

Akash-NG missile

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In news- DRDO successfully flight-tested surface-to-air missile Akash-NG off the coast of Odisha recently.

About New Generation Akash Missile (Akash-NG)-

- The missile system has been **developed by Defence Research & Development Laboratory (DRDL), Hyderabad in collaboration with other DRDO laboratories.**
 - Akash-NG can strike targets at a distance of around **60 km and fly at a speed of up to Mach 2.5.**
 - This is now being improved into the Akash-NG, which is **engineered to shoot down extremely high-performing fighter aircraft or high-maneuvring, low radar cross-section aerial threats.**
 - The Akash-NG **detects enemy fighters at ranges out to 80 km** and initiates the launch sequence.
 - The Akash-NG rocket has been **re-engineered comprehensively and brought down from the legacy Akash's 700 kg to a sleek 350 kg.**
 - The IAF earlier inducted seven units of the Akash missile, while the army has inducted two and has another two on order.
 - **Bharat Electronics Limited builds the Akash missile system for the IAF, while Bharat Dynamics Limited is the prime integrator for the army.**
 - The MoD earlier announced that indigenisation levels in the Akash are above 96 per cent.
- **The IAF has part-funded** the development of the Akash-NG.

Two key improvements to the current Akash missile have transformed it into the Akash-NG-

- **The first is a brand new, two-pulse, solid rocket motor that** replaces the old ramjet on the legacy Akash

missile. The new motor not just reaches out to 30 kilometres (km), but also generates a high terminal velocity to strike even the fastest and most agile enemy fighters.

- **The second major change in the Akash-NG is its new seeker head** developed by the DRDO laboratory, Research Centre Imarat (RCI). The seeker locks onto the enemy aircraft and continuously guides the Akash-NG to impact with the target.

More about Akash Missile system-

- AKASH is a Short Range Surface to Air Missile system to protect vulnerable areas and vulnerable points from air attacks(25 Kms).
- The missile was inducted in 2014 in IAF and in 2015 in Indian Army.
- AKASH Weapon System can simultaneously **engage Multiple Targets in Group Mode or Autonomous Mode.**
- It has built in Electronic Counter-Counter Measures (ECCM) features.
- The entire weapon system has been configured on mobile platforms.
- The all-weather missile 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.
- Akash **uses a ramjet propulsion system** which can intercept the target at supersonic speed without deceleration.
- It has been designed and developed as **part of India's 30-year-old integrated guided-missile development programme (IGMDP)** which also includes other missiles like Nag, Agni, Trishul and Prithvi.
- The missile has a launch weight of 720 kg, length of 5.8 m and a diameter of 350 mm and can carry a warhead of 50-60kg.

- The nuclear-capable missile can fly at a speed of up to Mach 2.5 (nearly 860 meter per second) at a maximum height of 18 km.
- It can strike enemy aerial targets like fighter jets, drones, cruise missiles, air-to-surface missiles as well as ballistic missiles from a distance of 30 km.
- The missile is supported by the **indigenously developed radar called 'Rajendra'** that can handle highly-manoeuving multiple targets from multiple directions in group or autonomous mode.

The missile is reportedly **cheaper and more accurate than US' Patriot missiles due to its solid-fuel technology** and high-tech radars.