

## VSHORAD MISSILE SYSTEM: Will Boost The Indian Army's Mountain Warfare Prowess

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(Internal Security)

**Meant to kill low altitude aerial threats at short ranges, VSHORADS is a man portable Air Defence System designed and developed indigenously by DRDO.**

The Defence Acquisition Council (DAC) Tuesday accorded Acceptance of Necessity (AoN) to procure the Very Short Range Air Defence System or VSHORAD (IR Homing) missile system, designed and developed by the Defence Research and Development Organisation (DRDO), among other weapon systems for the Army and Navy at a total cost of Rs4,276 crore.



The development comes amid the ongoing military standoff with China at the LAC in eastern Ladakh and reports of air violations by China along the LAC last year.

India has been in talks with Russia since 2018 to procure the Igla-S air defence missiles at a cost of \$1.5 billion under the VSHORAD programme in a bid to replace the Russian Igla-M systems which have been in use with the Army.

However, defence officials indicated that there has been little progress on that front and it has been put on hold for now with the strong government pitch for atmanirbharta (self-dependence) in defence. The latest AoN granted to the procurement of the DRDO-developed VSHORAD testifies that.

## What Is The Missile System?

Meant to kill low altitude aerial threats at short ranges, VSHORADS is a man portable Air Defence System (MANPAD) designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad, in collaboration with other DRDO laboratories and Indian Industry Partners.

The DRDO, in September last year, conducted two successful test flights of the VSHORADS missile from a ground based portable launcher at the Integrated Test Range, Chandipur, off the coast of Odisha. As per the defence ministry, the missile—which is propelled by a dual thrust solid motor—incorporates many novel technologies including miniaturised Reaction Control System (RCS) and integrated avionics, which were successfully proven during the tests conducted last year. The DRDO has designed the missile and its launcher in a way to ensure easy portability.

## How Will This Missile System Help India?

- Being man portable and lighter than other missile systems in the Army's arsenal, it can be deployed in mountains close to the LAC at short notice.
- There was a significant gap in the army's inventory when it came to man portable air defense missiles, especially for the eastern and northern borders, although not so much for the western borders with Pakistan, for which India had Soviet Vintage OSA AK missile system.
- Other up to 25 km theater air defense umbrellas like the Akash Short Range Surface to Air Missile System are bulky and can be deployed away from the LAC for static formations, which may not perform as well for mountains.

## MANPADS

- Man-portable air-defense systems (MANPADS) are portable surface-to-air missiles capable of attacking low-flying fixed and rotary-wing aircraft. They can be fired over a person's shoulder or from a tripod. They were developed in the 1950s to protect soldiers from attacks by jets.
- The 'MANPADS' has a maximum range of 8 km and can engage targets up to 4.5 km altitude. The first 'MANPADS' were developed by the United States and the Soviet Union in the 1960s.

## What is Reaction Control System?

The Reaction Control System (RCS) is responsible for direction control and steering using the thrusters. The RCS system is capable of catalyzing in any desired direction or combination of directions. The RCS is also capable of providing torque to allow control of rotation (pitch, yaw and roll).

## Defense Acquisition Council (DAC)

The Defense Acquisition Council was established in the year 2001 with the objective of ensuring speedy procurement of approved requirements of the Armed Forces. The DAC is headed by the Defense Minister. It is noteworthy that the DAC is the apex body of the Ministry of Defense to take decisions on acquisition related matters.

## Defense Research and Development Organization (DRDO)

DRDO is the R&D wing of the Ministry of Defence, Government of India, which aims to empower India with state-of-the-art defense technologies. It was established in the year 1958 after the merger of the Technical Development Establishment (TDEs) of the Indian Army with the Defense Science Organization (DSO) and the Directorate of Technical Development & Production (DTDP).

- When inducted, they will be an important air defense missile for forces, even for all equipped infantry units, and will be the best option for mountain warfare.
- In view of the recent developments on the northern frontiers, there is a need to focus on effective air defense weapon systems which are man portable and can be rapidly deployed in rugged terrain and maritime terrain. It added that the purchase of VSHORAD, as a robust and rapidly deployable system, would strengthen India's air defense capabilities.

### When are they expected to be inducted?

The AoN (the Acceptance of Necessity) is the first step in the long capital procurement process in defence. Not all AoNs accorded necessarily culminate into a final order. However, with flight tests having taken place, defence officials estimate the missile systems can be delivered to the forces in another three to four years with industry support if the orders are placed on time.

#### Expected Question

**Que. What is Terminal High Altitude Area Defense (THAAD), sometimes mentioned in the news?**

- (a) A radar system of Israel.
- (b) India's Domestic Anti-Missile Program.
- (c) American Missile Defense System.
- (d) A Defense Cooperation between Japan and South Korea.

**Answer : C**

#### Mains Expected Question & Format

**Que.:** What is Man-Portable Air-Defense System? Throw light on its strategic importance with examples.

#### Answer Format :

- ❖ Explain the Man-Portable Air-Defense System.
- ❖ Discuss its Strategic Importance.
- ❖ Give a Balanced Conclusion.

**Note:** - The question of the main examination given for practice is designed keeping in mind the upcoming UPSC mains examination. Therefore, to get an answer to this question, you can take the help of this source as well as other sources related to this topic.