

# **Anti-Tank Guided Missiles**

### Why in news?

The indigenously developed laser-guided version of the Anti-Tank Guided Missile (ATGM) was successfully test fired by the DRDO.

#### What are the ATGMs?

- ATGMs are missile systems that can strike and neutralise armoured vehicles such as tanks.
- They can pierce the armours of tanks and the material that can withstand such ammo.

#### When did ATGMs first come into use?

- The development of such kind of ammunition has been an ongoing race since World War I.
- But it wasn't until the World War II that armies across the world began to use the ATGMs.
- Indian Army mainly uses various imported ATGMs.
- But, the Defence Research and Development Organisation (DRDO) has been working on ATGMs that can be launched from different platforms as part of the Integrated Guided Missile Development Programme.

#### What were the previously tested ATGMs?

- In 2018, ATGM Nag was successfully tested in desert conditions.
- In 2019, the indigenously developed low weight, fire and forget **Man Portable ATGM** (MPATGM) was successfully tested.
- All these systems are in their various stages of development.
- They are mainly used by infantry units of the Army.
- In 2019, the government said that it has procured **Anti-Tank Spike Missiles** from Israel to meet the requirements of the Indian Army.

## How are laser-guided ATGMs different?

- The laser-guided ATGM was successfully tested twice recently for a target placed at different ranges.
- They mainly differ in one aspect from other ATGMs developed till date.

- This ATGM (which is yet to receive an operational name) is designed to be fired from tanks.
- With its range limited to 1.5 to 5 kms, it locks and tracks the targets with the help of laser designation to precisely strike the target.
- The missile uses a 'tandem' High Explosive Anti Tank (HEAT) warhead.
- The term tandem refers to the missiles using more than one detonation in order to effectively penetrate the protective armours.
- This missile has the capacity of piercing armoured vehicles which use specially designed armour plates to counter the impact of projectiles.

## Where was this ATGM developed?

- This Laser Guided ATGM has been developed by two facilities of the DRDO's Armament and Combat Engineering Cluster in association with Instruments Research & Development Establishment.
- [Two facilities of the Armament and Combat Engineering Cluster are
  - 1. Armament Research and Development Establishment (ARDE) and
  - 2. High Energy Materials Research Laboratory (HEMRL)]
- This missile is currently undergoing tests to be integrated with India's Main Battle Tank (MBT), Arjun.
- DRDO scientists said more tests for hitting targets at different ranges and for testing other flight parameters are planned in coming days.
- After these series of validation tests, the system will be ready for the user trial by the Army.
- These tests were conducted from MBT Arjun at the field ranges of the Armoured Corps Centre and School (ACC&S) of the Indian Army.

## What is its importance in armoured warfare?

- The role of armoured vehicles has remained decisive even in modern day warfare because of their ability to **go past conventional defenses**.
- Tank battles are generally fought in a close range of under five kms.
- The objective is to hit the enemy tank before they can take a clear shot.
- Development of missile systems that can defeat tanks built using modern armour **act as a deterrent** against enemy tanks from advancing.
- DRDO scientists say the operability of the missile from a tank is a key feature in armoured warfare.
- The missile has the capability of engaging with the target even if it is not in the line of sight, thus further enhancing its capability.

#### **Source: The Indian Express**

