समाचार पत्रों से चयित अंश
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नवभारत टाइम्स

Sun, 01 Dec 2019

परमाणु क्षमता से लैस अग्नि-3 मिसाइल का पहली बार रात में हुआ परीक्षण

परमाणु क्षमता से लैस सतह से सतह तक मार करने वाली बलिस्टिक मिसाइल अग्नि-3 का शनिवार को पहली बार नाइट ट्रायल हुआ। रक्षा सूत्रों ने बताया कि ओडिशा तट पर एपीजे अब्दुल कलाम द्वीप स्थित इंटिग्रेटेड टेस्ट रेंज से रात 7 बजकर 20 मिनट पर मिसाइल का परीक्षण हुआ।

हाइलाइट्स

- ***परमाणु क्षमता से संपन्न अग्नि-3 बलिस्टिक मिसाइल का पहली बार रात में हुआ परीक्षण***
- ***ओडिशा के बालासोर में शनिवार रात 7 बजकर 20 मिनट पर नाइट ट्रायल किया गया***
- ***फिलहाल परीक्षण के नतीजे का इंतजार, मिसाइल के प्रक्षेपण पथ पर नजर रखी जा रही है***
- ***अग्नि-3 मिसाइल पहले से ही सेना में तैनात है, 3500 किलोमीटर तक है इसकी मारक क्षमता***

बालासोर (**ओडिशा**): परमाणु क्षमता से लैस सतह से सतह तक मार करने वाली बलिस्टिक मिसाइल अग्नि-3 का शनिवार को पहली बार नाइट ट्रायल हुआ। रक्षा सूत्रों ने बताया कि ओडिशा तट पर एपीजे अब्दुल कलाम द्वीप स्थित इंटिग्रेटेड टेस्ट रेंज से रात 7 बजकर 20 मिनट पर मिसाइल का परीक्षण हुआ।

फिलहाल मिसाइल के प्रक्षेपण पथ पर नजर रखी जा रही है और ट्रायल के नतीजों का इंतजार किया जा रहा है। अग्नि-3 मिसाइल मध्यम दूरी तक मार करने वाली है और इसकी मारक क्षमता 3,500 किलोमीटर है।

रक्षा सूत्रों ने बताया कि अग्नि-3 मिसाइल पहले ही सेना में शामिल की जा चुकी है। इसकी लंबाई 17 मीटर, व्यास 2 मीटर और वजन करीब 50 टन है। अग्नि-3 का नाइट ट्रायल इंडियन आर्मी की स्ट्रैटिजिक फोर्सेज कमांड ने किया। इसमें रक्षा अनुसंधान और विकास संगठन (DRDO) ने लॉजिस्टिक सपॉर्ट दिया। यह परीक्षण सेना के यूजर ट्रायल के तहत हुआ।

DRDO के एक सूत्र ने बताया, 'अग्नि-3 मिसाइल का यह चौथा यूजर ट्रायल था और इसका उद्देश्य मिसाइल के प्रदर्शन में निरंतरता/दोहराव को जांचना था। पहली बार रात के वक्त इसका परीक्षण हुआ है।'

सूत्रों ने बताया कि अग्नि-3 मिसाइल में 2 चरण की प्रणोदक प्रणाली है और यह 1.5 टन के हथियार को ले जाने में सक्षम है। अग्नि-3 मिसाइल हाइब्रिड नेविगेशन, गाइडेंस और कंट्रोल सिस्टम से लैस है। इसके अलावा इस पर अत्याधुनिक कंप्यूटर भी सेट है।

https://navbharattimes.indiatimes.com/india/first-night-trial-of-agni-3-missile-held/articleshow/72311367.cms

NEWS NATION

Sun, 01 Dec 2019

First night trial of Agni-III missile held at Odisha's APJ Abdul Kalam Island

The missile, which has a length of 17 m, diameter of 2 m and launch weight of around 50 tonnes, has been already inducted into the armed forces

Odisha: The first night trial of the nuclear capable Agni-III surface-to-surface ballistic missile was carried out from a mobile launcher at the Integrated Test Range at the APJ Abdul Kalam Island off Odisha coast on Saturday, Defence sources said. The trajectory of the missile is being monitored and the outcome of the trial is awaited, the sources said.

The flight test of the intermediate range missile, which has a strike range of over 3,500 km, was part of a user trial by the Army, the sources said.

The missile, which has a length of 17 m, diameter of 2 m and launch weight of around 50 tonnes, has been already inducted into the armed forces, the Defence sources said.

The trial was carried out by the Strategic Forces Command of the Indian Army with logistic support from the Defence Research and Development Organisation (DRDO) at launch complex-4 of the ITR at about 1920 hrs, the sources said.

"It was the fourth user trial in the Agni-III series carried out to establish the repeatability of the missile's performance. For the first time the test was conducted during night time," a DRDO source said.

It is powered by a two-stage solid propellant system and is capable of carrying a warhead of 1.5 tonnes which is protected by carbon all composite heat shield, they said.

Agni-III is equipped with hybrid navigation, guidance and control systems along with advanced on-board computer.

The electronic systems are hardened for higher vibration, thermal and acoustic effects, a DRDO scientist said.

https://www.newsnation.in/india/news/first-night-trial-of-agni-iii-missile-held-at-odishas-apj-abdul-kalam-island-245913.html

Odishatv.in

Sun, 01 Dec 2019

DRDO conducts first night trial of Agni-III missile in Odisha

By Nitesh Kumar Sahoo

Balasore: The first night trial of the nuclear-capable Agni-III surface-to-surface ballistic missile was carried out from a mobile launcher at the Integrated Test Range at the APJ Abdul Kalam Island off Odisha coast on Saturday, Defence sources said.

The trajectory of the missile is being monitored and the outcome of the trial is awaited, the sources said.

The flight test of the intermediate-range missile, which has a strike range of over 3,500 km, was part of a user trial by the Army, the sources said.

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https://odishatv.in/odisha/drdo-conducts-first-night-trial-of-agni-iii-missile-in-odisha-418772

ThePrint

Mon, 02 Dec 2019

DRDO and SFC to look into why nuclear-capable Agni night test failed

The Strategic Forces Command conducted India's first night trial of the missile as part of its training, and the DRDO provided logistic support

By Snehesh Alex Philip

New Delhi: In a major setback, the first night trial of the 3,500 km range nuclear-capable ballistic missile, Agni-III, carried out by the Strategic Forces Command, the tri-service unit that oversees operations and security of nuclear weapons, failed after being tested at a defence base off the Odisha coast Saturday evening.

Officials are now studying the reasons for the failure of the missile that has been inducted into the Indian military.

"We will have to analyse all information gathered to really say what happened," a top government official told ThePrint when asked why the test failed.

This was the first night test of the missile, capable of carrying both conventional and nuclear warheads weighing up to 1.5 tonnes; a successful test would have validated the technical parameters set for the user and its readiness to handle the weapon during night hours.

As in all tests carried out by the user, the test missile was randomly picked from the lot it has been equipped with.

While the Strategic Force Command (SFC) conducted the trial as part of its training, the DRDO provided logistic support.

The New Indian Express reported that the missile "tumbled" into the sea after first phase separation.

"The missile travelled around 115 km into its initial flight trajectory when things went awry. It deviated from the flight path forcing the mission team to terminate it midway," the daily said quoting sources.

It added that the flight trajectory of the missile was set for nearly 2,800 km.

'Manufacturing defects may have caused failure'

The surface-to-surface missile carrying a dummy payload blasted off from an auto-launcher at the Abdul Kalam Island in full operational configuration at about 7.15 pm Saturday.

Though the exact fault behind the 'failure' is yet to be established, the daily said preliminary investigations attributed it to manufacturing defects.

"Starting from the launch to the first phase separation, everything was smooth in accordance with the mission plan," a source said. "But suddenly it started behaving abnormally. It could be possibly due to metallurgical defects."

While developmental trials of missiles are expected, the failure of a nuclear missile already inducted into the military is a concern.

Incidentally, the first test of the Agni-III in 2007 had failed, but it was still in developmental phase back then.

Agni-III missile is equipped with advanced high accuracy navigation system and is guided by what the DRDO says is an innovative guidance scheme.

When the SFC had carried out a successful test of the missile in 2013, an official statement from the government had said, “Such successful training launches clearly indicate our operational readiness to meet any eventuality as also establishes the reliability of this deterrent component of India’s Strategic arsenal”.

https://theprint.in/defence/drdo-and-sfc-to-look-into-why-nuclear-capable-agni-night-test-failed/328862/

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

Sat, 30 Nov 2019

To counter mines, Navy explores unmanned, underwater options

The Navy is looking for 'man out of the loop' solutions that could involve autonomous systems that are being developed by the Defence Research and Development Organisation (DRDO) as well as foreign vendors, sources said

By Manu Pubby

New Delhi: The Navy is exploring alternative methods to protect its warships and ports as plans to procure a new class of mine hunting warships — in the works since 2005 — have seen limited movement.

Sources told ET that innovative solutions are being considered, including procurement of unmanned vessels and underwater systems to protect warships, besides the induction of 'clip on' suites that can be used by individual vessels.

The Navy is looking for 'man out of the loop' solutions that could involve autonomous systems that are being developed by the Defence Research and Development Organisation (DRDO) as well as foreign vendors, sources said.

Left without a single mine counter measure vessel in its fleet after the retirement of the INS Kozhikode in April, the Navy has ordered special suites for some of its warships – sensors that can be fitted to provide limited mine detection capability. These 'solo suites' could also be increased in the future.

The Navy's experience with adding mine hunting vessels has been bitter, with several rounds of setbacks. The government has nominated Goa Shipyard Limited (GSL) for the Rs 32,000-crore project to construct 12 mine hunters but the yard has been unable to decide on a foreign technology partner.

Minesweepers are specialised warships that are used to clear harbours and other critical areas of mines laid by enemy submarines or vessels. As reported by ET, India has been trying unsuccessfully since 2005 to find replacements, with its dealings with South Korean firm Kangnam hitting controversy at least twice.

In the first instance, the Korean firm was dropped by the UPA government after allegations surfaced that it had appointed 'consultants' for the contract, in a violation of Indian procurement norms. A second round of negotiations broke down in 2017 after talks failed on technology transfer.

GSL made another attempt in 2018 to rope in a foreign collaborator, with responses received from Italy and Russia but a final choice has not been made. Sources said that some technical requirements that were seen as being too restrictive are now being eased up to ensure a more competitive process with multiple bidders.

https://economictimes.indiatimes.com/news/defence/to-counter-mines-navy-explores-unmanned-underwater-options/articleshow/72302589.cms?from=mdr

Business Standard

Sat, 30 Nov 2019

Naval Tejas gets ready to operate from aircraft carrier by March

AJAI SHUKLA
New Delhi, 29 November

In Goa on Friday, the naval version of Tejas light combat aircraft (LCA) set a landmark by taking off with the added weight of weapons on board — two long range and two close combat air-to-air missiles.

The Tejas prototype took off from the Navy's Shore Based Test Facility (SBTF), but exactly as it would have from an aircraft carrier. Restraining gear locked the fighter's wheels as the engine revved up to maximum power. Then, as the restraining gear disengaged, the unleashed fighter rocketed forward. Exactly 204 metres later – the length of an aircraft carrier deck – the fighter sped over a ski-jump and was airborne.

Girish Deodhare, chief of the Aeronautical Development Agency (ADA), the Defence R&D Organisation (DRDO) agency in charge of the Tejas programme, said the Naval Tejas had completed over 50 take-offs from SBTF, with increasing weight and decreasing take-off distance. In addition, the fighter has carried out 28 arrested landings.

"We are confident the Naval Tejas is ready for an actual carrier deck landing. In the first quarter of 2020, we will land the prototype on INS Vikramaditya and take off from the aircraft carrier as well," Deodhare told *Business Standard*.

This requires the navy's only aircraft carrier, INS Vikramaditya, to be freed from operational duties and made available for testing. Before the first landing, it will first make a few approaches for the test pilots to see how the fighter reacts to the warships "wake" – the wind turbulence created by structures on the warship, which buffets the approaching fighter. Once the pilots are comfortable with that, they will actually land the fighter on the carrier's deck.

A carrier deck landing is described as a "controlled crash". The fighter's tail hook must engage with wires laid across the landing deck, which unspool, dragging the fighter to a halt quickly. To achieve the extreme precision this requires, the fighter must descend more sharply than in a regular landing, with the impact absorbed by the heavy landing gear that characterises naval fighters.

The Tejas prototype took off from the Navy's SBTF, but exactly as it would have from an aircraft carrier. Restraining gear locked the fighter's wheels as the engine revved up to maximum power

If the first landing and take-off goes off uneventfully, it will be followed by more, as the test pilots generate inputs to fine-tune the software that controls carrier landings and take-offs, which are largely controlled by flight computers.

At the same time, ADA and the Navy would fine-tune the drills for operating a fighter from a carrier. This includes maintaining an aircraft on board, preparing it for flight, taking it on a lift from the hangers below decks to the flight deck and the drills for getting airborne and landing.

ADA sources say about 200 technicians have lived on aircraft carriers, to fine-tune maintenance and operating drills on board.

The Navy, however, does not intend to induct the single-engine Naval Tejas Mark I into service – it is merely a test-bed for the aviation systems that will equip the twin-engine Naval Tejas Mark 2. The Navy wants the safety back up of a second engine, the power to get airborne with more fuel and weapons, and a longer operating range.

"Using navy-specified technologies matured with the current Mark I, we are developing a twin-engine Mark 2 version, which we are calling the Twin Engine Deck Based Fighter (TED-BF)," said Deodhare.

With the current Tejas' single General Electric (GE) F-404 engine replaced by two, more powerful, GE F-414 engines, the TED-BF will be a far bigger and heavily armed fighter.

The current Tejas Mark 1 gets airborne with a total "all-up weight" (AUW) of 14 tonnes. The air force version of the Tejas Mark 2, which will have a single GE F-414 engine, will have an AUW of 17 tonnes. And the navy's Tejas Mark 2 (or the TED-BF), powered by two GE F-414 engines, will have a beefy AUW of 24 tonnes, says Deodhare.

ADA is targeting 2025-26 for the first flight of the TED-BF. The Navy wants the fighter to be inducted into service by 2031, to replace the MiG-29K/KUB that flies off INS Vikramaditya and will serve on board the first indigenous aircraft carrier, INS Vikrant, when it is commissioned in 2021.

ANI

Sat, 30 Nov 2019

DRDO equips naval version of LCA with BVR, CCM missiles

ANI | Updated: Nov 29, 2019 22:57 IST

New Delhi [India], Nov 29 (ANI): In a major boost for its capability expansion, the Defence Research and Development Organisation (DRDO) has successfully equipped the naval version of the light combat aircraft (LCA) with two Beyond Visual Range (BVR) missiles and two Counter Counter Measures (CCM) missiles.

"One more step in launch capability expansion for LCA Navy. Two BVR plus Two CCM missiles," tweeted the DRDO on Friday.

The LCA Navy had recently carried out a successful arrested landing at the Shore Based Test Facility (SBTF) in Goa.

A light combat aircraft is a light multi-role jet military aircraft mostly coming from advanced trainers that have been modified or designed for engaging in light combat missions, either in the light strike or attack missions, reconnaissance or interdiction roles while some keeping its trainer role.

HAL has developed LCA Tejas for the Indian Air Force (IAF) and the Indian Navy. (ANI)

https://www.aninews.in/news/national/general-news/drdo-equips-naval-version-of-lca-with-bvr-ccm-missiles20191129225727/

THE WEEK

Sat, 30 Nov 2019

DRDO launches Naval Tejas fighter with Israeli, Russian missiles

In November, the naval Tejas achieved its first night-time arrested landing

The Defence Research and Development Organisation on Friday announced it had achieved another step in expanding the capabilities of the naval variant of the indigenous Tejas fighter, which is under development.

In a tweet, the DRDO announced it had launched the aircraft with two beyond-visual-range air-to-air missiles and two close-combat missiles from its land-based testing facility. The DRDO's official Twitter handle informed, "One more step in launch capability expansion for LCA Navy. Two BVR plus Two CCM missiles."

The beyond-visual-range missile is the Derby, a radar-guided missile from Israel, and the close-combat missile is the R-73 from Russia, a weapon that uses infra-red guidance.

DRDO also tweeted an image of the naval Tejas aircraft taking off from a 'ski-jump' at the shore-based test facility in Goa. Ski-jumps help an aircraft take off on their own power, while improving their climb rate. Ski-jumps are the only option to launch aircraft at higher weights for aircraft carriers lacking catapults for assisted take-offs. The shore-based facility simulates the launch of aircraft from aircraft carriers such as the INS Vikramaditya and the under-construction INS Viraat, both of which use ski-jumps.

The Derby missile was first purchased by the Indian Navy nearly a decade ago for its Sea Harrier fighters, which are now retired. The missile is also in service with the Indian Air Force in its ground-launched SpyDer air defence system. The Derby missile can shoot down a target nearly 60km away. Interestingly, Israel's Rafael, the company building the Derby, has offered to sell India an upgraded variant of the weapon called the I-Derby ER, which has a range of 100km.

In April last year, a Tejas fighter successfully tested a Derby missile.

The R-73 has been in service with the Indian Air Force and Navy for several years on their Russian-origin fighter jets. The R-73, a highly manoeuvrable missile, can hit a target about 25-30km by homing in on its heat emissions. Interestingly, Wing Commander Abhinandan Varthaman claimed to have shot down a Pakistani F-16 with an R-73 missile fired from his MiG-21 fighter during the February aerial skirmish over the LoC.

The test flight with the Derby and R-73 missiles marks another milestone for the naval Tejas programme, which was almost staring at an abyss in 2017, when the Indian Navy sought to disassociate itself from the initiative on the grounds the aircraft was 'underpowered'. Since then, the Indian Navy has sought to obtain a 'Mk2' variant equipped with a higher-thrust engine.

In November, the naval Tejas achieved its first night-time arrested landing at the shore-based test facility, two months after the first successful arrested landing. Arrested landings are an essential part of aircraft carrier operations.

https://www.theweek.in/news/india/2019/11/29/drdo-launches-naval-tejas-fighter-with-israeli-russian-missiles.html

THE HINDU

Sat, 30 Nov 2019

DRDO defends Nag missiles

A statement on the recent test-firing of Israeli missile

Spike raises questions on the indigenous initiative

By Dinakar Peri

New Delhi: The state-of-the-art indigenous Anti-Tank Guided Missile (ATGM) Nag is in advanced stages of development, the Defence Research and Development Organisation (DRDO) has said in a sharp response to statements that raised questions on the programme. A new Man Portable ATGM (MPATGM) was also in advanced stages of trials, it noted.


The anti-tank NAG missile test, fired from NAMICA (Nag Missile Carrier) from the Army's Field Firing Range at Shamirpet on the outskirts of Hydrabad. Photo: Special Arrangement.

Early this week, the Army fired two newly inducted Spike-LR (Long Range) ATGM at the Infantry School at Mhow in Madhya Pradesh. It recently procured a small lot of 12 launchers and around 250 missiles from Israel under the new financial powers for emergency procurements sanctioned by the Defence Ministry a few months back.

A statement on the test-firing, issued by a public relations firm on behalf of Spike manufacturer Rafael Advanced Defense Systems, said that with the confidence in the missile established, the Indian Army may need to "revisit" their plans for third generation missiles.

"Both the DRDO ATGM programme, as well as the invitation to Indian industry to develop a 3rd Gen missile will need a rethink, as having a 4th Gen missile will put the plan for the development of a 3rd Gen missile questionable," the statement said.

It further stated that Rafael had established a joint venture with the Kalyani Group, which was "capable of manufacturing Spike missiles in India, and will also look at export opportunities from India."

A DRDO statement on Twitter said the statement was circulating "incorrect facts."

'Best in its class'

Nag, the 3rd gen ATGM, was in the process of being inducted after extensive tests. The MPATGM, in an advanced stage of development, defence sources said, was a fourth generation ATGM. Six tests had been conducted so far and all developmental trials were over, a defence source said. "In a year it will be ready for production." The Nag missile, the best in its class, was built for Indian conditions, officials said.

During summers, in desert conditions the temperature of a battle tank and the sand were the same, the source said and added that "identifying that and firing is a challenge."

Another official termed the statement on Spike test-firing "unacceptable". He said it questioned the entire Indian capability. "We now have the capability to build complex systems as per specifications. Our private industry has also come a long way and can support the development," he added.

Earlier, the Army tried to procure a large number of ATGMs and for this, trials were held and the Spike was short-listed. However, the tender was cancelled during the cost negotiation phase and attempts to procure some systems through an Inter-Governmental Agreement (IGA) did not fructify either. The government then decided to fill the requirement through the indigenous MPATGM.

The Spike-LR being procured is a different variant from the one tested and short-listed as part of the earlier procurement for over 8,000 missiles and 300 launchers along with technology transfer.

Earlier, before the IGA was concluded, Army sources stated that some validatory trials of the Infrared Seeker (IR) of the missile would be held during Indian summers, as the missile "did not perform as desired in the previous trials during peak summer temperatures in the desert." The validatory trials were not conducted as the IGA fell through.

https://www.thehindu.com/news/national/drdo-defends-nag-missiles/article30118567.ece

hindustantimes

Sat, 30 Nov 2019

DRDO refutes report saying Israeli missile superior to India's

Public relations consultancy Adfactors PR issued the statement on Thursday to announce the successful firing by the army of two newly acquired Spike long-range anti-tank missiles at the Infantry School at MHOW in Madhya Pradesh

New Delhi: Defence Research and Development Organisation on Friday trashed reports based on a statement released by Israeli defence firm Rafael Advanced Defense Systems Ltd stating that its Spike anti-tank guided missile (ATGM) was superior to an under-development DRDO weapon and the indigenous programme needed a rethink.

Reacting to the development, the DRDO tweeted, "A News item relating to Spike Missile testing at the Infantry school MHOW purportedly based on a press release is circulating incorrect facts. The DRDO ATGM is a state of art missile in advanced stages of development." MHOW is short for the military headquarters of war. Public relations consultancy Adfactors PR issued the statement on Thursday to announce the successful firing by the army of two newly acquired Spike long-range anti-tank missiles at the Infantry School at MHOW in Madhya Pradesh.

Two years ago, India was in advanced stages of negotiating the purchase of 321 launchers and 8,356 fire-and-forget missiles from the Israeli firm in a deal worth $500 million, but it abandoned the plan in favour of indigenous manufacturing.

A limited quantity of Spike missiles was ordered as a stopgap arrangement and the DRDO was asked to develop the ATGMs for the army's infantry and mechanised infantry units to provide impetus to the 'Make in India' initiative, two army officials said.

The statement said that the Indian Army had been using outdated second-generation missiles for three decades and the Spike missile was the only one to qualify as a replacement for the existing inventory with the negotiations completed in 2016.

"...the Indian Army may need to revisit their plans for 3rd Gen missiles. Both the DRDO ATGM programme, and the invitation to Indian industry to develop a 3rd Gen missile will need a rethink, as having a 4th Gen missile will make the plan for development of a 3rd Gen missile questionable," it said. A defence ministry spokesperson refused comment on the development.

Rafael Advanced Defense Systems has established a joint venture with the Kalyani Group in India to manufacture Spike missiles. It will look at export opportunities, the statement added.

Former northern army commander Lt Gen BS Jaswal (retd) said there was nothing wrong with Rafael's claims as Spike is a proven and highly manoeuvrable weapon system. He said the DRDO was entitled to its own view but Spike and the indigenous ATGM don't match weapon to weapon in terms of capability.

https://www.hindustantimes.com/india-news/drdo-refutes-report-saying-israeli-missile-superior-to-india-s/story-HhPFTni6xhdZHRpMv89oaK.html

नवभारत टाइम्स

Sat, 30 Nov 2019

आर्मी को चाहिए मिसाइल, भिड़े DRDO और इस्राइली कंपनी

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नई दिल्ली : इंडियन आर्मी मिसाइल की भारी कमी से जूझ रही है। एक तरफ डीआरडीओ फोर्थ जेनरेशन मिसाइल विकसित रहा है, वहीं इस्राइली कंपनी राफेल एडवांस डिफेंस सिस्टम से आर्मी ने इमरजेंसी खरीद के तहत 210 मिसाइलें ली हैं। अब तक डिफेंस सिस्टम बनाने वाली कंपनियों और डीआरडीओ के बीच की खींचतान की चर्चा डिफेंस कॉरिडोर में ही होती रही है लेकिन शायद पहली बार यह खींचतान खुलेआम सामने आई है।

दो दिन पहले इंडियन आर्मी ने स्पाइक मिसाइल की ट्रेनिंग फायरिंग की। स्पाइक मिसाइल फोर्थ जेनरेशन एंटी टैंक गाइडेड मिसाइल (एटीजीएम) हैं। इंडियन आर्मी ने यह मिसाइल इस्राइली कंपनी राफेल एडवांस डिफेंस सिस्टम से ली हैं। इसकी सफलता पूर्वक फायरिंग के बाद गुरुवार को एक जानी मानी पीआर फर्म की तरफ से प्रेस रिलीज जारी की गई। पीआर फर्म के मुताबिक वह राफेल के लिए पीआर का काम देख रही है। रिलीज में स्पाइक मिसाइल की तारीफ के साथ ही अप्रत्यक्ष रूप से डीआरडीओ की काबिलियत पर भी सवाल खड़े किए गए। रिलीज में लिखा है कि 'डीआरडीओ के डिवेलपमेंट प्रोग्राम (मिसाइल बनाने) में कुछ प्रगति तो हुई है लेकिन इसे यूजर (आर्मी) तक पहुंचने में बहुत वक्त लगेगा।' साथ ही लिखा कि डीआरडीओ से मिसाइल लेने के इंडियन आर्मी के प्लान पर फिर से सोचने की जरूरत पड़ सकती है।

शुक्रवार को डिफेंस सर्किल में इसकी चर्चा होती रही है और डीआरडीओ ने ट्वीट कर इसका जवाब दिया। डीआरडीओ ने ट्वीट कर लिखा कि एक प्रेस रिलीज गलत फैक्ट्स दे रही है। डीआरडीओ की एटीजीएम स्टेट ऑफ आर्ट मिसाइल है और यह डिवेलपमेंट के अडवांस स्टेज में है। दरअसल इंडियन आर्मी को 8000 से ज्यादा मिसाइल की जरूरत है और यह संख्या 'विवाद' के लिए काफी है।

विदेशी कंपनी ने DRDO की क्षमता पर उठाए सवाल

- इस्राइली कंपनी राफेल एडवांस डिफेंस सिस्टम से आर्मी ने इमरजेंसी खरीद के तहत 210 मिसाइलें ली हैं
- स्पाइक मिसाइल की तारीफ के साथ ही अप्रत्यक्ष रूप से डीआरडीओ की काबिलियत पर भी सवाल खड़े किए गए
- डीआरडीओ ने ट्वीट कर लिखा कि एक प्रेस रिलीज गलत फैक्ट्स दे रही है

Mon, 02 Dec 2019

‘Mission Shakti is similar to Pokhran’

‘Others will think twice before attacking our space assets.’

When an Indian anti-satellite weapon shot down an Indian satellite 300 km in space in just three minutes, India became only the fourth country in the world to join an elite club, of nations with anti-satellite missile systems, after the United States of America, Russia and China.

How big is this DRDO-ISRO achievement? G Madhavan Nair, former ISRO chairman and now a , tells ‘s Shobha Warrier, “It is like the atomic weapon. It shows we have the strength, but will be used only for self-defence.”

How big is this achievement for India‘s space research?

Space has become an integral part of our society for most civilian applications and for some defence applications depending on the space-based system.

So, protecting this space-based system is absolutely important for the country. Developing the anti-satellite weapon is a step towards that.

This is actually a self-defence mechanism, you can say.

When we have satellites serving the people of the country, when a non-friendly country wants to attack us, the first thing they may target would be our satellites.

In such a situation, it is important that we have the capability to intervene such an attack, if at all it happens.

Also, in case the attack escalates, we should be able to take counter measures.

So, from that point, it is like the atomic weapon.

It shows that we have the strength, but will be used only for our self-defence.

In case we are driven to the wall, it can be a system to be used against also.

How do you describe the technology used in this?

Technology-wise, it is very intricate.

Though we know about rockets, trajectory, tracking system, etc, synthesising all these into a total new system and then demonstrating in real time is something that is of great technology challenge.

DRDO was taking the lead in this mainly. And they have achieved it.

With Mission Shakti, as it is named, have we become a space power or a military power?

I will say, both.

Space technology is something that needs to be protected and the defence system missile which can tackle any unfriendly spacecraft is an asset as well as a self-defence system.

So, it is a major milestone, a synthesis of the rocket system, tracking, mission computation and decision-making.

It is the coming together of all these. We have demonstrated to the world that we could do it.

The military significance is the system which can be designed as anti-missile can derive many elements out of this. For example, there is a commonality between the anti-satellite weapon and the anti-missile system.

What is the difference between an anti-satellite weapon and anti-missile system? What does an anti-satellite weapon do, strike down missiles?

No. We can down any flying object in the space which is hostile to us using the anti-satellite weapon.

The anti-missile system works like this: If somebody launches a missile to us, and we detect it at the appropriate time and send our missile to intercept it in the air and perhaps, destroy it over their land itself.

At the time of a war, you mean?

Yes, at the time of a war, the anti-missile weapon can be used.

Today, Russia and America have perfected this technology. China also have it.

We can use this technology in anti-missile weapons also.

Has any country used it anywhere?

I have not heard of anyone using it so far. But there were many demonstrations where they launched their own missiles over the sea and intercepted them from another ship.

An anti-satellite weapon can be used in space wars, they say. What does it mean?

We are heavily dependent on our space assets for our national needs and development. So, if at all somebody wants to corner us, they would first try to destroy our space assets.

Before they destroy our space assets, we can intervene and destroy their system using the anti-satellite weapon. So, an anti-satellite weapon is a defence system.

Now that India has this, others will think twice before attacking our space assets.

When we , you had said that as far as space technology was concerned, our priority was to use it for the welfare of the people. But this anti-satellite weapon…

This is to safeguard what we have developed.

For example, how do we protect the power stations and dams that serve the people? If some unruly element targets them, we stop it first. This is exactly like that.

The difference is this is to protect what is there on space. So, if somebody were to target our satellites which we use for our day to day life, we have to stop it before they are destroyed.

So, all those who have this weapon will use it only as a deterrent or a defence mechanism…

The international treaty stipulates that space should not be weaponised.

All of us are bound by this treaty and we will not make the first attempt to weaponise space. It is more like a precaution, I would say.

Did DRDO and ISRO work together in developing this?

No. ISRO‘s role was in launching satellites while DRDO was responsible for developing this.

The satellite was launched by ISRO and it was struck down by DRDO.

Why do you think the prime minister himself announced this?

You can say what we have done is something similar to Pokhran, but not of that magnitude. Next level, so to say.

Theoretically, it has been there for 10 years or so, but at a nascent stage. It was Modiji who gave the thrust to the whole programme in the last couple of years.

He took a bold decision to go ahead and demonstrate to the world what we have achieved. Naturally, he can take the credit for that.

Political will and decisive power are very important in matters like these. He has shown that he is well above all the previous prime ministers in that respect.

https://stockdailydish.com/mission-shakti-is-similar-to-pokhran/

Mon, 02 Dec 2019

India shoots down live satellite, 4th country to do so

The missile hit a live satellite flying in a Low Earth Orbit after it traversed a distance of almost 300 km from earth within three minutes of its launch.

India shot down one of its satellites in space on Wednesday with an anti-satellite missile to demonstrate this complex capability, Prime Minister Narendra Modi announced, making it only the fourth country to have used such a weapon.

Declaring India has established itself as a global space power after the success of the operation ‘Mission Shakti‘, Modi said the missile hit a live satellite flying in a Low Earth Orbit after it traversed a distance of almost 300 km from earth within three minutes of its launch.

Modi said the space mission in which scientists including from the state-owned Defence Research and Development Organistion were involved gave the country a ‘new strength‘ and was an effort to secure a ‘fast growing India‘.

“A strong India can be a guarantor of peace in the region and beyond. Our strategic objective is to preserve peace, not prepare for war.”

The announcement was made by the prime minister in a broadcast to the nation on television, radio and social media shortly before which he advertised his address on Twitter, calling it an ‘important message‘.

Modi‘s tweet set the social media abuzz for about half an hour triggering speculation on whether the address would be about Emergency or bringing back underworld don Dawood Ibrahim or killing terror outfit Jaish-e-Mohammed chief Masood Azhar or yet another surgical strike by the armed forces.

“A short while ago, India‘s scientists have successfully hit a target in space with an Anti-satellite or ASAT missile. The target was a live satellite which was flying in a Low Earth Orbit.

“The missile travelled a distance of almost 300 km from earth and hit the target within three minutes of its launch,” Modi said shortly after noon in his address which he said is for a ‘very special purpose‘.

The address comes a fortnight before the start of the multi-phase Lok Sabha polls.

As Modi‘s announcement set off a political slugfest, DRDO chairman G Satheesh Reddy said the anti-satellite missile test is a reflection of the country‘s growing capability to develop critical technology and that it will act as a ‘good deterrence‘,

IMAGE: A video grab shows Prime Minister Narendra Modi announcing the success of Mission Shakti. Photograph: PTI Photo

Reddy said the clearance for the project was given over two years ago.

“It is a great achievement for India,” he told PTI.

Experts and former scientists said though India had the capability by 2012 to carry out a similar test, the political leadership at that time did not give a clearance to it.

According to former DRDO chief Vijay Saraswat, India had the capability to carry out the test in 2012-13 but there was no political clearance.

Former ISRO chairman G Madhavan Nair also said India had the anti-satellite missile capability over a decade ago but there was no political will at the time to demonstrate it. The Congress-led UPA was in power from 2004 to 2014.

The Bharatiya Janata Party targeted the previous United Progressive Alliance government for not demonstrating the anti-satellite missile capability when it was in power while Opposition leaders mocked the prime minister over his address to the nation.

The ministry of external affairs (MEA) came out a 10-point explainer to say the anti-satellite missile test was carried out to verify India‘s capability to safeguard space assets and that it was not directed against any country.

The MEA said the test was done in the lower atmosphere to ensure there is no space debris.

“Whatever debris that is generated will decay and fall back onto the earth within weeks.”

India has successfully demonstrated its capability to interdict and intercept a satellite in outer space based on complete indigenous technology, it said, adding that the satellite used in the mission was one of India‘s existing satellites operating in lower orbit while a ballistic missile defence interceptor was used to hit it.

Noting that India has achieved a remarkable success, Modi in his address said so far only three countries in the world — the US, Russia and China had this capability.

“Today, India has become the fourth country to acquire this status as a space power. There can be no bigger moment of pride for every Indian than this.”

Modi assured the international community that the new capability is not directed against anyone and it does not violate any international law or Treaty obligation to which India is a party.

“India has no intention to threaten anyone. This is an effort to secure a fast growing India,” he said, adding that defending and securing valuable space assets is equally important.

“From the point of view of India‘s security and economic development, today‘s ASAT missile will give the country new strength.”

The prime minister said all the objectives that were set by the scientists have been fulfilled and that it is a matter of pride for all in the country that the mission was accomplished using an indigenously developed ASAT missile.

“In the journey of every nation there are moments that bring utmost pride and have a historic impact on generations to come. One such moment is today.”

The announcement was preceded by a meeting of the Cabinet Committee on Security(CCS) presided by the prime minister.

Soon after his address to the nation, Modi interacted with scientists involved in ‘Mission Shakti‘ via video conference, a statement from the prime minister‘s office said.

The forces which work for peace and goodwill must remain ever-powerful to achieve it, he told them.

He told the scientists that the successful test firing of anti-satellite missile is in line with the government‘s ‘Make in India‘ initiative and the scientists involved in the project have proved that India can achieve any goal.

‘The prime minister said that India follows the philosophy of ‘Vasudhaiva Kutumbakam — the world is one family. He, however, also emphasised that the forces which work for peace and goodwill must remain ever-powerful for the achievement of peace,‘ the statement read.

Congratulating the scientists on their success, the PM said the entire nation is proud of the scientists for achieving what they had set out to accomplish.

‘The prime minister asserted that for global peace and regional peace, India should be capable and strong,‘ the statement said.

The scientists thanked the PM for giving them this opportunity to prove themselves, it said.

The Congress accused Modi of indulging in theatrics and playing politics over scientists‘ achievements while other opposition parties complained to the Election Commission alleging violation of Model Code of Conduct(MCC).

Sources in the Election Commission said issues related to national security and disaster management do not fall under the ambit of the model code.

Congress president Rahul Gandhi took a swipe at Modi wishing him ‘happy World Theatre Day‘ even as he congratulated the DRDO while Samajwadi Party chief Akhilesh Yadav said Modi got himself an hour of ‘free TV time‘ and diverted nation‘s attention away from issues on the ground.

Trinamool Congress chief and West Bengal Chief Minister Mamata Banerjee alleged that it was ‘yet another limitless drama‘ by Modi to ‘reap political benefits‘.

Union Finance Minister Arun Jaitley hit back at the opposition and accused the erstwhile United Progressive Alliance government of not granting scientists permission to build the country‘s own anti-satellite missile, saying it lacked ‘capability and clarity‘.

“While we are discussing national security and geo-political situation, the opposition is raising ‘clerical objections‘ in Mission Shakti. It reminds of the saying ‘when the finger points to the moon, the idiot always points to the finger,‘” Jaitley told reporters.

https://stockdailydish.com/india-shoots-down-live-satellite-4th-country-to-do-so/

Stock Daily Dish

Sun, 01 Dec 2019

India tests guided rocket artillery system as Pakistan rolls out ‘smart weapon’

India tests guided rocket artillery system as Pakistan rolls out ‘smart weapon’ The Indian arms developer DRDO has test-fired the guided version of India’s indigenous rocket artillery system, Pinaka, just as its rival Pakistan successfully tested new air-to-surface munitions.

Pinaka was originally developed by India as a domestic replacement for Russian multiple rocket launchers. Pinaka Mark II, or Guided Pinaka, is a different kind of weapon meant to deliver precise strikes at a long distance thanks to a guidance system installed on its rocket.

On Monday, India’s Defense Research and Defense Organization (DRDO) its latest test of the guided projectile at the Pokhran test range in the western state of Rajasthan, firing two projectiles. A third test took place on Tuesday.

The guided surface-to-surface missile has been in development for years, with the first successful test reported in January 2013. It has the same 100kg warhead as the older MRL rocket with a greater reported range of up to 75km.

The Indian test coincides with Pakistan showing off a new domestically produced “smart,” extended-range munition deployed by a JF-17 Thunder, a Chinese-Pakistani fighter jet.

Last month, the two regional rivals saw the biggest flare-up of tensions in years after the Indian Air Force launched an air raid in Pakistani territory to target a suspected militant camp. Pakistan retaliated the next day with an air mission on its own, during which one Indian MiG-21 jet was shot down. The period of escalation seems to have quietened down a bit, but both nations seem to be in the mood for some flexing of their military muscles in the aftermath.

https://stockdailydish.com/watch-india-tests-guided-rocket-artillery-system-as-pakistan-rolls-out-smart-weapon/

ThePrint

Sat, 30 Nov 2019

War of words breaks out between Israeli firm and DRDO over anti-tank missiles

Rafael conducted successful test of Spike missiles in Mhow, and asked Army to reconsider decision to take away a huge order & give it to DRDO

By Snehesh Alex Philip

New Delhi: An unseemly war has broken out between India's Defence Research and Development Organisation (DRDO) and an Israeli firm over man-portable "tank-killers", or Anti-Tank Guided Missiles (ATGM).

The first salvo was fired by Rafael Advanced Systems Thursday, to which a furious DRDO responded on Twitter.

The reason for this spat is that Rafael had won a Rs 3,200 crore Army tender for 8,356 Spike missiles, 321 launchers and 15 simulators. But in 2017, the order was scrapped after DRDO said it could deliver an indigenous equivalent. The Army, which has been seeking the next generation of 'fire-and-forget' ATGMs for over a decade, instead only ordered just 210 Spike missiles with about a dozen launchers, worth Rs 280 crore, from Rafael.

Rafael's attack

Rafael released a statement, through its public relations agency, announcing the test firing of two newly-acquired Spike LR anti-tank missiles at the Infantry School in Mhow, Madhya Pradesh, which was witnessed by Army chief General Bipin Rawat.

In the statement, Rafael also hit out at the DRDO's ATGM programme, saying "while there seems to have been some progress on the DRDO development programme, it will take a long time for it to reach the user in the field".

The firm added that the Army needed to rethink its order for third-generation missiles, while its system is fourth-generation.

DRDO @DRDO_India

"A News item relating to Spike Missile testing at the Infantry school MHOW purportedly based on a press release is circulating incorrect facts. The DRDO ATGM is a state of art missile in advanced stages of development."

DRDO, which conducted three successful trials of the weapon system at the Kurnool range in Andhra Pradesh in September, is confident that its MP-ATGM, with a range of 2.5 kilometres, will be available for "user trials" by 2020.

What is a fourth-generation missile?

Explaining why its ATGM was better, Rafael said the fourth-generation Spike LR has fire and forget capability, as well as the ability to fire, observe and update, providing substantial flexibility to the firer to pinpoint the impact point. It also has the ability to switch to a different target mid-flight, should the firer want to do so.

"The missile has an inbuilt seeker, which gives the firer the flexibility to use any of two modes: Day (CCD) and Night (IIR). The dual seeker adds to the missile's reliability, already established at more than 90 per cent during the field evaluation by the Indian Army in 2011," the firm stated.

India is the 33rd country to have the Spike missile as part of its inventory, and Rafael claimed it has a high success rate.

"More than 5,000 Spike missiles have been fired so far worldwide, with the overall hit percentage being more than 95 per cent. The firer also has the option to fire from either low or high trajectory," it said.

The Army currently operates second-generation Milan-2T (2-km range) and Konkurs (4-km) ATGMs. Produced by Bharat Dynamics under licence from French and Russian companies, these do not have night-fighting capabilities.

(This report has been updated to clarify that the statement was issued by Israeli firm Rafael and not by the joint venture Kalyani-Rafael Advanced Systems, following a statement from the spokesperson of Kalyani Group)

https://theprint.in/defence/war-of-words-breaks-out-between-israeli-firm-and-drdo-over-anti-tank-missiles/328098/

ThePrint

Sun, 01 Dec 2019

Israel firm Rafael apologises to DRDO for jibe on missile programme, calls it 'unintended'

Rafael Advanced Defense Systems, the firm said, 'affirms and applauds' the work done by DRDO in building new-age technologies for India

By Snehesh Alex Philip

New Delhi: Israeli firm Rafael Advanced Defense Systems apologised to the Defence Research and Development Organisation (DRDO), a day after setting off an unusual war of words following remarks against India's Man-Portable Anti-Tank Guided Missile.

In a late night statement issued through its PR agency, the Israeli firm apologised for "any unintended communication that has triggered emotional misbalance". It added that it is a collective effort with the DRDO to bring in the best technologies that will strengthen India's defence systems.

In an earlier statement issued by the same PR agency Thursday, announcing the successful test of the Rafael-manufactured Man Portable Anti Tank Guided Missile (MPATGM) Spike, the company had taken a swipe at the DRDO. Robbed of a plum Army contract after the DRDO started work on its own ATGM programme, the firm commented on the long time the latter would take to reach the user.

"While there seems to have been some progress on the DRDO development programme, it will take a long time for it to reach the user in the field," it said.

The Army, the firm added, needed to rethink its order for third-generation missiles, saying the system it offered was fourth-generation.

A furious DRDO subsequently took to twitter to hit back. It tweeted that the DRDO ATGM is a state-of-the-art missile in advanced stages of development.

'Clear the misrepresentation'

In the new statement, the Israeli firm said it would "like to clear the misrepresentation in media today, and condemns such conjectures that are drawn without any truth".

"These reports are disturbing the amicable relationship of the two organisations that are committed to serve India. We wish to put on record that our collective effort will bring in the best in class technologies that will strengthen India's defence systems," Rafael added.

Rafael Advanced Defense Systems, it said, "affirms and applauds" the work done by DRDO in building new-age technologies for India.

Rafael remains fully committed to its partner DRDO and displays Indo-Israel robust and long-term relationship that fosters joint development of products for tomorrow, it added.

A sour point

While both Rafael and the DRDO have close collaboration on key projects including the long-range surface-to-air missile Barak 8, Indian military also uses the Israele firm's SpyDer air defence systems and the Spice 2000 bombs, which were also employed in the Balakot strikes.

However, the MPATGM programme is a sour point between Israel, a trusted defence partner for years, and India.

The reason is that Rafael had won a Rs 3,200 crore Army tender for 8,356 Spike missiles, 321 launchers and 15 simulators after competing with a US firm. But in 2017, the order was scrapped after the DRDO said it could deliver an indigenous equivalent.

The Army, which has been seeking the next generation of 'fire-and-forget' ATGMs for over a decade, instead only ordered 210 Spike missiles, a fourth-generation system, worth Rs 280 crore from Rafael as a stopgap arrangement, with about a dozen launchers.

The DRDO, which conducted three successful trials of the weapons system at the Kurnool range in Andhra Pradesh this September, is confident that its MPATGM, with a range of 2.5 kilometres, will be available for "user trials" by 2020.

https://theprint.in/defence/israel-firm-rafael-apologises-to-drdo-for-jibe-on-missile-programme-calls-it-unintended/328520/

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

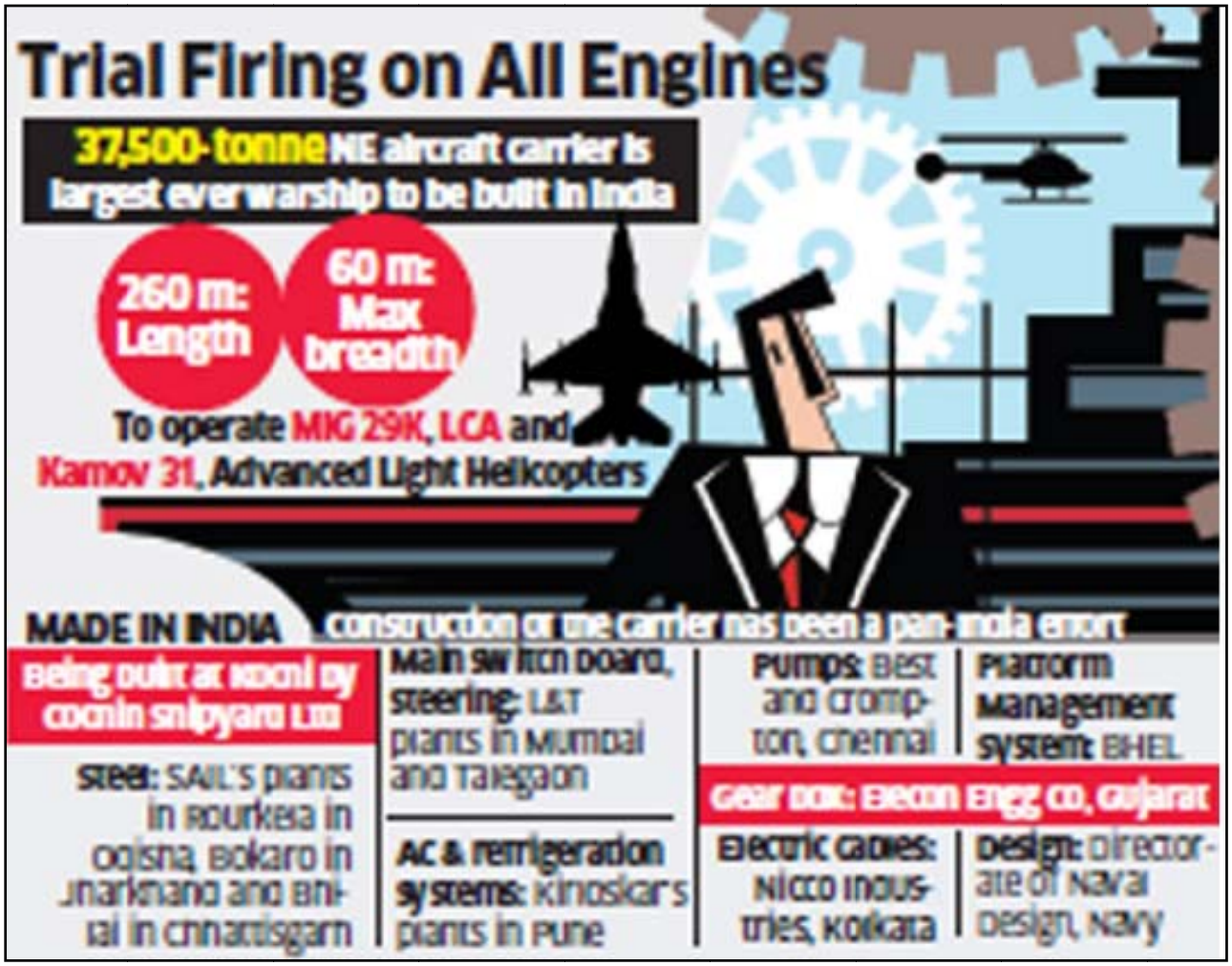
Mon, 02 Dec 2019

Engines fired up, basin trials next for Indigenous Aircraft Carrier

The long-delayed project, which was to be completed by 2018, is now back on track, with senior officers saying that the 37,500-tonne aircraft carrier will initially operate MiG 29K fighters and could also feature indigenous combat aircraft

By Manu Pubby

New Delhi: The engines on board the first Indigenous Aircraft Carrier (IAC) being constructed at Kochi have been fired up and the Navy is starting on the next step of basin trials, with expectations that the warship would be ready for operations by 2022.



The long-delayed project, which was to be completed by 2018, is now back on track, with senior officers saying that the 37,500-tonne aircraft carrier will initially operate MiG 29K fighters and could also feature indigenous combat aircraft.

The carrier, the largest ever warship to be constructed in an Indian yard, is now in its final phase of construction and the Navy could consider operating a limited number of the maritime version of the Light Combat Aircraft (LCA) once it gets fit for service, said people aware of the matter.

However, an indigenous fighter jet that would meet technical requirements of the Navy is unlikely to be ready for operational duty before 2026, which could put a strain on the fleet of MiG 29K fighter jets that are currently used for the INS Vikramaditya, India's only aircraft carrier.

A key requirement of the Navy is a double engine jet to ensure safety of the crew at sea.

"We have started the engine and hope to get the ship by 2021. It will take a year after that to get it operational.

We plan to start with the MiG 29K fighter jets," a senior official told ET on condition of anonymity.

With the Defence Research and Development Organisation (DRDO) promising a technically compliant fighter jet by 2026, the Navy would be open to using it for the second indigenous aircraft carrier that it plans to build. Though funds have not been cleared by the defence ministry, the Navy is hopeful of a speedy approval for its plan to construct a larger aircraft carrier at the earliest.

The people cited earlier also said that the LCA Navy being developed could head for deck trials on the INS Vikramaditya soon, after it clears a series of test flights at the Shore Based Testing Facility (SBTF) in Goa. The fighter jet has undergone night trials as well as a launch with four air-to-air missiles on board in recent days.

The 37,500-tonne Short Take off but Assisted Recovery (STOBAR) Carrier – named the Vikrant – has been in the works since it was sanctioned in 2003.

https://economictimes.indiatimes.com/news/defence/engines-fired-up-basin-trials-next-for-indigenous-aircraft-carrier/articleshow/72324320.cms

The Tribune
VOICE OF THE PEOPLE

Sun, 01 Dec 2019

India saw jump in spending on military imports in 5 years

By Ajay Banerjee

New Delhi: India's plans on making military equipment on its own have two-pronged story. While orders to the domestic industry and defence public sector undertakings have grown, the import of equipment has also grown in the past five years.

Import of military equipment for the Army, IAF and the Navy has been to the tune of Rs 42,974 crore or nearly $6 billion for the financial year ending March 31, 2019. The import was Rs 29,222 crore or $4.18 billion for the year ending March 2015. These are actual payments that have been made during a fiscal.

The Defence Ministry informed the Rajya Sabha about the spending on foreign sources in a written reply on November 25. The figures are based on the data received from the Comptroller General Defence Accounts (CGDA), the ministry said in its reply.

Payments to international vendors are staggered. This includes some upfront payment followed by installments. Sweden-based think-tank Stockholm International Peace Research Institute in its March 2019 assessment, done for a five-year period (2014-2018), said India was the second largest importer.

Titled "Trends in International Arms Transfers-2018", it says, "India was the world's second largest importer of major arms in 2014-18 and accounted for 9.5 per cent of the global total." On India being labelled as the largest importer, the MoD said there was no authoritative and official information on India being the largest importer of weapons as no country officially reveals information on import of defence equipment.

During a period of five financial years starting April 2014 and ending March 31, 2019, India has spent Rs 1,62,283 crore ($ 23.2 billion) on foreign purchases. Giving out details of indigenous equipment, the MoD said the government in the past five years from 2014-15 to 2018-19 and current year till September 2019 had accorded Acceptance of Necessity (AoN) to 218 proposals, worth Rs 4,09,244 crore to promote domestic manufacturing.

Also India's nine public sector companies now collectively have orders of $33.1 billion to make equipment that includes warships, planes, helicopters, tanks and missiles, among other items. The "order book" volume of defence PSUs was told in the Lok Sabha on November 27 and the collective total worked out to be Rs 2,31,931 crore.

- Rs 42,974 crore Import of military equipment for Army, IAF and Navy for financial year ending March 31, 2019
- Rs 29,222 crore Import for year ending March 2015
- Sweden-based think tank Stockholm International Peace Research Institute (SIPRI) in its March 2019 assessment said India was the second largest importer of major arms in 2014-18 and accounted for 9.5 per cent of the global total

https://www.tribuneindia.com/news/nation/india-saw-jump-in-spending-on-military-imports-in-5-years/868353.html

THE TIMES OF INDIA

Mon, 02 Dec 2019

No major 'Make in India' defence project has taken off in 6 yrs

By Rajat Pandit

New Delhi: None of the major 'Make in India' projects in the defence arena, ranging from new-generation stealth submarines, minesweepers and light utility helicopters to infantry combat vehicles, transport aircraft and fighter jets, have actually taken off in the last six years

PROJECTS WORTH ₹3.5 LAKH CRORE STUCK

1 Light Utility Helicopters (IAF & Army)
Scope: 200 Kamov-226T helicopters for over **₹8,000 crore** to replace obsolete Cheetah/Chetak fleets
Approval: Agreement with Russia in Dec 2015
Status: JV formed but no final contract. Stuck at technical evaluation stage

2 Naval Utility Helicopters:
Scope: 111 armed, twin-engine choppers for **₹21,273 crore** to replace single-engine Chetaks
Approval: Defence Acquisitions Council approved this 1st 'strategic partnership' project in August 2018
Status: 4 Indian & 3 foreign firms shortlisted but HAL also wants in. RFP (request for proposal) next year. Will take at least 3 years for contract

3 Diesel-Electric Submarines
Scope: 6 stealth diesel-electric submarines for over **₹50,000 crore** under Project-75 (India)
Approval: Got 'acceptance of necessity (AoN)' in Nov 2007
Status: Expression of Interest issued to Indian shipyards & foreign manufacturers. Selection of Indian shipyard-foreign firm duo will take at least 4 years. Another 7-8 years to roll out 1st sub

4 Future Infantry Combat Vehicles
Scope: 2,314 armoured vehicles for **₹60,000 crore** to replace ageing BMP-2 fleet
Approval: Got AoN in Oct 2009
Status: Project stuck. MoD shifted project from 'Make-I' category to 'Make-II'. Disputes among companies

5 Mine Counter-Measure Vessels
Scope: 12 warships to detect & destroy enemy mines for **₹32,000 crore**
Approval: Navy hunting for MCMVs since July 2005
Status: Proposed project between Goa Shipyard and Kangnam Shipyard (S Korea) scrapped in Jan 2018. Fresh RFP likely in early 2020

6 Fighter Jets:
Scope: 114 jets for **₹1.4 lakh crore**
Approval: Preliminary tender issued in April 2018. To make numbers after **₹59,000 crore** deal for 36 French Rafale jets in Sept 2016 following scrapping of 126-jet medium multi-role combat aircraft (MMRCA) project
Status: AoN likely in April-May 2020. RFP then to 7 foreign contenders. Will take at least 4 years for contract

7 Medium Transport aircraft:
Scope: 56 twin-turboprop to replace IAF's old Avro aircraft fleet for **₹11,929 crore**
Approval: IAF sought aircraft first in June 2011. RFP issued to 8 aviation majors in May 2013
Status: MoD cleared Tata-Airbus project for C-295 aircraft in May 2015. Protracted commercial negotiations now over. Case will now go to CCS for final clearance

These long-pending projects, collectively worth over Rs 3.5 lakh crore, are either stuck or still meandering through different stages, without the final contracts to launch production being inked. The relatively new project to manufacture around 7,50,000 Kalashnikov AK-203 assault rifles in a joint venture with Russia at the Korwa ordnance factory in UP, in fact, is the one poised to kick off first.

TOI in October 2017 had done a stock-taking of six mega Make in India projects to find that bureaucratic bottlenecks, longwinded procedures, commercial and technical wranglings, coupled with lack of requisite political push and follow-through, continued to stymie their launch.

Two years later, the story more or less remains the same for seven major projects (see graphic). India since then has scrapped the massive fifth-generation fighter aircraft project with Russia in favour of the indigenous advanced medium combat aircraft (AMCA) project, as was reported by TOI earlier.

The defence ministry says several measures have been taken to promote indigenous defence production, which include revisions in the Defence Procurement Procedure (DPP) and FDI policy, simplification of "Make" procedures and offset guidelines, notification of the "strategic partnership (SP)" model and the decision to set up two defence industrial corridors in Tamil Nadu and UP.

There is a big push to boost indigenous defence production but it will take time to fructify on the ground. Some projects are about to take off. The contract for the AK-203 rifles should be inked by early next year after some delay since the JV with Russia was set up," said a senior official.

"Similarly, it took a long time to conclude the price negotiations for the Tata-Airbus project to make 56 C-295 aircraft because it was a single-vendor situation but the case will now go to the Cabinet Committee on Security for clearance, " he added.

But much more clearly needs to be done to rid India of the embarrassing and strategically-vulnerable position of being the world's largest arms importer. Many insiders contend the much-touted SP policy to boost the role of Indian companies in production of new-generation weapon systems in collaboration with global armament majors, in fact, has only added further to the delays in finalising and executing projects.

The armed forces, for instance, have been demanding new light utility choppers for over 15 years to replace their obsolete single-engine Cheetah and Chetak fleets, which have been dogged by a high crash rate and serviceability problems.

Under the SP policy, the first project will be the Navy's quest for 111 armed, twin-engine utility choppers at a cost of over Rs 21,000 crore. But just as four Indian firms (Tata, Adani, Mahindra Defence and Bharat Forge) and three foreign manufacturers (Airbus, Kamov and Lockheed Martin-Sikorsky) were recently shortlisted, defence PSU Hindustan Aeronautics has sounded the alarm over it not being considered for the helicopter project.

Similarly, the Navy's case for six new stealth diesel-electric submarines, which was first approved in November 2007 at a cost of over Rs 50,000 crore, is also nowhere near finalisation under the SP model.

Take another project. India and Russia had inked the inter-governmental agreement to manufacture 200 Kamov-226T lightutility helicopters for over $1 billion in December 2015. But it is stuck in the technical evaluation stage over the "low level of indigenisation" being offered by Russia, say sources.

This much-delayed project for the twin-engine light utility helicopters is considered crucial because India's endeavour to buy 197 such choppers from abroad has been scrapped three times over the last decade due to corruption allegations and technical deviations.

https://timesofindia.indiatimes.com/india/no-major-make-in-india-defence-project-has-taken-off-in-6-yrs/articleshow/72323928.cms

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

Mon, 02 Dec 2019

Indo-Japan fighter aircraft exercise in Japan in 2020

The ministers exchanged views on the recent developments in the South China Sea in the backdrop of Beijing's aggressive postures this year in the territorial waters of Vietnam

By Dipanjan Roy Chaudhury

New Delhi: India and Japan have agreed to add a new element to their growing defence partnership by holding joint fighter aircraft exercise in Japan in 2020.

This was decided at the maiden 2+2 Foreign and Defence Minister Dialogue held here on Saturday. India and Japan also in a subtle message to China on Code of Conduct (CoC) for Southern China Sea urged that CoC should be effective, substantive and consistent with international law, including the United Nations Convention on the Law of the Sea.

It should ensure freedom of navigation and must not prejudice the rights and interests of the stakeholders using the South China Sea.

The ministers exchanged views on the recent developments in the South China Sea in the backdrop of Beijing's aggressive postures this year in the territorial waters of Vietnam.

The two sides reaffirmed the importance of freedom of navigation and overflight, unimpeded lawful commerce and peaceful resolution of disputes with full respect for legal and diplomatic processes in accordance with the principles of international law, including those reflected in the UNCLOS.

https://economictimes.indiatimes.com/news/defence/indo-japan-fighter-aircraft-exercise-in-japan-in-2020/articleshow/72322459.cms

THE TIMES OF INDIA

Mon, 02 Dec 2019

India to get its second spaceport, land acquisition work begins in Tamil Nadu

By Surendra Singh

New Delhi: The work on the country's second spaceport has started in Tamil Nadu as Indian Space Research Organisation (Isro) is gearing up for increased launch activities in coming years.

Days after Union minister for department of space Jitendra Singh informed the Rajya Sabha in the current session that "the government has a proposal to set up a rocket launching pad near Kulasekarapattinam in Tamil Nadu", Isro chairman K Sivan confirmed to TOI that the "land acquisition process has started in Tuticorin for the second spacesport" . Major space-faring countries have multiple rocket launch centres.

Sivan said the Tuticorin spaceport will "mainly cater to launches of newly developed Small Satellite Launch Vehicle (SSLV or mini-PSLV). The initial launches (around two) of the SSLV will be from Sriharikota but once the second spaceport is ready, subsequent SSLV launches will be shifted there" . The Isro chairman also confirmed that the first launch of SSLV with "payloadlifting capability of around 500kg is due in the first quarter of 2020" . He said depending upon demands later, other rockets could also be launched from the proposed spaceport.

Listing advantages of the TN spaceport, the Isro chairman told TOI that "straight southward launches will be possible as the launch centre in Tamil Nadu is on the seashore. Because of the straight path, we can carry more payloads. Currently, we can't launch rockets southwards from Sriharikota (Satish Dhawan Space Centre in Andhra Pradesh) and all rockets have to fly around Sri Lanka. The rocket trajectory is not straight but has to be manoeuvred around Sri Lanka. That is the reason why we can't carry more payloads in current launches from Sriharikota. " The TN spaceport will be ideal for putting satellites in the polar orbit through a PSLV and not for GSLV launches to the geostationary orbit.

Another advantage of the proposed TN spaceport is that it will be closer to Liquid Propulsion Systems Centre at Mahendragiri in TN's Tirunelveli district, which assembles the second and fourth stage engines of PSLV.

"Area-wise, the launch centre in Tamil Nadu will be smaller than SHAR, " Sivan said. According to an estimate, the land requirement for the Tuticorin spaceport will be around 2,300 acres whereas Sriharikota is actually an island covering 145 sq km area with a coastal length of 27 km.

If the country's first Thumba equatorial rocket launching station in Kerala is also taken into account, the proposed TN spaceport will ideally be India's third launch centre. Currently, no big rockets is launched from Thumba.

https://timesofindia.indiatimes.com/india/india-to-get-its-second-spaceport-land-acquisition-work-begins-in-tamil-nadu/articleshow/72323869.cms

THE HINDU

Sun, 01 Dec 2019

PSLV gearing up for its 50th flight

In nearly three decades, it has launched more than 45 Indian payloads

By Tiki Rajwi

Thiruvananthapuram**:** The Indian Space Research Organisation (ISRO) is preparing for the 50th flight of the Polar Satellite Launch Vehicle (PSLV), popularly dubbed the the space agency's trusted workhorse. The PSLV-C48 mission is scheduled for lift-off on December 11.

To date, 49 PSLV missions have lifted off from the Satish Dhawan Space Centre, Sriharikota. They include the initial three developmental flights — designated PSLV D1, D2 and D3 — and 46 operational flights. The total count includes two failed missions and the PSLV variants such as PSLV-XL and PSLV-CA, officials of the Vikram Sarabhai Space Centre (VSSC), ISRO's lead agency for launch vehicles, says.

By all rights, the PSLV-C47 mission that flew on November 27 this year should have been logged as the 50th flight had the ISRO stuck to the natural progression of numbers. After the PSLV-C12 flight on April 20, 2009, the space agency nimbly leap-frogged to the C14 mission. ISRO lore goes that the number 13 was bypassed allegedly due to its association with ill luck!

Along with heftier sibling Geosynchronous Satellite Launch Vehicle (GSLV), the PSLV continues to remain the mainstay of the Indian space programme.

In a 'career' spanning nearly three decades, the PSLV has launched more than 45 Indian payloads — including Chandrayaan 1 and Mars Orbiter Mission (Mangalyaan) spacecrafts — and 310 foreign satellites. The C37 mission has the credit of placing a whopping 104 satellites in orbit, a record.

The 50th flight would have on board 10 satellites, including India's RISAT-2BR1 and nine small satellites from abroad, VSSC officials said. Successor to the SLV and ASLV, the PSLV is ISRO's third-gen launch vehicle, capable of placing payloads in different orbits including the Geosynchronous Transfer Orbit (GTO).

https://www.thehindu.com/news/cities/Thiruvananthapuram/pslv-gearing-up-for-its-50th-flight/article30125284.ece