Indian Navy's New BrahMos deal

Why in news?

India's decision to acquire 200 BrahMos Extended Range (ER) supersonic cruise missiles for its naval fleet represents a significant development in the country's defense capabilities.

BrahMos Missile
• **BrahMos Aerospace**- It is a joint venture between India and Russia founded in 1998 with the aim to develop, design, manufacture and market world's only supersonic cruise missile system-BrahMos. • **Ownership**-India holds a 50.5% stake, while Russia holds a 49.5% share in the venture. • **Origin**- The BrahMos missile itself is derived from the Russia's P-800 Oniks (also known as Yakhont) missile, which was first tested in 1990s. • **Brahmos missile**- Brahmos is named on the rivers Brahmaputra (India) and Moskva (Russia), it is a is a two-stage (solid propellant engine in the first stage and liquid ramjet in second) air to surface missile. • **Indian Navy**- The base version of the missile has been part of the Indian Navy's arsenal since 2005. • **Indian Army-** Since 2007, the Army has utilized the missile's vertical launch configuration for mobile autonomous launchers. • **Indian Air Force-** Recently inducted, the Air Force has integrated the BRAHMOS-ER missiles onto its *Su-30MKI fighter aircraft*. • In 2023 Ministry of Defence had signed a deal with BrahMos Aerospace for procuring long range missiles and maritime mobile coastal batteries for the Indian Navy. • The ***Indian Navy's warships or destroyers*** of the - Vishakhapatnam class (Vishakhapatnam, Mormugao, Imphal), - Kolkata class (Kolkata, Kochi, Chennai), - Delhi class (Delhi, Mysore, Mumbai), - Rajput class (Ranvir, Ranvijay) and • ***Frigates*** of the - Shivalik class (Shivalik, Satpura, Sahyadri) and - Talwar class (Teg, Tarkash and Trikand) are already equipped with BrahMos missiles. • **BrahMos Indigenisation plan-** Indian Navy has a 15 year plan in place to boost Indian manufacturing of weapons including the BrahMos missile. • **Indigenous capacity**- In 1998, the indigenous capacity of the BrahMos project was only 13% which was increased to 75% in 2023.

What is the significance of BrahMos Extended Range Missile?

- **Enhanced naval defence capability**- The BrahMos ER missiles are poised to become the primary surface-to-surface missiles for the Indian Navy, offering enhanced range, capabilities and versatility.
- **Two-stage design**-
    - **First stage**- It features a solid propellant booster which provides initial thrust

during launch.
    - **Second Stage-** It employs a liquid-fuel fired ramjet engine which propels the missile beyond supersonic speeds.
- **Speed-** In the last test-firing conducted by the Indian Navy, the BRAHMOS-ER achieved a remarkable speed of 2.8 Mach, which is nearly three times the speed of sound.
- **Fire and forget principle**- The missile operates on this principle, once launched it can autonomously track and hit its target without external intervention.
- **Modernization-**The decision to replace older missiles underscores the India's commitment to modernizing its naval defence arsenal
- **Multi-domain launch capabilities**- The BrahMos ER's ability to be launched from sea, land, or air enhances India's operational flexibility and strategic reach.



- **Service integration**- Integration with different branches of the military (Navy, Army, and Air Force) further emphasizes its versatility and adaptability to diverse mission requirements.
- **Extended target capabilities-**.While the base version of the BrahMos missile had a range of 290 km, the BRAHMOS-ER has been extended to an impressive range of 800-900 km allowing naval vessels to engage targets at a greater distance
- **Accuracy-** The missile's cruising altitude (up to 15km) and low radar signature combined with supersonic speeds, make it a formidable asset that reportedly cannot be intercepted by existing weapon systems.
- **Enhanced precision-** BrahMos missile features an indigenous seeker and booster designed by the Defence Research and Development Organisation (DRDO) which ensures precision and effectiveness in striking distant targets
- **Indigenization**- The project has achieved 75% indigenous capacity, with over 200 Indian industries involved, enhancing self-reliance in defence manufacturing.
- **Compliance with MTCR**- BrahMos ER comply with Missile Technology Control Regime (MTCR) norms demonstrates India's commitment to international agreements.
- **Strategic partnership**- The BrahMos project, a joint venture between India and Russia exemplifies successful international collaboration in defence technology by *strengthening diplomatic ties* between two nations.
- **Successful tests**- The successful tests across various domains (air, sea and land) underscores the missile's reliability and operational readiness.

Quick facts

Missile Technology Control Regime (MTCR)

• **Aim-** To limit the spread of ballistic missiles and other unmanned delivery systems that could be used for chemical, biological, and nuclear attacks.
• **Launch year**- 1987
• **Establishment**- By the G-7 industrialized countries (Canada, France, Germany, Italy, Japan, the UK, and the United States).
• **Member countries**- 35
• **India-** It is a part of the regime since 2016.
• **Restrictions-** The regime urges the member countries to restrict their exports of missiles and related technologies capable of carrying a 500-kilogram payload at least 300 kilometers or delivering any type of weapon of mass destruction.

References

1. The Hindu- Indian Navy's new BrahMos deal
2. Indian Express- Cabinet Committee to procure BrahMos for Navy
3. BrahMos- BrahMos aerospace

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