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India to conduct validation trials of Israeli anti-tank guided missile

India will undertake validation trials of the Israeli-made Spike anti-tank guided missile in 2019

By Franz-Stefan Gady

The Indian Army is expected to conduct validation trials of the Israeli-made Rafael Advanced Defense Systems Spike anti-tank guided missile (ATGM) in the summer of 2019 in India's western Rajasthan desert region. New Delhi will be deciding whether to procure the weapon systems as a "stopgap" measure before India can field its own indigenous ATGM system for its land forces.

IHS Jane's reports today that the tests will specifically focus on validating the Spike's infrared seeker. The Spike ATGM "had reportedly not met the IA's operational qualitative requirements in previous trials undertaken in searing summer temperatures in the desert where a large proportion of the systems would eventually be deployed," the trade publication writes, based on conversations with official sources.



The Spike ATGM is a third-generation fire-and-forget weapon system with a tandem-charge high-explosive anti-tank (HEAT) warhead, with the long-range variant of the missile capable of hitting targets at a distance of up to 4 kilometers.

In December 2017, the Indian government scrapped a \$500 million deal with Rafael for 321 Spike ATGM systems and 8,356 missiles in favor of an indigenous ATGM system currently under development by India's Defense Research and Development Organization (DRDO). India's Ministry of Defense originally selected the Spike ATGM over the U.S.-made FGM-148 Javelin ATGM system in October 2014.

The cancellation of the deal has led to severe disagreements between the Indian Army's senior leadership and the DRDO, as the service remains deeply skeptical of the DRDO-developed man portable anti-tank guided missile (MPATGM). The Indian Army leadership has reportedly stated that it does not think that the MPATGM will meet the service's operational requirements. It is also concerned about likely delays in the induction of the new weapon system. (DRDO conducted the first successful test firing of the MPATGM in September.) As I explained earlier this year:

The Indian Army claims that it lacks 68,000 ATGMs of various types and around 850 launchers and is 60 percent short of its authorized holdings. Furthermore, its existing stockpile largely consists of obsolete second-generation Milan-2T and Konkurs anti-tank missiles.

The Indian Army is looking for stopgap measures to quickly address this capability gap by inducting new ATGM systems as quickly as possible. (...) The service is reportedly pushing for a fast-track procurement of 2,500 third-generation shoulder-fired ATGMs and 96 launchers through a government-government contract.

Following the successful completion of validation trials and the subsequent approval of the purchase by the Indian government, delivery of the first batch of Spike ATGM could begin in late 2019 or 2020 pending the conclusion of a final inter-governmental agreement between India and Israel in the summer of 2019.

<https://thediplomat.com/2018/09/india-to-conduct-validation-trials-of-israeli-anti-tank-guided-missile/>

Navy to acquire 2 indigenous DSV for submarine rescue operations

With the objective of providing safety cover to submarines in case of a mishap, the Indian Navy will acquire two diving support vessels(DSV)indigenously manufactured by a public sector company. These vessels facilitate operations like rescue of submarines, under water inspection salvage and recovery of ship and aircraft lost at sea. The total cost of the contract is more than Rs 2,500 crores.

The Hindustan Shipyard Limited, Vishakhapatnam, will manufacture the DSVs to augment the Indian Navy's submarine support operations on either coast. The first vessel to be built over a 36 month period would be followed by the second, six months later. The vessels to be based at Vishakhapatnam and Mumbai respectively, would be of 118 m in length and of weigh approximately 7,650 tons, navy officials said here on Wednesday.

Explaining the significance of having DSVs, they said in addition to operating submarines to secure our waters, the Indian Navy undertakes diving operations in the Indian Ocean Region (IOR). This necessitates extensive diving operations to facilitate various activities such as submarine rescue, under water inspection, testing or salvage, and recovery of objects like ship and aircraft lost at sea.

As these activities involve diving operations with divers remaining underwater for prolonged durations, it requires a suitable platform for their launch and recovery, as well as for carriage of related tools and equipment. The DSV is also equipped with a Deep Submergence Rescue Vessel (DSRV), which significantly enhances its Submarine Rescue Capabilities.

Contract for procurement of two sets of non-tethered DSRV, capable of effecting submarine rescue up to depths of 650 meters was earlier signed with a UK firm, M/s James Fisher Defence, in March 2016. The first DSRV was delivered at Mumbai in April this year and the second DSRV slated for Vishakhapatnam is expected by end December.

Ahead of Putin's visit, India ignores US threat on Triumf

New Delhi: India is finally all set to ink the \$5.43 billion (over Rs 39,000 crore) deal for five advanced S-400 Triumf missile systems from Russia, brushing aside the threat of US financial sanctions that were last week imposed on China for buying the same air defence system. Top sources said the cabinet committee on security, chaired by PM Narendra Modi, cleared the mega "game-changing acquisition" on Wednesday, ahead of Russian President Vladimir Putin's visit to India early next month. There was, however, no official word from the government. The S-400 systems can detect, track and destroy hostile strategic bombers, stealth fighters, spy planes, missiles and drones at a maximum range of almost 400 km and altitude of 30 km. Sources said India will have to pay only 15% of the total amount on inking of the final contract, with the rest being linked to deliveries.

IAF is slated to get the first S-400 missile squadron, with its command posts, launchers, all-terrain transport ererector-launcher vehicles, acquisition and engagement radars, around 24 months after the contract is inked. All five squadrons, with two firing units each, will come in 54-60 months. The highly mobile and automated S-400 systems, which can track 100 to 300

targets simultaneously, can be used to protect cities during war or vital installations like nuclear power plants. The US last Thursday imposed sanctions on the Chinese military for acquiring S-400 systems and Sukhoi-35 fighter jets from Russia under its new law called CAATSA (Countering America's Adversaries through Sanctions Act), which seeks to deter countries from buying Russian weapons or Iranian oil. China began to induct six S-400 batteries, which is designated the 'SA-21 Growler' by Nato, earlier this year under a \$3 billion deal inked in 2014. India remains hopeful of a waiver from the US for its proposed defence acquisitions from Russia.



Thu, 27 Sept 2018

Japan lunar exploration firm to head for moon on SpaceX rockets

On reaching space in SpaceX's Falcon 9 rocket, Ispace plans to orbit its lunar lander around the moon and, in its second mission, land two rovers on the moon's surface, paving the way for further expeditions. Ispace hopes to offer services to governmental and private clients including carrying payloads to the moon and exploration such as searching for water as colonization of the moon moves closer. Last week SpaceX said it would carry Japanese billionaire Yusaku Maezawa around the moon in the forthcoming Big Falcon Rocket in a mission tentatively planned for 2023.

One of five teams that competed in a Google-backed prize to land spacecraft on the moon, Ispace has raised \$90 million dollars from investors including a state-backed fund, telecoms firm KDDI Corp and advertising agency Dentsu Inc. Another participant in the Google competition, Israel's SpaceIL, plans to launch with SpaceX and land its spacecraft on the moon next February.



Thu, 27 Sept 2018

NASA to develop projects to hunt for techno signatures of alien life in space

The space agency's Techno signatures Workshop in Houston will take place from September 26 to 28 to address promising areas in the field and possible investment.

'Techno signatures are signs or signals, which if observed, would allow us to infer the existence of technological life elsewhere in the universe,' NASA explains.

'The best known techno signatures are radio signals, but there are many others that have not been explored fully.' NASA's Kepler, and now TESS mission, have led the search for worlds outside of our solar system.

But even on Earth, scientists can detect signals emanating from distant sources far beyond our own skies. Such is the case with the mysterious fast radio bursts (FRBS) that have been repeatedly detected in the last few years, with no solid explanation as to where they're coming from. Techno signatures could be radio or laser emissions, for example, or even an atmosphere full of pollutants, NASA explains. 'Complex life may evolve into cognitive systems that can employ technology in ways that may be observable,' NASA's 2015 Astrobiology Strategy states. 'Nobody knows the probability, but we know that it is not zero.'

Scientists have been searching for techno signatures for decades, with NASA's own SETI (search for extraterrestrial intelligence) work beginning in 1971. In recent years, discoveries such as the FRBs and unusual fluctuations in brightness around an object that's come to be known as Tabby's Star has fuelled the efforts.

But, signatures alone won't confirm the existence of alien life. 'We will need more than an unexplained signal to definitively prove the existence of technological life,' NASA says.

'For example, there can be a lot of radio frequency interference from Earth-based sources.

'NASA will continue assessing promising current efforts of research in technosignatures and investigating where investments could be made to advance the science.

'Although we have yet to find signs of extraterrestrial life, NASA is amplifying exploring the solar system and beyond to help humanity answer whether we are alone in the universe.'



Thu, 27 Sept 2018

Opportunity rover spotted on Mars

NASA's Mars orbiter has caught a glimpse of its solar-powered Opportunity rover, which has been silent since a dust storm enshrouded the red planet over 100 days ago and cut off the 14-year-old probe's access to sunlight.

The image produced by HiRISE, a high-resolution camera aboard NASA's Mars Reconnaissance Orbiter (MRO), shows a small object on the slopes of the red planet's Perseverance Valley. The object is Opportunity, which was descending into the Martian valley when a dust storm swept over the region a little more than 100 days ago, NASA said in a statement.

The storm was one of sev-

eral that stirred up enough dust to enshroud most of the red planet and block sunlight from reaching the surface. The lack of sunlight caused the solar-powered Opportunity to go into hibernation.

The rover's team at NASA's Jet Propulsion Laboratory (JPL) in the US, has not heard from it since.

On September 11, JPL began increasing the frequency of commands it beams to the 14-year-old rover.

The tau — a measurement of how much sunlight reaches the surface — over Opportunity was estimated to be a little higher than 10 during some points during the dust storm. The tau has steadily fallen in the last several months.

—PTI