

## **Operational Readiness Test of Agni I Missile Successful**

Bhubaneswar: Adding another feather to its hat, India successfully test fired its Agni-I ballistic missile today. The missile indigenously developed by Defense Research and Development Organisation (DRDO) took off from the launch pad-4 of the Integrated Test Range (ITR) at Abdul Kalam Island—previously known as Wheeler Island—at around 9.15 am, here. It went on hitting the target in 9 minutes and 36 seconds.

If to go by the DRDO sources, Agni I is a nuclear capable missile with an ability to hit targets located at a distance of 700kms and the current test was done by the army as a part of its Strategic Forces Command (SFC) training exercise. While the missile is of surface-to-surface category, army said it is technically advanced with solid propellants use.

Worth mentioning, Agni I missile equipped with a sophisticated navigation tool, has already been inducted in the Indian army. While it has already proved its accuracy, range and usability in the military the present test was basically aimed at ensuring its operational readiness. Last time it was test fired from the same launch pad on November 27 last year, which was a success. Developed by the Advanced Systems Laboratory of DRDO Agni I missile is also having contribution from Defence Research Development Laboratory and Research Centre Imarat and Bharat Dynamics Limited, Hyderabad.

*International Business Times*  
*14 Mar, 2016*

### **Odisha: India successfully test-fires nuclear-capable Agni-I missile**

India succeeded in test-firing a nuclear-capable Agni-I missile from Abdul Kalam Island, earlier known as Wheeler Island, off the coast of Odisha Monday. The indigenously built missile is capable of hitting a target at a range of 700 kms.

The medium-range surface-to-surface ballistic missile was test-fired at around 9:15 a.m. from the Integrated Test Range as part of Strategic Forces Command of Indian Army's training exercise. The missile hit the target in 9 minutes and 36 seconds, the Press Trust of India reported.

"It was test-fired as part of Strategic Forces Command (SFC) training exercise and the trial was successful," IANS quoted Defence Research and Development Organisation (DRDO) official as saying.

The Agni-I missile's sophisticated navigation system ensures it hits the target with a high degree of accuracy and precision, according to reports. The missile weighs 12 tonnes and can carry a conventional payload of 1,000 kg or a nuclear warhead.

The missile developed jointly by DRDO's Premier Missile Development Laboratory — Advanced Systems Laboratory, Defence Research Development Laboratory and Research Centre Imarat. It has been integrated by Bharat Dynamics Limited in Hyderabad.

DRDO had successfully test-fired Agni-I missile in November 2015 and a month later it test-fired long-range nuclear-capable surface-to-surface Agni-IV missile.

There are three Agni missile variants — medium-range ballistic missile (Agni-I), intermediate-range ballistic missile (Agni-II, Agni-III, Agni-IV) and inter-continental ballistic missile (Agni-V, Agni VI).

While Agni-II and Agni-III are operational, Agni-V is in the last phase of testing and Agni-VI is in the early stages of development. Agni-V, capable of striking targets 8,000 km away, can be launched from anywhere and Agni-VI, which has a strike-range of 10,000 km, can be deployed on submarines as well as land-based launchers.

*The Economic Times*  
*14 Mar, 2016*

## **India test-fires nuclear-capable Agni-I ballistic missile**

Balasore (Odisha): India today successfully test-fired its indigenously built nuclear-capable intermediate range Agni-I ballistic missile, capable of hitting a target 700 kms away, from a test range off Odisha coast as part of a user trial by the Army.

The surface-to-surface, single-stage missile, powered by solid propellants, was test-fired from a mobile launcher at 9.15 AM from launch pad-4 of the Integrated Test Range (ITR) at Abdul Kalam Island (Wheeler Island), a defence official said.

The trial, which formed part of training exercise by the Strategic Forces Command of Indian Army, was fully successful, he said.

The sophisticated missile covered 700 km distance within 9 minutes and 36 seconds, they said.

"The launch was undertaken as a part of periodic training activity by SFC to further consolidate operational readiness," the official said.

The trajectory of the trial was tracked by a battery of sophisticated radars, telemetry observation stations, electro-optic instruments and naval ships from its launch till the missile hit the target area with accuracy, they said.

Agni-I missile is equipped with sophisticated navigation system which ensures it reaches the target with a high degree of accuracy and precision.

The missile, which has already been inducted into armed forces, has proved its excellent performance in terms of range, accuracy and lethality, the sources said.

Weighing 12 tonnes, the 15-metre-long Agni-I, is designed to carry a payload of more than one tonne. Its strike range can be extended by reducing the payload.

Agni-I was developed by Advanced Systems Laboratory, the premier missile development laboratory of DRDO in collaboration with Defence Research Development Laboratory and Research Centre Imarat and integrated by Bharat Dynamics Limited, Hyderabad.

The last trial of Agni-I, conducted on November 27, 2015 from the same base, was also successful.

*NDTV*  
*14 Mar, 2016*

## **India Successfully Test-Fires Nuclear-Capable Agni I Missile**

BHUBANESWAR: India successfully test-fired an indigenously built nuclear-capable Agni-I missile from a test range off the Odisha coast today.

Capable of hitting a target at a distance of 700 km, the surface-to-surface missile was test-fired at 9.11 am from a launch pad of the Integrated Test Range (ITR) at Abdul Kalam Island (formerly Wheeler Island), 150 km from Bhubanswar.

"It was test-fired as part of Strategic Forces Command (SFC) training exercise and the trial was successful," said an official of the Defence Research and Development Organisation (DRDO).

The medium-range ballistic missile developed by the DRDO, Agni-I missile is equipped with sophisticated navigation system which ensures it reaches the target with a high degree of accuracy and precision.

It is capable of carrying a conventional payload of 1,000 kg or a nuclear warhead.

It was successfully test-fired in November last year.

*Business Standard*

*14 Mar, 2016*

## **Indigenously developed Agni-I test fired successfully**

Intermediate range ballistic missile Agni-I, which is capable of carrying nuclear warheads, was successfully test fired today from the Integrated Test Range (ITR) at Abdul Kalam Island in Odisha.

Developed by Defence Research and Development Organisation (DRDO), Agni-I is a surface-to-surface, single-stage missile, which is capable of hitting a target 700 kms away. Weighing 12 tonnes, the 15-metre-long Agni-I, is designed to carry a payload of more than one tonne.

It was test-fired from a mobile launcher at 9.15 a.m. from launch pad-4 of the Integrated Test Range (ITR) in Abdul Kalam Island (Wheeler Island).

According to reports, Agni-I has a sophisticated navigation system, which enables it to reach the target with a high degree of accuracy and precision.

Agni-I was developed by DRDO under the Integrated Guided Missile Development Program. It is a single-stage missile developed after the Kargil War to fill the gap between 250 km range of Prithvi-II and 2,500 km range of Agni-II.

It was first launched on January 25, 2002, from a road mobile launcher at Integrated Test Range (ITR), Wheeler Island, Odisha.

*The Hindustan Times*

*14 Mar, 2016*

## **Nuclear-capable Agni-I missile successfully test-fired**

India successfully test-fired its indigenously built, nuclear-capable Agni-I ballistic missile from a test range off Odisha's coast as part of a user trial by the army.

The surface-to-surface, single-stage missile is powered by solid propellants and can hit targets 700km away.

The missile was test-fired from a mobile launcher at 9.15am from launch pad-4 of the Integrated Test Range (ITR) at Abdul Kalam Island (Wheeler Island), a defence official said.

The trial that was a part of training exercise by the Strategic Forces Command of the Indian Army was fully successful, the official said.

The sophisticated missile covered a distance of 700km within 9 minutes and 36 seconds, officials said.

“The launch was undertaken as a part of periodic training activity by SFC to further consolidate operational readiness,” the official added.

The trajectory of the trial was tracked by a battery of sophisticated radars, telemetry observation stations, electro-optic instruments and naval ships from its launch till the missile hit the target area with accuracy, officials said.

Agni-I missile is equipped with a sophisticated navigation system that ensures it reaches the target with a high degree of accuracy and precision.

The missile, which has already been inducted into armed forces, proved its excellent performance in terms of range, accuracy and lethality, sources said.

Weighing 12 tonnes, the 15-metre-long Agni-I, is designed to carry a payload of more than one tonne. Its strike range can be extended by reducing the payload.

Agni-I was developed by Advanced Systems Laboratory, the premier missile development laboratory of DRDO in collaboration with the Defence Research Development Laboratory and Research Centre Imarat, and integrated by Bharat Dynamics Limited, Hyderabad.

The last trial of Agni-I, conducted on November 27, 2015 from the same base, was also successful.

*The New Indian Express*  
*14 Mar, 2016*

## **Nuke Capable Agni-I User Trial Today**

Balasore: The stage is set for a fresh user trial of nuclear capable surface-to-surface ballistic missile Agni-I. The indigenously developed missile is scheduled to be test-fired from Abdul Kalam Island off the Odisha coast on Monday.

Defence sources said pre-launch preparations were in full swing at the test facility for the last few days for the trial. Both the weapon system and Integrated Test Range (ITR) are ready for the test.

“While the range integration has been completed, the missile is integrated with the launcher. Sophisticated tracking equipment have been spread to track its flight path. The test would definitely be conducted if weather permits,” a source said.

Agni-I is the first missile in the country’s most ambitious Agni series. The nuke-capable missile can destroy targets nearly 700 km away. The test of the missile, already inducted in the Indian Army, will be conducted by the personnel of Strategic Forces Command (SFC).

According to defence sources, Agni-I can be blasted off from both road and rail mobile launchers. The 15-metre missile weighs around 12 tonnes and can carry both conventional and nuclear payload of about 1,000 kg.

An official said the test will reconfirm the technical parameters set for the user (Army) and its readiness to launch the weapon system besides revalidating the weapon system’s operational effectiveness.

“The manoeuvring replenishment vehicle (MRV) body-lift aerodynamics gives the missile the ability to correct trajectory errors and reduce thermal stresses. The MRV has a velocity correction package to correct launch trajectory variances,” he said.

*The Tribune*  
14 Mar, 2016

## **Agni-I missile test-fired successfully**

**Balasore** - India today successfully test-fired its indigenously built nuclear-capable intermediate range Agni-I ballistic missile, capable of hitting a target 700 km away, from a test range off Odisha coast as part of a user trial by the Army.

The surface-to-surface was test-fired from a mobile launcher at 9.15 AM from launch pad-4 of the Integrated Test Range at Abdul Kalam Island (Wheeler Island), a defence official said.

The trial, which formed part of training exercise by the Strategic Forces Command of the Army, was successful, he said. The missile covered 700 km distance within nine minutes and 36 seconds, the official said. The trajectory of the trial was tracked by a battery of sophisticated radars, telemetry observation stations, electro-optic instruments and naval ships from its launch till the missile hit the target area with accuracy, they said.

*The Statesman*  
14 Mar, 2016

## **Agni-I ballistic missile test-fired**

India today successfully test-fired its indigenously built nuclear-capable intermediate range Agni-I ballistic missile, capable of hitting a target 700 kms away, from a test range off Odisha coast as part of a user trial by the Army.

The surface-to-surface, single-stage missile, powered by solid propellants, was test-fired from a mobile launcher at 9.15 AM from launch pad-4 of the Integrated Test Range (ITR) at Abdul Kalam Island (Wheeler Island), a defence official said. The trial, which formed part of training exercise by the Strategic Forces Command of Indian Army, was fully successful, he said.

The sophisticated missile covered 700 km distance within 9 minutes and 36 seconds, they said.

“The launch was undertaken as a part of periodic training activity by SFC to further consolidate operational readiness,” the official said. The trajectory of the trial was tracked by a battery of sophisticated radars, telemetry observation stations, electro-optic instruments and naval ships from its launch till the missile hit the target area with accuracy, they said. Agni-I missile is equipped with sophisticated navigation system which ensures it reaches the target with a high degree of accuracy and precision.

The missile, which has already been inducted into armed forces, has proved its excellent performance in terms of range, accuracy and lethality, the sources said.

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## **AGNI-1 MISSILE SUCCESSFULLY TEST-FIRED**

**Balasore (Orissa), March 14:** India on Monday successfully test-fired its indigenously built nuclear-capable intermediate range Agni-I ballistic missile, capable of hitting a target 700 km away, from a test range off Orissa coast as part of a user trial by the Army. The surface-to-surface, single-stage missile, powered by solid propellants, was test-fired from a mobile launcher at 9.15 am from launch pad-4 of the Integrated Test Range (ITR) at Abdul Kalam Island (Wheeler Island), a defence official said. The trial, which formed part of training exercise by the Strategic Forces Command of Indian Army, was fully successful, he said. The sophisticated missile covered 700 km distance within 9 minutes and 36 seconds, they said. "The launch was undertaken as a part of periodic training activity by SFC to further consolidate operational readiness," the official said. The trajectory of the trial was tracked by a battery of sophisticated radars, telemetry observation stations, electro-optic instruments and naval ships from its launch till the missile hit the target area with accuracy, they said.

— PTI

## भारत ने अग्नि-1 मिसाइल का सफल परीक्षण किया

भारत ने सोमवार को स्वदेशी निर्मित परमाणु हथियार ले जाने में सक्षम अग्नि-1 मिसाइल का सोमवार को ओडिशा के तट से सफल परीक्षण किया। सतह से सतह पर मार करने वाली अग्नि-1 मिसाइल का परीक्षण भुवनेश्वर से 150 किलोमीटर दूर अब्दुल कलाम द्वीप (पूर्व में व्हीलर द्वीप के नाम से विख्यात) के एकीकृत परीक्षण रेंज (आईटीआर) से सुबह 9.11 बजे किया गया। यह 700 किलोमीटर तक के लक्ष्य को भेद सकता है।

रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) के अधिकारी ने बताया, परीक्षण सामरिक बल कमान के प्रशिक्षण अभ्यास का हिस्सा था, जो सफल रहा। मध्यम दूरी की बैलिस्टिक मिसाइल अग्नि-1 का निर्माण डीआरडीओ ने किया है। इसमें परिष्कृत नेविगेशन प्रणाली लगाई गई है, जो सुनिश्चित करता है कि यह सूक्ष्मता व सटीकता के साथ लक्ष्य को भेद सके। यह 1,000 किलोग्राम तक के परंपरागत विस्फोटक या एक परमाणु हथियार ले जाने में सक्षम है। इसका सफल परीक्षण पिछले साल नवंबर में भी किया गया था।

पंजाब केसरी

14 मार्च, 2016

## अग्नि-1 परमाणु मिसाइल का सफल परीक्षण, 700KM तक लगा सकती है निशाना

**बालेश्वर:** भारत ने स्वदेश में निर्मित, मध्यम दूरी की परमाणु आयुध ले जाने में सक्षम अग्नि प्रथम बैलिस्टिक मिसाइल का आज सफल प्रायोगिक परीक्षण किया। यह मिसाइल 700 किमी दूर स्थित लक्ष्य को निशाना बना सकती है। इसका परीक्षण सेना ने प्रायोगिक परीक्षण के तहत ओडिशा के तटीय हिस्से पर एक परीक्षण रेंज से किया। सतह से सतह पर मार करने वाली यह एक चरणीय मिसाइल ठोस प्रणोदकों से चलती है।

एक रक्षा अधिकारी ने बताया कि आज सुबह 9 बज कर 15 मिनट पर अब्दुल कलाम आईलैंड स्थित (व्हीलर आईलैंड) इंटीग्रेटेड टेस्ट रेंज के लॉन्च पैड 4 से इसका परीक्षण किया गया। उन्होंने बताया कि भारतीय सेना की रणनीतिक बल कमांड के प्रशिक्षण अभ्यास के तहत किया गया यह परीक्षण पूरी तरह सफल रहा। अधिकारी के अनुसार, इस अत्याधुनिक मिसाइल ने 700 किमी की दूरी 9 मिनट 36 सेकंड में पूरी की।

उन्होंने बताया कि अभियानगत तैयारी को और अधिक मजबूत बनाने के लिए एसएफसी द्वारा समय समय पर की जाने वाली प्रशिक्षण गतिविधि के तहत यह प्रक्षेपण किया गया। अधिकारी के अनुसार, परीक्षण के पथ पर अत्याधुनिक रडारों, टेलीमेट्री निगरानी केंद्रों, इलेक्ट्रोसके लक्ष्य को भेदने तक ऑप्टिक इन्स्ट्रूमेंट्स और नौसैनिक पोतों के माध्यम से प्रक्षेपण के बाद से इ-नजर रखी गई।

अग्नि एक मिसाइल में अत्याधुनिक नौवहन प्रणाली लगाई गई है जो यह सुनिश्चित करती है कि यह पूरी सटीकता से समस्त मानकों को पूरा करते हुए लक्ष्य तक पहुंचे। यह मिसाइल सशस्त्र बलों में शामिल की जा चुकी है। सूत्रों ने बताया कि रेंज, सटीकता और अपने प्रयोजन के संदर्भ में इस मिसाइल ने बेहतरीन प्रदर्शन किया। कुल 12 टन वजन की 15 मीटर लंबी अग्नि प्रथम मिसाइल एक टन से अधिक का भार ले जा सकती है। भार घटा कर इसकी मारक क्षमता बढ़ाई जा सकती है। अग्नि प्रथम को रक्षा अनुसंधान एवं विकास संस्थान की एक प्रमुख मिसाइल विकास प्रयोगशाला (डीआरडीओ) 'एडवांस्ड सिस्टम्स लेबोरेटरी' ने रक्षा अनुसंधान विकास प्रयोगशाला और अनुसंधान केंद्र इमारत के सहयोग से किया है जिसमें हैदराबाद के भारत डायनेमिक्स लिमिटेड ने सहयोग दिया। आज से पहले अग्नि प्रथम का अंतिम परीक्षण 27 नवंबर 2015 को इसी रेंज से किया गया था और यह परीक्षण सफल रहा था।

## **A litmus test for Astra as it finishes trial**

Jodhpur: Iron Fist 2016, the Indian Air Force exercise in the Pokhran deserts, will prove to be a litmus test for Astra, the Beyond-Visual-Range Air-to-Air Missile (BVRAAM), which having successfully completed its user trials including those for its seekers will be officially fired for the first time on March 18 in full public view, including the presence of Prime Minister Narendra Modi.

As per Dr K Jayaraman, director, Defence Research & Development Laboratory (DRDL), Hyderabad, the primary development agency for Astra the development and trials of the missile having been put on a fast track and the missile shall go into production by year end.

Paving its way for induction into the Indian Air Force, March 18 will be the day when India would move closer to being equipped with a missile power comparable to only a few in the world when Astra would be fired from a Su-30 aircraft here.

Astra an indigenous product of Defence Research and Development Organisation (DRDO) under the Integrated Guided Missile Development Programme, shall take India into elite group of nations including the USA, France, Russia and Israel which possess such missiles capable of engaging ultra-modern supersonic fighter jets.

Dr Jayaraman said that recently the Radio Frequency (RF) Seeker performance trials have successfully spelled out Astra's capability to lock-on before launch. He further said that Astra's capability with respect to undergoing manoeuvres involving very high gravitational forces upto the order of 30-Gs, engaging Lakshya (pilotless aircraft) target with precision, firing from various altitudes (from sea level to 20 kms) at different Mach speeds and RF seekers capable to engage targets during the terminal stage requiring no guidance etc has already been tested successfully.

The missile is comparable with the best in the world including the AIM-120 Advanced Medium-Range Air-to-Air Missile, or AMRAAM of US. Astra, having been tested for its robustness and endurance capability as a formidable weapon system is unparalleled while talking about its aerodynamics, propulsion system, control and guidance systems, dual mode guidance and performance under various weather conditions. Astra can be fired at both sub-sonic speeds and super-sonic speeds.

IAF's wait for Astra is intertwined with a delay involving more than 10 years of development trials by DRDO since 2003. After its initial poor performance more than 12 years back, Astra was sent back to drawing board and has now an altogether new design. In the absence of a low-cost indigenous BVRAAM, IAF has been importing missiles from Israel, Russia and France to equip its fighter fleet. Prestigious plans are in place to arm various IAF aircraft, including indigenously developed Light Combat Aircraft (Tejas), Mirage 2000, Su-30 MKI and even the Sea Harrier with Astra.

DRDO is working on different versions of Astra for different altitudes and ranges, including Astra Mark-I which shall have a range of 44 Km and Astra Mark-II with a range of over 100 Km. This single stage, solid fuelled, 3.8 metre long missile is capable of cruising at various altitudes while evading radar and intercepting and engaging the 'supersonic targets' by manoeuvring its speed accordingly. Armed with superior Electronic Warfare capabilities, its Electronic Counter-Counter Measures lend it immunity from being followed and targeted. Astra can carry a 15 Kg High Explosive warhead at a Mach 4 speed. It can engage manoeuvring targets moving at high supersonic speeds and varying distances and heights and has a proximity fuse. The missile itself can be launched from various altitudes with varying ranges even during the aircraft manoeuvres.

## **India test fires Agni-I ballistic missile**

The Indian Army's Strategic Forces Command (SFC) has successfully test-fired the indigenously developed Agni-I ballistic missile from the Integrated Test Range (ITR) at Wheeler Island off the coast of Odisha, India.

Launched from a mobile system, the missile followed the prescribed trajectory and reached the target point covering a distance of 700km in 9min and 36s.

According to defence sources, the missile was tracked by radar and telemetry observation stations, electro-optic instruments, and two naval ships stationed near the target point.

The launch was conducted as part of routine user trials for army personnel, with assistance from the scientists and officers of the manufacturer, Defence Research and Development Organisation (DRDO).

A DRDO official was quoted by media sources as saying: "The launch was undertaken as a part of periodic training activity by SFC to further consolidate operational readiness."

Developed by DRDO under the integrated guided missile development programme (IGMDP), the Agni-I is a 15m-long, medium-to-intercontinental range ballistic missile (IRBM) capable of carrying conventional and nuclear payloads at a speed of 2.5km/sec.

The single-stage, road and rail-mobile missile features a specialised navigation system, a payload capacity of up to 1t, and a range of 700km.

The Agni-I underwent its first test flight in January 2002, and has already been inducted into the Indian Army.

## **India conducted User trial of Agni-I ballistic missile in Odisha coast**

**Balasore** : User trial of Agni-I ballistic missile conducted at Dr Abdul Kalam island in Odisha coast today. The test was conducted at 9:13 AM today at the Dr Abdul Kalam island in Balasore.

The test was conducted by the strategic force command. Agni-I is a medium-range ballistic missile developed by DRDO of India under the Integrated Guided Missile Development Program. Agni-I was first tested at the Interim Test Range in Chandipur in 1989, and is capable of carrying a conventional payload of 1,000 kg (2,200 lb) or a nuclear warhead.

Agni missiles consist of one (short range) or two stages (intermediate range). These are rail and road mobile and powered by solid propellants.

## **India successfully test-fires indigenously built nuclear-capable Agni-I ballistic missile**

India today successfully test-fired its indigenously built nuclear-capable intermediate range Agni-I ballistic missile, capable of hitting a target 700 kms away, from a test range off Odisha coast as part of a user trial by the Army.

The surface-to-surface, single-stage missile, powered by solid propellants, was test-fired from a mobile launcher at 9.15 AM from launch pad-4 of the Integrated Test Range (ITR) at Abdul Kalam Island (Wheeler Island), a defence official said.

The trial, which formed part of training exercise by the Strategic Forces Command of Indian Army, was fully successful, he said.

The sophisticated missile covered 700 km distance within 9 minutes and 36 seconds, they said.

"The launch was undertaken as a part of periodic training activity by SFC to further consolidate operational readiness," the official said.

The trajectory of the trial was tracked by a battery of sophisticated radars, telemetry observation stations, electro-optic instruments and naval ships from its launch till the missile hit the target area with accuracy, they said.

Agni-I missile is equipped with sophisticated navigation system which ensures it reaches the target with a high degree of accuracy and precision.

The missile, which has already been inducted into armed forces, has proved its excellent performance in terms of range, accuracy and lethality, the sources said.

Weighing 12 tonnes, the 15-metre-long Agni-I, is designed to carry a payload of more than one tonne. Its strike range can be extended by reducing the payload.

Agni-I was developed by Advanced Systems Laboratory, the premier missile development laboratory of DRDO in collaboration with Defence Research Development Laboratory and Research Centre Imarat and integrated by Bharat Dynamics Limited, Hyderabad.

The last trial of Agni-I, conducted on November 27, 2015 from the same base, was also successful.