

The decisive weapon systems

The Indian Armed Forces, one of the largest military force in the world, is equipped with huge conventional and strategic weapons to defend and protect nation's sovereignty and integrity from any internal or external threats.

Given India's volatile neighbourhood, it is imperative that the armed forces are well stocked with the appropriate arms and ammunition. The advent of BRAHMOS, the fastest operational cruise missile existing in the world today, has truly given the Indian Armed Forces the much needed capability and punch to undertake deep surgical strikes.

BRAHMOS, with a fine combination of speed, precision and power, has three times more velocity, 2.5 to three times more flight range, three to four times more seeker range and nine times more kinetic energy than any existing state-of-the-art subsonic cruise missiles.

The potential BRAHMOS, developed as a fusion of great scientific minds from both India's Defence Research & Development Organisation (DRDO) and Russia's JSC MIC NPO Mashinostroyeniya (NPOM), has grown from strength to strength over the years. The Joint Venture has achieved impressive strides in joint design, development and production of the high-technology BRAHMOS.

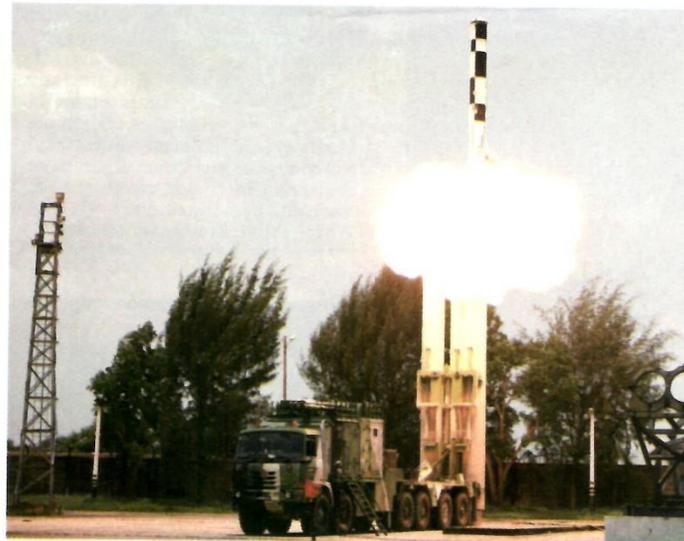
The 300-km range BRAHMOS, initially conceived and developed as an anti-ship cruise missile system, has evolved over the years and added many more variants — from sea-to-land, sea-to-sea, land-to-land, land-to-sea, sub-sea to land, sub-sea to sea, air-to-land and air-to-sea configurations, all precisely hitting the targets either on land or at sea with high lethal effect.

The Indian Navy and the Indian Army became the first recipients of this unparalleled weapon system. The air-launched version was successfully test-fired for the first time in 2017 from a modified

Su-30MKI fighter aircraft of the Indian Air Force. With this historic maiden launch, BRAHMOS has bolstered the IAF's air combat capability and completed the tactical cruise missile triad.

The record-breaking feats of BRAHMOS continues to add feathers of glory on Indian Armed Forces, with another successful test-firing of the BRAHMOS supersonic cruise missile with an indigenous seeker at Pokhran test range in Rajasthan, on March 22, 2018. This launch has boosted India's defence indigenisation efforts which significantly highlights the vital contributions of BRAHMOS missile to the government of India's ambitious "Make In India" initiative.

On May 22, 2019, BRAHMOS Air Launched Missile, fired from Su-30MKI effectively penetrated a land target, show-



The BRAHMOS has crossed many milestones since its inception and has added new capabilities and fire power through many variants to meet divergent war scenarios

casing time and again a much desired capability of BRAHMOS missile to strike from large stand-off ranges on any target at sea or on land with pinpoint accuracy by day or night and in all weather conditions.

BRAHMOS has also set precedence by successfully establishing a robust Missile Industrial Complex in both India and

Russia. The public and private sector comprising of both Indian and Russian industries have been actively involved in designing, developing and producing various components of the missile.

BrahMos Aerospace prides itself in possessing a full-fledged design centre, an Industrial Consortium for producing different sub-systems, a world-class integration and check-out facilities with stringent quality control. Hundred per cent of inte-

gration of the missile systems are accomplished in India. It is the contribution of more than 20,000 specialists, engineers and technicians in more than 200 large and medium industries that has made BRAHMOS a formidable, world-class system today.

The emergence of BRAHMOS has not only strengthened India's technological base but also elevated its image in the global arena. As a high technology defence product, BrahMos has great potential of becoming India's major weapon export in the coming decades.

In terms of futuristic developments, the hypersonic BRAHMOS is being envisioned to travel at a speed of Mach 5 to 7 (five to seven times the speed of sound). Both governments are also keen to develop miniaturised, next-generation BRAHMOS, being termed as BRAHMOS-NG.

BRAHMOS has charted many milestones since its inception and has added new capabilities and fire power through many variants to meet divergent war scenarios.

Gaganyaan mission: IAF to pick 10 potential astronauts in 2 months, ISRO chief says

By Surendra Singh

HIGHLIGHTS

Air Force will screen and select 10 potential crew members for India's first manned space mission in two months

Isro chairman K Sivan said that the space agency will choose the final three astronauts from the ten people who the IAF would train

India's first manned space mission is slated for early 2021

The Indian Air Force (IAF) will “screen and select 10 potential crew members for the country’s first manned space mission in two months”. Indian Space Research Organisation (Isro) chairman K Sivan told TOI that the space agency will choose the final three astronauts from the ten people who the IAF would train.

The Isro chief said, “We have an agreement with the IAF for crew training at Isro’s Human Space Flight Centre in Bengaluru. IAF will screen around 10 crew members for the mission. This screening and selection will happen within one to two months. Isro will finally choose three members from these 10 crew members for the human spaceflight mission.”

Preparations for the country’s first manned mission to space are in full swing as Isro recently held its first meeting of the national advisory council (NAC), where representatives of all organisations and institutes involved in the Gaganyaan project participated. The agency also tested CE-20 engine, meant for the upper stage of human-rated GSLV MK-III, which will be carrying Indian astronauts to space.

Speaking to TOI, Sivan said, “In the NAC meet on June 8, Air Vice-Marshal R G K Kapoor, assistant chief of air staff operations (space), Rear Admiral D S Gujarl, assistant chief of naval staff, Defence Research and Development Organisation director G Satheesh Reddy, Hindustan Aeronautics Limited chairman and managing director R Madhavan and veterans of different institutes attended the meeting. All these agencies will play crucial roles in the mission. While the IAF will handle crew selection and training, DRDO will provide the life support system for crew and Navy will help in recovering the human capsule once it re-enters the atmosphere and splashes down in sea.”

The Isro chairman said the meeting, also attended by former Indian astronaut Rakesh Sharma, discussed the overall plan, including crew training. “The NAC is mandated to meet once in six months to review the preparedness of the mission (scheduled to be launched before or by 2021). But we have decided to initially hold the review meeting once in three months in order to streamline the process,” he said.

On the Chandrayaan-2 mission, Sivan said “the integration of GSLV Mk III has been going on at Satish Dhawan Space Centre in Sriharikota for quite some time. However, the lunarcraft will be on display at Bengaluru’s U R Rao Satellite Centre for the media for the next two days before being taken to Sriharikota for integration with the GSLV rocket”.

<https://timesofindia.indiatimes.com/india/crew-selection-by-iaf-for-gaganyaan-will-happen-within-2-months-isro-chief/articleshow/69745975.cms>