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MoD inks 1700cr pact for dual role BrahMos Missile

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What's in News?

The Ministry of Defence signed a Rs 1,700-crore deal with BrahMos Aerospace Private Limited (BAPL) for acquisition of **dual-role capable surface-to-surface BrahMos missiles for deployment on warships of the Indian Navy.**

Background and development of BrahMos Missile:

- An Inter-Governmental Agreement was signed with Russia in Moscow in **1998** by Dr Kalam, who headed the Defence Research and Development Organisation (DRDO), and N V Mikhailov, Russia's then Deputy Defence Minister.
- This led to the formation of BrahMos Aerospace, a joint venture between DRDO and NPO Mashinostroyeniya (NPOM), the Indian side holding 50.5% and the Russians 49.5%.
- In 1999, work on development of missiles began and the first successful test in 2001 was conducted from a specially designed land-based launcher.
- The missile system has since reached some key milestones, with the first major export order of \$375 million received from the Philippines Navy in 2022.

BrahMos missile:

- A combination of the names of **Brahmaputra and Moskva rivers**, BrahMos missiles are designed, developed and produced by BrahMos Aerospace, a **joint venture company set up by Defence Research and Development Organisation (DRDO) and Mashinostroyeniya of Russia.**
- BrahMos is a **two-stage missile** with **solid propellant booster as first stage** and **liquid ramjet as the second stage.**
- The cruise missiles like BrahMos are a type of systems known as **the 'standoff range weapons'** which are fired from a range sufficient to allow the attacker to evade defensive fire from the adversary.
- The BrahMos has **three times the speed**, 2.5 times flight range and higher range compared to subsonic cruise missiles.
- The missile can achieve a cruising altitude of 15 km and a terminal altitude as low as 10 m to hit the target

Special Features of BrahMos:

1. Universal for multiple platforms
2. "Fire and Forget" principle of operation
3. High supersonic speed all through the flight
4. Long flight range with varieties of flight trajectories
5. Low radar signature
6. Shorter flight times leading to lower target dispersion and quicker engagement
7. Pin point accuracy with high lethal power aided by large kinetic energy on impact

Significance of Having a Ship Based System:

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- The Indian Navy began inducting BrahMos on its frontline warships from 2005, and has capability to hit sea-based targets beyond radar horizon.
- The Naval version has been successful time and again in sea-to-sea and sea-to-land modes.
- The BrahMos from ship can be launched as a single unit or in a salvo (a number of weapons released from one or more aircraft in quick succession) upto eight in numbers separated by 2.5 seconds intervals.
- These salvos can hit and destroy a group of frigates having modern missile defence systems. **BrahMos as a 'prime strike weapon'** for the ships significantly increases their capability of engaging naval surface targets at long ranges.

News Highlights:

- Ministry of Defence (MOD) signed a contract with BAPL for acquisition of **additional dual-role (capable of both land attack and anti-ship strikes) capable surface-to-surface BrahMos** missiles at an overall approximate cost of Rs 1,700 crore under the **'buy-Indian'** category
- Thus this provides further **impetus to atmanirbharta (self-reliance)** in defence production

Conclusion:

- With requirements evolving in multi-dimensional warfare, the BrahMos is undergoing a number of upgrades and work is on to develop versions with higher ranges, manoeuvrability and accuracy.
- Induction of these dual-role capable missiles is going to significantly enhance the operational capability of Indian Navy fleet assets.

