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Make in India boost: Indian army may procure more Akash missile systems from DRDO

Akash missile is a medium-range surface-to-air missile which can simultaneously engage multiple targets in all kinds of weather conditions. The Akash system features a launcher, a missile, an integral mission guidance system, autopilot system, C4I centres, and also multifunctional radar.

The Indian Army is likely to order another batch of Akash missiles, India's first indigenously built surface-to-air missile developed by the DRDO. The Indian Army, which has shown immense interest in the Akash missile system, is very satisfied with its operational capabilities and performance, reported The Hindu. Speaking to the media Lt. Gen Parminder Singh S Jaggi, Director General, Army Air Defence had said that the defence forces were fully satisfied with the performance of Akash system and that they were also intending to enhance its performance.

However, it was also reported in 2016, that the Indian Army had rejected the indigenously built Akash missiles. The Indian Army in 2016, had said that it would not procure more Akash missiles and that it would instead go for the Israeli quick reaction surface-to-air missiles(QR SAMs). It had said that the Akash defence missile systems had not met its operational requirements in defending enemy air attacks in the forward areas. But, the Indian Army today seems to be convinced by its capabilities and is likely to procure more missile systems, reported DNA. The Indian Army continues to maintain the existing order for six firing Akash batteries with hundred missiles each and the deal was fixed for Rs 14,180 crore.

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<https://www.financialexpress.com/defence/make-in-india-boost-indian-army-may-procure-more-akash-missile-systems-from-drdo/1160898/>

BUSINESSWORLD

A big bang explosion in arms business

The laboratories around the world are abuzz with swarming drones, robotics, AI and the Internet of Battle Things. Are we in step?

By Manish Kumar Jha

In October 2016, the Department of Defence, the Strategic Capabilities Office, partnering with Naval Air Systems Command, successfully demonstrated one of the world's largest micro-drone swarms at China Lake, California. The test was a significant milestone in defence preparedness and was documented on Sunday's CBS News programme '60 Minutes'. It showcased 103 Perdix drones launched from three F/A-18 Super Hornets. The micro-drones demonstrated advanced swarm behaviours, such as collective decision-making, adaptive formation flying and self-healing.

The Gulf War in 1990 had brought to light a new dimension in warfare where smart weapon technology and "intelligent" weapon systems were used extensively. These weapons performed effectively against

designated targets and reduced human casualty. This stealth and precision of modern warfare is going to define the 'future of defence'. And almost three decades later, the laboratories around the world are abuzz with swarming drones, robotics, artificial intelligence and the Internet of Battle Things.

As the Director General of the Society of Indian Defence Manufacturers (SIDM) Lt. Gen. (Retd) Subrata Saha points out, "We are talking about the precision weapon systems here and the emphasis is more on stealth to achieve more with less and your robust ISR (Intelligence, Surveillance and Reconnaissance) mechanism that defines the future of defence technology per se. And that is going to drive the business of defence with the most critical and necessary components that would also have an outreach and application beyond defence." How ready are we? According to a report by the International Data Corporation (IDC), the global spending on robotics and related services will more than double by 2020, growing from \$91.5 billion in 2016 to more than \$188 billion then. Defence will absorb the major chunk of unmanned aerial vehicles (UAVs,) for accuracy in military operation.

Not just a few advance militaries, but a cluster of nations are in the race for the drone. The reason is simple. Even though drones do not exactly come cheap, they still cost less than the life of a soldier. Automation has myriad applications in warfare, be it to manoeuvre missiles or to reconnaissance over enemy territory with an UAV. Military UAVs are getting increasingly sophisticated, outfitted with low-level autonomy that allows the drones to navigate their way through space without human intervention. China has declared research on artificial intelligence (AI) as a national priority and some striking AI capabilities are being integrated in the military with scale and range. The Chinese do realise that the nature of warfare will undergo a fundamental change with unmanned platforms and autonomous systems. India's Defence Research and Development Organisation (DRDO) has taken a leaf out of China's book, by taking advantage of the home-grown information technology (IT) industry. It has set aside Rs 1500 crore for research on UAVs projects for application across the Army, Navy and Air Force. The DRDO plans to spend Rs 18,000 crore in the current fiscal on both existing and futuristic projects. In February the DRDO carried out test flights of its Rustom 2 drone, a medium-altitude long-endurance unmanned aerial vehicle at Chalakere in Karnataka's Chitradurga district. Rustom 2 is being developed on the lines of predator drones of the United States to carry out surveillance and reconnaissance (ISR) for the Armed Forces with an endurance of 24 hours.

Future of Defence

The DRDO has of late come up with noteworthy and startling new-age technologies in its 'Future of defence' project. The integration of AI and related technologies are being liberally integrated in the next generation Unmanned Combat Aircraft (UCAV) Ghatak and iSWIFT (Stealth Wing Flying Testbed). Besides, Cyber warfare will assume a far greater importance, and cyber adversaries will have to be tackled with AI.

Internet of Intelligent Battle Things is the emerging reality of warfare. A variety of networked intelligent systems – things – will continue to proliferate on the battlefield, where they will operate with varying degrees of autonomy. Intelligent things will not be a rarity, but ubiquitous on the future battlefield, says Alexander Kott of the U.S. Army Research Laboratory in a widely acclaimed research paper. Thus, military can have many applications similar to the commercial ones derived from the Internet of Things (IoT). Be it in critical infrastructure, industrial control, or consumer durables, IoT systems are similar in data collection, distribution, feedback and analytical technologies. In a report titled, 'Internet of Things (IoT) in Aerospace & Defence Market Forecast 2017-2027,' the global agency, Vg-Defence estimated the global IoT market in the aerospace and defence sectors to be \$22.6 billion in 2017.

In the spheres of aerospace and defence, IoT devices connect aircraft, systems and people to the Internet to help improve production processes, management efforts and help enhance productivity. The report projects IoT sales in aerospace and defence for the next ten years, taking into account the businesses of the world's leading defence contractors, like BAE Systems, Boeing Co., General Dynamics, Lockheed Martin and Northrop Grumman Corp. At the moment developing military capabilities with futuristic, next generation technologies seems to be the sole compulsion of the DRDO. A convergence must occur between the military, industry and academia, though, for a competitive tempo in next generation defence R&D.

<http://businessworld.in/article/A-Big-Bang-Explosion-In-Arms-Business/09-05-2018-148663/>

Sukhois out, only naval patrol for sea routes to China

By Ajay Banerjee

Far away from mainland India, a military game is being played in the Bay of Bengal. India has decided that its naval deployments to monitor sea traffic to the east (read China) will be a permanent feature while Sukhoi-30 fighter jets, having the capability to quickly fly over the key maritime route of Straits of Malacca, have now been stationed at Andaman and Nicobar Islands.

Top sources told The Tribune that the Navy had reviewed its mission-based deployment philosophy at the ongoing naval commanders' conference. "These patrols will now be a permanent feature," a senior naval officer confirmed. In July last year, the Navy had started this mission-based deployment, tasked to patrol sea-shipping routes to the Straits of Malacca, an important "chokepoint" located south-east of the Andaman and Nicobar Islands in the Bay of Bengal.

Patrolling off the straits of Sunda, Lombok and Ombai Wetar—all in the eastern Indian Ocean region—started in phases thereafter. These straits are narrow ocean passes that connect the Indian Ocean to the South China Sea. Malacca accounts for the passage of 70 per cent of the world's trade volume and energy.

Leveraging the air bases at Campbell Bay, Car Nicobar and Port Blair has been the focus of the line of defence against an aggressive China for some time now. The Navy has positioned about 19 warships in the area and has built two floating docks to repair and refurbish warships, thus saving the 1,200-km (or three-day sail) one-way trip to Visakhapatnam. Apart from the surface ships, the Navy's long-range maritime reconnaissance aircraft, the Boeing-made Poseidon 8I planes, have been tasked with flying sorties, sometimes up to the South China Sea, almost daily from INS Rajali in Arakkonam, Tamil Nadu. The Navy has a target to ensure its dominance in the Indian Ocean by 2020. The US Department of Defence has, in its reports, highlighted that approximately 80 per cent of China's oil imports and 11 per cent of natural gas imports transited the South China Sea and Straits of Malacca.

Army's 'Vijay Prahar' Exercise in Rajasthan Ends

The Indian Army's 'Vijay Prahar' exercise in which over 25,000 troops of the Jaipur based South Western command participated culminated today in Rajasthan's Suratgarh. South Western Army Commander Lt Gen Cherish Mathson witnessed the final offensive of the forces achieving a decisive victory.



"I had laid out unambiguous scope for activities to be carried out and had also bench marked standards to be achieved. I am fully satisfied with the efforts put in and results achieved," Lt Gen Mathson told reporters in the firing range. He said that designing an offensive campaign on the principles of operational art in a deep air-land battle with real time intelligence marked the beginning of the exercise.

The concept of 'Air Cavalry' employing attack and weaponized helicopters has also been validated during the exercise, he said. Participating formations are now confident of continuing the offensive even after a tactical Nuclear, Chemical or Biological attack by the adversary by modern

CBRN capability. He said that effective jointmanship with the Indian Air Force has been validated.

The officer also complimented the troops who braved the soaring temperatures above 45 degrees Celsius and sand storms to achieve a very high degree of proficiency. Fighting equipments including tanks, attack helicopters, drones and fighter aircraft were used in the month-long exercise.

MAIL TODAY

Thu, 10 May, 2018

Lady Officers to speak to enemy in its own language

Further empowering women in the armed forces, the Indian Army is planning to create a large pool of women officers who would be trained as language experts, with special focus on learning Chinese and help the force keep a close eye on the northern adversary at the border. Government sources told MAIL TODAY that the Army is planning to create a permanent cadre of women language experts who would get to spend a long tenure on a specific language and not only learn to read and write but also understand its finest nuances.

"The army feels that the woman officers can prove to be great asset as language experts and help in understand the Chinese language better. The woman officers in the past have also proved to be better at learning languages faster than their male counterparts," the sources said.



At present, the language experts include only male officers and a few female officers, but the plan at the moment is to utilise the services of only woman officers. Sources said male officers learn a language for say two to three years and then move on to some other division where their language expertise is not utilised, and the new person takes time learn. "With a dedicated pool of woman

officers, we can use their services in much better way and for longer time period," they said. Sources said the monitoring of the Chinese movement, including their chatter, is not done effectively as the number of Chinese experts is far less than the desired by the army and other agencies operating in the country. "This can also help in understanding Chinese better and these woman officers can also act as interpreters during talks between the forces at both high and low levels, which take place on regular occasions at different places," the sources said.

Sources said woman officers, acting as language experts, will get posting in a fewer number of places, including several big cities, as they would be doing a specialized job and would not be required to undergo several types of courses that regular officers do in the course of their service.

The Indo-Chinese border, the Line of Actual Control (LAC), spreads from eastern Ladakh in Jammu and Kashmir to Arunachal Pradesh with several locations being claimed by both sides. Chinese language courses are imparted by the School of Foreign Languages in Delhi, but the number of students trained there is very less due to a lack of infrastructure. To overcome this barrier, the Army's Eastern Command, a year ago, had set up its advanced Chinese language training programme at Panagarh to train to its soldiers deployed along the LAC.

Lonely ‘exiled weirdo asteroid’ found on the edge of our solar system

A cold, lonely and isolated asteroid has been spotted way out on the outer reaches of our solar system. Astronomers have captured images of the first ever space rock to be seen right on the edge of humanity’s galactic neighborhood. They mocked the friendless 300km as a ‘weirdo’ and ‘exile’ because it is a long way from its rocky chums – and looks rather strange. Dubbed Kuiper Belt Object 2004 EW95.



An artist's impression of the rogue rock that's just been spotted in space

the solitary traveler probably formed in the asteroid belt between Mars and Jupiter before journeying billions of miles to its new home. It is likely to have been formed in the very early days of our home star system, before being thrown out into the void by the gravitational pushing and pulling of the gas giant planets, which ‘rampaged through the Solar System, ejecting small rocky bodies’.

Tom Seccull of Queen’s University Belfast said: ‘Given 2004 EW95’s present-day abode in the icy outer reaches of the Solar System, this implies that it has been flung out into its present orbit by a migratory planet in the early days of the Solar System.’

The asteroid is almost 200 miles wide and is about 2.5 billion miles from Earth, making it tricky to examine. However, its appearance was ‘clearly distinct from the other observed outer Solar System objects’ Seccull said. The space rock reflected light in a different way from other objects in the Kuiper Belt, a disc of icy bodies orbiting beyond Neptune. ‘It looked enough of a weirdo for us to take a closer look,’ he added.