

Fri, 06 Jan, 2017

(Online)

IAF may get Astra by year end

The indigenous beyond-visual-range missile Astra underwent 12 tests in the last two and half years and would require at least four more trials before it is handed over to the Indian Air Force (IAF) for operational use.

Scientists at the Defence Research and Development Organisation (DRDO) hoped to complete the remaining four trials before the summer of 2017, so that it could be transferred to the service later this year. The missile with 75 km range was first launched in May 2014 and integrated with the Su-30MKI aircraft by the Hindustan Aeronautics Limited, a year later.

The live firing of the missile was demonstrated before President Pranab Mukherjee and Prime Minister Narendra Modi at the IAF's iron-fist fire power demonstration in March 2016.

"We have done 12 trials of Astra firing so far and need to do four more before the missile is ready for the IAF. The remaining trials may be completed by the summer of 2017, depending on the availability of Su-30 MKI aircraft," a source told DH.

Astra is already over four years behind schedule. The probable date of completion was originally fixed at August 2012 and later revised to December 2016.

The missile's launch in December 2016 reportedly failed, though the officials maintain silence over this.

Reports from Bhubaneswar suggest that Astra lost velocity within a few seconds after the firing, slipped from the intended trajectory, dropped and then exploded on a beach along the coastline. However, neither the DRDO nor the defence ministry responded in this regard.

Agni series - On the 5,000-km range Agni-V missile, sources said the DRDO completed four successful trials since its maiden flight in April 2012. No more developmental trials are required as the missile is ready for the user — the Strategic Forces Command — they said.

The 17-metre long missile, weighing around 50 tonnes, was last launched from a road mobile canister on December 26, demonstrating its all-terrain applicability and the weapon's flexibility to be fired from any part of the country. The nuclear missile is capable of carrying a war-head of 1,000 kg.

On January 2, the long-range surface-to-surface ballistic missile Agni-IV, with a range of 4,000 km, was successfully flight tested, showcasing the weapon's efficacy and reliability. This was Agni-IV's seventh launch, which included three developmental flights and four tests to train the users.

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DRDO unveils robot for home security needs

Tirupati: Are you tired of warning your watchman not to take frequent naps? You need no longer worry about the security of your house, office or industrial unit. The 'Robot Sentry' will take care of all your security needs, thanks to the Defence Research and Development Organisation (DRDO).

The Robot Sentry will not only move around the premises but also take photographs of all suspicious objects and events to enable the law enforcing authorities to crack down on the culprits in case of an untoward incident. You can also monitor the premises real time for effective surveillance and protection. Just forget the

Gorkha, RoboSen is here. According to a DRDO publication available at the 104th session of the Indian Science Congress here, the Robot Sentry or simply RoboSen is a "mobile robot targeted at patrolling and surveillance applications in urban campuses".

This intelligent mobile robot is connected through wireless link. While the RoboSen is placed on the premises, the operator control unit is kept inside the house or office. "The robot can be commanded to move autonomously along a predefined path or controlled by a joystick while providing a continuous video feedback. The RoboSen senses its environment using GPS, stabilised digital compass, and laser range finders, which help te navigation and path planning algorithms in avoiding obstacles as it patrols a campus," the research organisation said.

Along with RoboSen, you can also bank on what the DRDO calls the `Snake Ro bot'. Like a snake, this robo crawls everywhere as it has a whole body locomotion. A DRDO document points out that the snake robo with 14 active joints is capable of "lateral undulation, side winding, and rolling gaits."

"These robots have three degrees of freedom legs giving them omni-directional motion capability. The robots have been equipped with ultrasonic sensors for obstacle detection and avoi dance," it adds. When you have a robot sentry and snake robot, why not think of a `climbing robot' to scale walls vertically. The DRDO's climbing robot is a miniature-tracked robot capable of climbing vertical walls. "It has an on board colour camera for video feedback," it says.

The DRDO's publication says that intelligent mobile robotics for defence has constantly progressed through indigenous synergies in diverse multidisciplinary technologies. "Extrinsically, it has been driven by the current military scenario which demands unmanned systems with the ability to operate in an autonomous or semi-autonomous mode, under varied environmental conditions and terrain," it said adding that intelligence and mobility are critical enablers for unmanned systems targeted for military operations.



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DRDO planning research campus in MP

Bhopal: The Defence Research and Development Organisation is planning to develop a major facility in Madhya Pradeshs Morena district on a vast area of over 900 hectares, for which land acquisition process is on, officials said.

"We have earmarked 930 hectares (about 2,300 acres) of land to DRDO for setting up its centre at Kailaras tehsil. The total area includes 34 hectares of private land and some forest land," Morena District Collector Vinod Kumar Sharma told PTI over phone.

When asked about the project, Regional PRO of Hyderabad-based DRDOs Directorate of Public Interface, Siddharth Thakur said, "I can't disclose much because of the sensitive nature of the information. But, we are procuring the land in Morena for research activities".

Thakur said the process of procuring land is underway. "I will be able to say once everything comes on papers," he said. Morena Collector said part of the land, being procured by the DRDO, belongs to the forest department and it has been handed over to the revenue department.

Besides, state Principal Secretary (Revenue) Arun Kumar Pandey said a proposal (for land allotment to DRDO) would soon be put before the Cabinet for discussion and approval.

"We dont know much about their activities. We are only providing land to DRDO. They would determine the use of this land according to their needs," Pandey said.

State Revenue Minister Umashankar Gupta also told PTI that the government is providing land to DRDO. "We are providing land according to the requirement of DRDO. The process would soon be over," he said.

Another revenue department official said teams of senior DRDO officials have already conducted several inspections of the site. "The hilly and forest terrain being given to DRDO is situated at Badhareta village in Kailaras tehsil," he said.

Defence Research and Development Establishment (DRDE) under DRDO is located in Gwalior, which had developed the bio-digesters, used in train toilets, to solve human waste disposal problem. In addition, the technology was used to decompose biological waste generated by soldiers deployed in high-altitude regions, such as Siachen and Ladakh. PTI