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Land-attack Version of BrahMos Missile

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Why in News

Recently, India has successfully **test-fired a land-attack version of the BrahMos supersonic cruise missile** from the Andaman and Nicobar Islands.

The test by the Army comes over a month after the **Naval version of BrahMos was successfully test fired** from Indian Navy's indigenously-built stealth destroyer INS Chennai.

Key Points

- **Features of New Land-attack Version:**
 - The **range** of the missile has been **extended to 400 km** from the original 290 km but its **speed** has been maintained at **2.8 Mach or almost three times the speed of sound**.
 - The test was done in a **“top-attack”** configuration.
 - Most modern missiles, including BrahMos, **can be fired in both top-attack and direct attack modes**.
 - In **top attack** mode, the missile is required to climb sharply after launch, travel at a certain altitude and then fall on top of the target.
 - In **direct attack** mode, the missile travels at a lower altitude, directly striking the target.

- **Significance of the Test:**

- These tests **are a display of India's tactical cruise missile triad**, i.e. launch capability from land, sea and air platforms.

India has **already deployed a sizable number of the original BrahMos missiles** and other key assets in several strategic locations along the **Line of Actual Control (LAC) with China** in Ladakh and Arunachal Pradesh.

- The test marks the achievement of a critical milestone in **enhancing India's capability of engaging enemy's vitally important targets** in depth areas.
- In the last two-and-half months, **India has test fired a number of missiles** including **an anti-radiation missile named Rudram-1** which is planned to be inducted into service by **2022**.

- **BrahMos Missile:**



- An **amalgamation of the names of Brahmaputra river and Moskva river (Russia)**, BrahMos missiles are **designed, developed and produced by BrahMos Aerospace.**

BrahMos Aerospace is a **joint venture** company set up by the **Defence Research and Development Organisation** (DRDO) and **Mashinostroyeniya of Russia.**

- It is a **medium-range supersonic cruise missile** which can be **launched from submarines, ships, aircraft or land.**
 - **Cruise missiles** are defined as “an unmanned self-propelled guided vehicle that sustains flight through aerodynamic lift for most of its flight path and whose primary mission is to place an ordnance or special payload on a target.”
 - Depending upon the **speed**, such **missiles are classified as Subsonic (around 0.8 Mach), Supersonic (2-3 Mach) and Hypersonic** cruise missiles (more than 5 Mach).
- It is the **world’s fastest supersonic cruise missile**, as well as the **fastest anti-ship cruise missile in operation.**
- It **operates on the "Fire and Forget" principle**, i.e it does not require further guidance after launch.
- The missile has a **flight range upto 290-km.** However, **India's entry into the Missile Technology Control Regime** (MTCR) has extended the range of the BrahMos missile to reach 450-600 km.
- **Various versions of BrahMos**, including those that can be fired from land, warships, submarines and **Sukhoi-30 fighter jets**, have already been developed and successfully tested in the past.

A **hypersonic version** of the missile, capable of reaching a **speed of 5 Mach**, is under development.

Source: IE