



# Akash Prime Surface-to-Air Missile: DRDO

## Why in News

Recently, the [Defence Research and Development Organisation](#) (DRDO) tested a new version of the Akash Missile - '**Akash Prime**' - from the Integrated Test Range (ITR), Chandipur, Odisha.

- Earlier, DRDO launched the [Akash-NG](#) (New Generation) and the **Man Portable Anti Tank Guided Missile** (MPATGM).

## Defence Research & Development Organisation

- It is the **Research & Development wing of the Ministry of Defence**, Govt of India, with a vision to empower India with cutting-edge defence technologies.
- It was **established in 1958** after combining the Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).

## Key Points

- In comparison to the existing Akash system, it is equipped with **indigenous active RF (Radio Frequency) seeker** for improved accuracy, which makes sure that the target at which the missile is fired is hit.
- Other improvements were also incorporated in Akash Prime like ensuring **reliable performance** under a **low-temperature** environment at **higher altitudes**.
- **Development & Production:**
  - Developed by Defence Research & Development Laboratory (DRDL), Hyderabad in collaboration with other DRDO laboratories under the Missiles and Strategic Systems (MSS).
- **Akash missile:**
  - Akash is India's first indigenously produced **medium range SAM** that can engage multiple targets from multiple directions and it can be **launched from mobile platforms like battle tanks or wheeled trucks**. It has nearly 90% kill probability.
    - The development of the Akash SAM was started by the DRDO in the late 1980s as part of the [Integrated Guided Missile Development Programme](#).
  - It is unique in the way that It can simultaneously engage **multiple targets in group mode or autonomous mode**.
  - It has **built-in Electronic Counter-Counter Measures** (ECCM) features, which means that it has mechanisms on-board that can **counter the electronic systems** that deceive the detection systems.
  - The missile is **supported by the indigenously developed radar** called '**Rajendra**'.

- It can **engage targets at a speed 2.5 times more than the speed of sound** and can detect and destroy targets flying at low, medium and high altitudes.
- The missile is reportedly **cheaper and more accurate** than US' Patriot missiles due to its solid-fuel technology and high-tech radars.

### **Integrated Guided-Missile Development Programme**

- It was **conceived by Dr. A.P.J. Abdul Kalam** to enable India **attain self-sufficiency** in the field of missile technology.
- The **5 missiles (P-A-T-N-A)** developed under this program are:
  - **Prithvi**: Short range surface to surface ballistic missile.
  - **Agni**: Ballistic missiles with different ranges, i.e. Agni (1,2,3,4,5)
  - **Trishul**: Short range low level surface to air missile.
  - **Nag**: 3<sup>rd</sup> generation anti-tank missile.
  - **Akash**: Medium range surface to air missile.

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

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