

## **BrahMos test successful for 2nd consecutive day**

The BrahMos supersonic cruise missile was successfully test-fired from an integrated test range in Odisha's coastal Balasore district for the second consecutive day on Tuesday, validating its strike capability, the Defence Ministry said. The missile was launched from a mobile autonomous launcher at 11.45 hours and it successfully flew in its pre-set trajectory "fulfilling its mission objectives", the Ministry said.

"Through this launch the critical indigenous components including fuel management system and other non-metallic airframe components have qualified to form part of the missile," Chief Executive Officer and Managing Director of BrahMos Sudhir Mishra said.

BrahMos is a joint venture between India's DRDO and NPO Mashinostroyenia (NPOM) of Russia. It has a maximum speed of Mach 2.8 to 3, and it is believed to be the one of the world's fastest cruise missiles currently in operational use.

It was successfully test-fired yesterday from the integrated test range as part of service life extension programme. The life extension trial of BrahMos was conducted from a static inclined launcher, proving the efficacy and longevity of the system.

During the launch, the major sub-systems manufactured indigenously under the 'Make in India' initiative were tested, defence sources said BrahMos has emerged as the ultimate weapon of choice in modern warfare with its unmatched speed and precision, they said.

DRDO Chairman S Christopher congratulated the team involved in successful flight test, calling it a major milestone in the indigenisation of the BrahMos system. The scientific advisor to the Defence Minister and DG (Missiles & Strategic Systems) G Satheesh Reddy congratulated the scientists for successfully developing the multiple sections of BrahMos and proving them in the mission.

The Defence Ministry said the missile has established itself as a major force multiplier in modern-day complex battlefields with its "impeccable" land-attack and anti-ship capabilities.



## **10 things about BrahMos supersonic cruise missile recently test-fired to check 'life extension' technologies**

The BrahMos missile was successfully test-fired on Monday, May 21, to check a few new features which were part of its 'life extension' programme.

The successful maiden test firing of BrahMos supersonic cruise missile from Su-30MKI was carried out on November 22, 2017.

With the November testing, the armed forces became capable of launching the BrahMos missile, which has a strike range of around 290 km and is described as the world's fastest supersonic cruise missile, from land, sea and air, completing the tactical cruise missile triad for the country. The last land-based missile test was successfully conducted from ITR itself on March 11, 2017.

## **Main purpose: to check 'life extension technologies'**

The main reason for Monday's missile test was to validate its "life extension" technologies developed for the first time in India by Defence Research and Development Organisation (DRDO) and team BrahMos, said an official of the ITR.

### **More about Monday's BrahMos missile test**

- This was conducted from a Static Inclined Launcher at the Integrated Test Range (ITR) at Chandipur near Balasore, Odisha to check the new features added to the missile as part of service life extension programme.
- BrahMos flew as per its calculated trajectory and all its features worked perfectly.

### **10 Things about the world's fastest supersonic cruise missile BrahMos:**

1. The missile has two stages -- first is solid and the second one is a ramjet liquid propellant.
2. It operates on 'fire and forget principal' and is capable of being launched from land, sea, underwater, and air against sea and land targets.
3. It is capable of carrying warhead of 300 kilogram (both conventional as well as nuclear) and has a top supersonic speed of Mach 2.8 to 3 (roughly three times speed of sound).
4. The missile is highly versatile and its unmatched speed, precision and power makes it the ultimate modern weapon. Developers say that the missile has a strike accuracy rate of 99.99 per cent.
5. BrahMos follows a variety of trajectories like high, high-low, low, surface-skim etc. unlike ballistic missiles which are powered for half the journey times and follow an ellipsoidal trajectory. Moreover, because its trajectory cannot be predicted it is difficult to defend against.
6. Because BrahMos is powered till the time it hits the target, it develops an enormous kinetic energy which increases its destructive capacity.
7. While India already extended the range of the three-tonne missile from its earlier 290 km to 400 km and successfully test-fired the variant in March 2017, the range can be further increased to 800 km after India's induction into the Missile Technology Control Regime in June 2016.
8. BrahMos has been introduced both in the Army and Navy. The Air Force version saw a successful trial as per DRDO scientists.
9. With INS Rajput, the first version of BrahMos missile system was inducted into the Navy in 2005. It is now fully operational with two regiments of the Army.
10. BrahMos ALCM, weighing 2.5 tonnes, is the heaviest weapon to be deployed on India's Su-30 fighter aircraft modified by HAL (Hindustan Aeronautics Limited) to carry weapons.

### **Where and how is the BrahMos missile assembled?**

- The missiles are developed and manufactured by BrahMos Aerospace Private Limited as part of a joint venture between the India's Defence Research and Development Organisation (DRDO) and Russia's Reutov-based rocket and missile developers NPO Mashinostroyeniya (NPOM)
- In March 2016, Former Defence Minister Manohar Parrikar said as per a March 2016 report that 65 per cent of the missile components were imported
- The Russia-made components include the booster, the ramjet engine, target seeker, homing device and the canister that stows the missile
- The BrahMos headquarters in New Delhi consists of the design centre, simulation and interface development department, application software development, and aerospace knowledge centre (also at Hyderabad). The last is also located in Hyderabad
- The components and subsystems required to create the missile come from a Thiruvananthapuram facility in India and from Russia to the BrahMos Integration Complex of BrahMos Aerospace. Here, the BrahMos missile is assembled.

<https://www.indiatoday.in/education-today/gk-current-affairs/story/brahmos-supersonic-missile-test-fired-successfully-html-1238669-2018-05-22>