# ABHYAS High Speed Expendable Aerial Target (HEAT)

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**In News**

- Successful flight test of **ABHYAS** – High-speed Expendable Aerial Target **(HEAT)** was conducted by Defence Research and Development Organisation **(DRDO).**

**Background**

- **ABHYAS-HEAT was developed by adopting DRDO's Lakshya.** Lakshya is a high-speed target drone system developed by DRDO. T**he first launch of ABHYAS was held in Chitradurga Aeronautical Testing Range in 2012**.

**ABHYAS – High-speed Expendable Aerial Target (HEAT)**

  - The vehicle can be **used as a target for evaluation of various missile systems.**

- **Abhyas is designed & developed by Aeronautical Development Establishment (ADE), DRDO.**
- The air vehicle is launched using twin underslung boosters.
- It is powered by a small gas turbine engine and has MEMS based Inertial Navigation System (INS) for navigation along with the Flight Control Computer (FCC) for guidance and control.
- The vehicle is programmed for **fully autonomous flight.**
- Abhyas is designed for autonomous flying **with the help of an autopilot.**
- The check out of the air vehicle is done using a **laptop based Ground Control Station (GCS).**
- Abhyas has RCS, Visual and IR augmentation systems required for weapon practice.

- The fuselage consists of five sections, namely the nose cone, equipment bay, fuel tank bay, air intake bay and tail cone.

## Achievements during the test

- The user requirement of 5 km flying altitude
- Vehicle speed of 0.5 mach
- Endurance of 30 minutes and 2g turn capability
- At the end of its launch phase the burnout booster rockets are ejected and the main gas-turbine engine powers the vehicle during cruise phase.

## Lakshya Mean target in Sanskrit

- Is an Indian remotely piloted high speed target drone system developed by the Aeronautical Development Establishment (ADE) of DRDO.
- A variant Lakshya-1 is used to perform discreet aerial reconnaissance of battlefield and target acquisition.

## Aeronautical Development Establishment

- Aeronautical Development Establishment is a laboratory of India's Defence Research and Development Organisation.
- Located in Bangalore, its primary function is research and development in the field of military aviation.
- Successful projects include
    - Lakshya (an aerial target),
    - Nishant (a reconnaissance unmanned aerial vehicle),
    - Nirbhay(a subsonic cruise missile),
    - Flight simulators for (LCA, Ajit, Kiran, Mig-21) and
    - Avionics packages for Tejas-LCA (display and FCC).

It earlier worked on Sparrow (mini-uav) and Ulka (aerial

target).