr. Timothy Hawkins, a 5th Fleet

spokesman. The vessel then began towing the Saildrone Explorer, which carries cameras, radars and sensors for remotely monitoring the sea, Hawkins said.

The USS Thunderbolt, a Navy coastal patrol boat, as well as an MH-60 Seahawk helicopter, moved to shadow the Guard's ship. The Navy called the Shahid Baziar by radio to identify the drone as American, Hawkins said.

"Our response was one that as such made clear that this was U.S. government property and was operating in international waters and that we had every intention to take action if necessary," the commander told The Associated Press.

Hawkins said the incident ended peacefully after some four hours as the Iranians unhooked the tow line to the drone and left the area as the American forces were nearby. Videos released by the Navy showed the Iranian vessel towing the drone with the Thunderbolt in pursuit.

U.S. Army Gen. Michael "Erik" Kurilla, who leads the military's Central Command, praised the Thunderbolt's crew for its response.

"This incident once again demonstrates Iran's continued destabilizing, illegal and unprofessional activity in the Middle East," he said in a statement.

Iran's semiofficial Tasnim news agency, believed to be close to the Guard, alleged without providing evidence early Wednesday that the drone posed a danger to international shipping. Tasnim acknowledged the Guard released the vessel but tried to described the American account as "a Hollywood narrative and contrary to the truth."

Iran's mission to the United Nations did not respond to a request for comment from the AP.

The 5th Fleet launched its unmanned Task Force 59 last year. The 5th Fleet's area of responsibility includes the crucial Strait of Hormuz, the narrow mouth of the Persian Gulf through which 20% of all oil passes.

It also stretches as far as the Red Sea reaches near the Suez Canal, the waterway in Egypt linking the Mideast to the Mediterranean, and the Bab el-Mandeb Strait off Yemen.

It also represents a region that has seen a series of at-sea attacks in recent years. Off Yemen, bomb-laden drone boats and mines set adrift by Yemen's Houthi rebels have damaged vessels amid that country's years long war.

Near the United Arab Emirates and the Strait of Hormuz, oil tankers have been seized by Iranian forces. Others have been attacked in incidents the Navy blames on Iran.

Those attacks followed about a year after then-President Donald Trump's 2018 decision to unilaterally withdraw from Iran's nuclear deal, which saw sanctions on Tehran lifted in exchange for its drastically limiting its enrichment of uranium.

Iran now enriches uranium closer than ever to weapons-grade levels as officials openly suggest Tehran could build a nuclear bomb if it chose. Iran has maintained its program is peaceful, though Western nations and international inspectors say Tehran has a military nuclear program up until 2003.

https://indianexpress.com/article/world/us-navy-says-iran-seized-later-let-go-of-american-sea-drone-8122168/

The Financial Express

Wed, 31 Aug 2022

West Must Not Underestimate Russia's Military Strength, German Defence Chief Warns

Germany's chief of defence has warned that the West must not underestimate Moscow's military strength, saying Russia has the scope to open up a second front should it choose to do so.

"The bulk of the Russian land forces may be tied down in Ukraine at the moment but, even so, we should not underestimate the Russian land forces' potential to open a second theatre of war," General Eberhard Zorn, the highest-ranking soldier of the Bundeswehr, told Reuters in an interview.

Beyond the army, Russia also has a navy and air force at its disposal, he added, reports Reuters.

"Most of the Russian navy has not yet been deployed in the war on Ukraine, and the Russian air force still has significant potential as well, which poses a threat to NATO too," Zorn said.

The Bundeswehr regularly supports NATO air policing missions over the Baltic states with fighter jets and, having one of the strongest fleets in the region, is also keeping a close eye on the developments in the Baltic Sea at its doorstep.

One potential hotspot there is Kaliningrad, a Russian exclave sandwiched between NATO members Poland and Lithuania, that hosts Russia's Baltic naval fleet and is a deployment location for Russian nuclear-capable Iskander missiles.

Russia has threatened to station nuclear and hypersonic weapons in Kaliningrad should Finland and Sweden join NATO as they are in the process of doing.

Zorn, speaking before the start of an Ukrainian offensive in the south, stressed that Russia continued to have substantial reserves. "As concerns its military, Russia is very well capable of expanding the conflict regionally," the general said. "That this would be a very unreasonable thing for Russia to do is a different story."

Referring to the military situation in Ukraine, Zorn said the dynamic of Russia's attack had slowed down but Russia was still pressing steadily ahead.

"Supported by massive artillery fire, they are driving their advance forward - regardless of civilian Ukrainian casualties," he said.

He also suggested that Russia was not about to run out of ammunition any time soon.

"The Russians have enormous quantities of ammunition at their disposal," he said. "This ammunition is partly old and very inaccurate but it is exactly this that causes great destruction to civilian infrastructure. They fire around 40,000 to 60,000 rounds of artillery ammunition per day."

Zorn said he nevertheless did not anticipate any far reaching offensives deep into Ukrainian territory at the moment. He also said Russian forces were currently focused on conquering the Donbas, the industrial region of eastern Ukraine where Moscow-backed separatisst already hold chunks of territory. No military resolution was in sight yet, however, he said.

https://thefinancialexpress.com.bd/world/west-must-not-underestimate-russias-military-strength-german-defence-chief-warns-1661955804

Tech Business News

Thu, 01 Sep 2022

New Robot Technology Will Deliver a Tactical Advantage to the Australian Defence Force

The State Government has awarded Edith Cowan University (ECU) scientists a $150,000 grant to work alongside leading Artificial Intelligence (AI) companies to design technology that teaches defence force robots to read hand gestures.

The team, led by ECU's Dr Syed Zulqarnain Gilani, will include developers from robotics company Chironix, Augmented Reality (AR) provider Agili8, and rugged technology manufacturer Motium."Optimising the present-day utility of robotics technology in the Australian Defence Force requires integrating robots into the human operating environment where they can be at least partially controlled by a human operator," ECU's Dr Gilani said. Hand gestures will replace current remote controls, which are used by soldiers, and will allow them to operate unmanned machines. The hand-gestures will be recognised by a front-facing camera,

installed within the AR glasses worn by the operator and will be transmitted over considerable distances to the robot.

Perth company Agili8 is responsible for developing the revolutionary XRAI Vision glasses to transmit hand gestures from human to robot over large distances.

“This use of AI and AR in the battlefield will improve responsiveness and reduce the cognitive load on the soldier and is only the beginning of the applications of this technology,” Chris Markovic Chief Technology Officer at Agili8 said.

Coming from a strong background in developing rugged hardware for the mining sector, Perth company Motium is excited to bring its expertise to the areas of security and defence.

“We are proud to be working with an innovative team on some really cutting-edge development for our frontline soldiers,” Business Development Manager Dieter von Mollendorf said.

According to developers, the technology is a natural progression in communication for soldiers on the frontline.

“There is a long pedigree of Australian soldiers using hand gestures to communicate silently with one another,” Dr Owen Carter, Principal Research Fellow at Chironix Robotics said.

“The last thing your average digger wants to do is stuff around with a robot remote control while getting shot at. Signalling to a robot with one hand while keeping your other hand firmly on your weapon is much preferred.”

Cognitive scientist Dr Zachary Howard from The University of Western Australia says that this technology can significantly enhance user experience when robots are integrated into human teams, and has the potential to reduce the cognitive burdens associated with current control systems.

https://www.techbusinessnews.com.au/new-robot-technology-to-deliver-tactical-advantage-to-the-australian-defence-force/

Press Information Bureau
Government of India

Ministry of Science & Technology

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Prime Minister Shri Narendra Modi to Inaugurate State S&T Ministers' Conclave at Science City, Ahmedabad on 10th September, 2022

Chairing a high-level review meeting here, Union Minister Dr Jitendra Singh says, the Conclave aims at strengthening the National Science, Technology & Innovation (STI) ecosystem through greater synergy between Centre and the States

The Minister says, Centre will assist States in formulating their State STI policies and will work jointly with States to address their Specific STI needs, challenges and gap areas and evolve solutions

Science & Technology Ministers of all 28 States, Administrators of 8 UTs and CEOs of over 100 Start Ups and industries are expected to take part in the two-day Science Conclave: Dr Jitendra Singh

Prime Minister Narendra Modi will inaugurate the 2- day Science Conclave of the Science & Technology (S&T) Ministers from all the States and Union Territories (UTs) at Science City, Ahmedabad on 10th September, 2022.

Announcing this here today after a high-level official meeting, Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh said that the Conference this time is being given a different format with focus on new technologies relevant to each of the different States/UTs and their optimum application for "ease of living". The meet will also help break silos between the Centre and the States, while strengthening Science Technology & Innovation (STI) ecosystem through greater synergy across the country, he said.

Science & Technology Ministers of all 28 States, Administrators of 8 UTs, key officials from States – Chief Secretaries, Principal Secretaries in-charge of S&T in the states and all Science Secretaries to Government of India e.g., DST, DBT, DSIR, MoES, DAE, DoS, ICMR, ICAR, Jal Shakti, MoEF & CC, MNRE and CEOs of over 100 Start Ups and industries are expected to take part in the two-day Science Conclave.

Dr Jitendra Singh informed that the two-day Science and Technology Conclave will have a new dimension as several action-oriented decisions will be taken and all States and UTs will be asked to have individual STI policy on the lines of National STI policy. The Minister said, in the true spirit of cooperative federalism, the Centre will assist States in formulating their State STI policies. He said, Centre will also work jointly with States to address their Specific STI needs, challenges and gap areas and evolve solutions.

Dr Jitendra Singh said that there is a need for States to be proactive in aligning their policies towards the larger goal of strengthening Centre-State coordination and collaboration mechanism to strengthen STI ecosystem in the States by promoting R&D, innovation and entrepreneurship. He said, States must be able to explore solutions to their local problems through S&T interventions and promised all help by the Centre in exploring such solutions by connecting them to knowledge institutions and experts. The Minister pointed out that some of the States and UTs have weak S&T base and institutional strength and therefore they must connect their institutions with central government R&D and academic institutions.

Dr Jitendra Singh shared with the participants that almost every State has S&T Council but only few are working proactively and therefore the need was felt to enhance STI engagements with States beyond S&T Council level. He said, mapping of STI Ecosystem has four broad indicators like knowledge produced within the system, diffusion of the produced knowledge within the system, interactions/linkages between the knowledge producers and knowledge diffusers and identifications of needs/priorities and challenges/weaknesses of the system. The Minister informed that the DST made an attempt to develop a 'System Framework' for mapping the STI ecosystem of the States.

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

The meeting was attended by Member NITI Aayog, Dr. V.K.Saraswat, Principal Scientific Advisor to the Government of India Prof Ajay Sood, Secretary, Department Science & Technology, Dr S. Chandrasekhar, Secretary D/o Space, S. Somanath, Secretary, Earth Sciences,

Dr M. Ravichandran, Secretary, Department of Biotechnology, Dr Rajesh Gokhale, Secretary, Capacity Building Commission, Hemang Jani and representatives from Ministries of Health and Family Welfare, Environment, Forest and Climate Change, Jal Shakti, Agriculture and Farmers Welfare and MNRE and senior officials joined the review meeting.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1855794

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Thu, 01 Sep 2022

Prominent Women in Science to be Honoured at HK Firodia Awards On September 22

Dr. Kiran Mazumdar Shaw, executive chairperson and founder of the Bengaluru-based Biocon Group; Dr Gagandeep Kang, professor, Christian Medical College, Vellore and Dr. Tessy Thomas, distinguished scientist and DG, Aeronautical Systems, DRDO, will be honoured with the 25th HK Firodia awards at Bal Gandharva Rang Mandir in Pune on September 22.

Dr. RA Mashelkar, former DG of CSIR and Arun Firodia, chairman of Kinetic Group announced the recipients of this year's Firodia awards on Tuesday. "These awards have gained stature over the years in the scientific community. We are proud to say that the late Dr. APJ Abdul Kalam, former President, was the first recipient of this award in 1996. Other distinguished names include great scientists like Prof C.N.R. Rao, Dr. M S Swaminathan, Dr.Yash Pal and Dr. K Kasturirangan, among others. These are annual awards given to Indian scientists who make world-class contributions to modern science and technology," Firodia said at a press conference on Tuesday.

Shaw will be honoured with the HK Firodia Lifetime Achievement award. She will also be the chief guest at the awards function.

The HK Firodia Vijnan Ratna award will be awarded to Kang. She has the distinction of being the first Indian woman scientist to have been elected as FRS in 360 years of history of the Fellow of the Royal Society.

The HK Firodia Vijnan Bhushan award will be presented to Thomas, who is the first ever woman scientist to have headed a missile programme at the DRDO.

https://indianexpress.com/article/cities/pune/prominent-women-science-honoured-hk-firodia-awards-september-22-8123979/