



A-SAT and ADTCR

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Why in News

The Defence Research and Development Organisation (DRDO) displayed its **Anti-Satellite (A-SAT) missile** and the Air Defence Tactical Control Radar (ADTCR) during the 71st Republic Day parade.

- Additionally, the Indian Air Force 's (IAF) latest inductions, **Chinook heavy-lift helicopters** and **Apache attack helicopters**, took part in the Republic Day flypast.
- Moreover, the Army showcased its recent induction, the **155-mm Dhanush towed howitzer** and **K9-Vajra self-propelled artillery gun**.

A-SAT Missile

- **About the Missile**
 - It is an interceptor missile that destroys or jams satellites in space.
 - There are two types of A-SATs:
 - **Kinetic A-SATs**, like ballistic missiles, physically strike an object in order to destroy it.
 - **Non-Kinetic A-SATs** are the ones that use non-physical means to disable or destroy space objects, which include frequency jamming, blinding lasers or cyber-attacks.
 - The theoretical maximum range of A-SATs is limited which means satellites above 20,000 km are out of range.

- **India's Test of A-SAT Missile**

- On 27th March, 2019, **India successfully conducted a Kinetic Anti-Satellite (A-SAT) missile test** from Dr. APJ Abdul Kalam Island launch complex (Odisha).
- The A-SAT missile was developed by the DRDO under **Mission Shakti**.
Mission Shakti seeks to defend India's space assets and thus aims at strengthening India's overall security.
- **India became the fourth country** to acquire such technology after USA, Russia, and China.
- The A-SAT technology has a **'hit to kill' feature** which is developed for the first time in India. It enables to destroy an enemy satellite by directly colliding with it with pinpoint accuracy.

Air Defence Tactical Control Radar

- Air Defence Tactical Control Radar (ADTCR) is used for volumetric surveillance, detection, tracking and friend/foe identification of aerial targets of different types and transmission of prioritised target data to multiple command posts and weapon systems.
- It is also capable of **detecting very small targets and low flying targets**.

Source: TH