



# Very Short-Range Air Defence System (VSHORADS)

## Why in News?

Recently, [Defence Research and Development Organisation \(DRDO\)](#) conducted **two successful test flight of Very Short Range Air Defence System (VSHORADS) missile** from a ground based portable launcher at the **Integrated Test Range, Chandipur, off the coast of Odisha**.

- Both the flight tests have **completely met the mission objectives**.

## What is VSHORADS?

- **About:**
  - Very Short-Range Air Defence System (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.
- **Design:**
  - VSHORADS missile incorporates many novel technologies including **miniaturized Reaction Control System (RCS)** and **integrated avionics**, which have been successfully proven during the tests.
  - The missile, meant for **neutralizing low-altitude aerial threats at short ranges**, is propelled by a **dual thrust solid motor**.
  - The design of the missile including launcher has been **highly optimized to ensure easy portability**.
- **Significance:**
  - This new missile equipped with modern technologies will give **further technological boost to the [Armed Forces](#)**.

## What is a Reaction Control System?

- A Reaction Control System (RCS) is responsible for **attitude control** and steering by the **use of thrusters**.
- The RCS system is capable of **providing small amounts of thrust in any desired direction** or combination of directions.
- An RCS is also capable of **providing torque to allow control of rotation (pitch, yaw, and roll)**.

## What are MANPADS?

- MANPADS are **short-range, lightweight and portable surface-to-air missiles** that can be fired by individuals or small groups to destroy aircraft or helicopters.
- They help **shield troops from aerial attacks** and are most effective in targeting low-flying aircraft.
- MANPATs or Man-Portable Anti-Tank Systems work in a similar manner but are used to destroy or incapacitate military tanks.
- MANPADS have a maximum range of 8 kilometers and can engage targets at altitudes of 4.5 km.
- The first MANPADS were introduced by the United States and Soviet Union in the 1960s.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q. What is “Terminal High Altitude Area Defense (THAAD)”, sometimes seen in the news? (2018)**

- (a) An Israeli radar system
- (b) India’s indigenous anti-missile programme
- (c) An American anti-missile system
- (d) A defence collaboration between Japan and South Korea

**Ans: (c)**

**Exp:**

- Terminal High Altitude Area Defence (THAAD) is an American anti-missile system designed to intercept and destroy short and medium-range ballistic missiles during their “terminal” phase of flight when they are falling towards the target.
- They have the ability to intercept missiles inside and outside the atmosphere.
- It is interoperable with other ballistic missile defence systems and is highly mobile and deployable worldwide.
- **Therefore, option C is the correct answer.**

**[Source: PIB](#)**

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