

Mon, 21 Nov, 2016

(Online)

India successfully conducts test-fire of nuclear capable Prithvi-II missile

The missile was test-fired twice in a quick succession as a part of a user trail by the army.

In a recent development, it has been confirmed by the Defense sources that India has successfully conducted the twin trial of the all-new nuclear capable Prithvi-II missile from a test range in Odisha. The missile was test-fired twice in a quick succession as a part of a user trail by the army.

With a strike range of 350 kms and strength to carry 500 to 1,000 kgs of warhead, the missile was test-fired twice from the mobile launcher from launch complex III of the Integrated Test Range (ITR) at around 9:35 AM in Odhisha today.

In a similar trial, India has indigenously test fired a nuclear capable Prithvi- II missile as a part of a users trial in May 2016. As per the sources, the recently tested missile stabbed with liquid propulsion twin engines and uses an advanced inertial system guide with manoeuvring trajectory to hit its target.

Commenting on the same, a defence scientist said that the missiles were randomly selected from the production stock and the entire launch activities was carried out by the specially formed strategic force command (SFC) . The launch was closely monitored by the scientists of Defence Research and Development Organisation (DRDO) as part of training exercise. The missile trajectory was overlooked by the DRDO radars, electro-optical tracking system and the telemetry stations located around the coast of Odhisha, said the source.

The single-stage liquid-fueled Prithivi II missile was inducted into the Indian armed force in 2003 and is India's first missile to be developed by the DRDO under the Integrated Guided Missile Development Programme.



Mon, 21 Nov, 2016

(Online)

Prithvi-II: Twin trial of nuclear capable missile successfully conducted off Odisha coast

This is the first in a range of three nuclear missile tests that have been lined up in a row.

Odisha: In a significant advancement to India's nuclear capabilities, scientists today successfully test fired the nuclear-capable Prithvi-II missile. The twin trial of the indigenously developed Prithvi-II missile was conducted from a test range in Chandipur, off the coast of Odisha. The Prithvi-II missile has a payload capacity of 500 kg to 1,000 kg and a strike range of 350 km. The successful launch of the nuclear-capable missile from a mobile launcher from a launch complex of the Integrated Test Range (ITR), has proved a significant addition to India's strike options in case of nuclear attack.

The successful twin trial of the Prithvi-II today comes after a user trial of the same was successfully concluded in May this year. The missile is powered by liquid propulsion twin engines. It also has the capability to strike targets precisely using advanced inertial guidance system with manoeuvring trajectory.

This is the first in a range of three nuclear missile tests that have been lined up in a row. Along with Prithvi-II, the other two missiles include the most sophisticated Advanced Air Defence (AAD) interceptor which is capable of destroying incoming enemy missiles of more than 2,000 km range and the Agni-I with a 700 km range. Agni-I and AAD interceptor will be launched from LC-IV in the Abdul Kalam Island in full operational

configuration on Tuesday and Wednesday respectively. The nine-metre-tall, single-stage liquid-fueled Prithvi-II was inducted into Indian armed forces in 2003 and was the first missile to be developed by the DRDO under the Integrated Guided Missile Development Programme.



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(Online)

India test-fires Prithvi-II missile in salvo mode trial

India on Monday successfully test-fired its indigenously developed long-range surface-to-surface Prithvi-II missile twice in quick succession, as part of a user trial by the Army.

The surface-to-surface missiles, which have a strike range of 350km and are capable of carrying warheads of up to 1,000 kg in salvo mode, was test-fired from a mobile launcher from a test range at Chandipur in Odisha.

The two surface-to-surface missiles were fired in quick succession from a mobile launcher at the launch complex-3 of the Integrated Test Range at around 9.35 am, defence sources said.

DRDO had conducted a similar twin-trial on 12 October 2009, from the same base where both tests were successful. The missile is powered by liquid propulsion twin engines and uses advanced inertial guidance system with manoeuvring trajectory to hit its target, defence sources said.

The missiles were randomly chosen from the production stock and the entire launch activities were carried out by the specially formed strategic forces command and monitored by the scientists of the Defence Research and Development Organisation (DRDO) as part of training exercise, a defence scientist said.

DRDO radars and electro-optical tracking systems and telemetry stations located along the coast of Odisha tracked the missile trajectory while the downrange teams on board the ship deployed near the designated impact point in the Bay of Bengal monitored the terminal events and splashdown. Inducted into Indian armed forces in 2003, the nine-metre-tall, single-stage liquid-fuelled Prithvi-II is the first missile to be developed by the DRDO under the Integrated Guided Missile Development Programme, defence sources said.



Mon, 21 Nov, 2016

(Online)

India successfully conducts twin trial of Prithvi-II missile

Balasore /Bhubaneswar: In a historic mission, the Indian Armed forces on Monday successfully test fired two nuclear capable Prithvi-II ballistic missiles back-to-back in salvo mode from two mobile launchers at a defence test facility off the Odisha coast. Mounted on two Mobile Tatra Transporter-erector Launchers (MTL), the indigenously developed surface-to-surface medium-range ballistic missiles (MRBMs) were launched from the launching complex-III (LC-III) of the Integrated Test Range (ITR) at Chandipur-on-sea. The first missile was fired at about 9.37 AM and the second one at 9.38 AM.

A defence official said both the missiles having a strike range of around 350 km fired at two different targets met all mission parameters. "Though earlier we had tested the Prithvi missile in salvo mode, but for the first time it was test-fired one after another in quick succession. It was a copy book success," he said.

The tests were conducted as part of the operational exercises by the Strategic Forces Command (SFC) of the Indian army. Two naval ships located at the impact points tracked and monitored both the missiles destroying the targets. All the radars and other sensors along the east coast also monitored the missiles trajectory parameters, the official informed. Defence sources said, it was a test from the limited stock production (LSP) series. "The missiles used for the test were picked up randomly from the production lot and were launched with indigenously developed inertial navigation system.

“The flight paths of the missiles were smooth in accordance with pre-decided coordinates. The missiles covered desired distance in less than five minutes. Both the missiles covered same distance because all the mission parameters like elevation, trajectory, azimuth and stage separation were in one coordination,” said the official. Prithvi, the first missile developed under Integrated Guided Missile Development Programme (IGMDP), has the capability to carry 500 Kg of warhead. It has a length of nine meters with one metre diameter thrust by liquid propulsion twin engine and uses Advanced Inertial Guidance System (AIGS) with manoeuvring trajectory and reaches the targets with accuracy. The missile was inducted in the Armed Forces in 2002. Prithvi-II missile is one of the proven weapon systems of the country and it dives at the target at an 80 degree angle. The missile's short range variant was first tested in January 1996 and inducted in the Armed forces in 2002.

Specifications of Prithvi-II Missile

Strike range – 350 km	Launch weight – 4.6 tonne
Length – Nine meters	Propellant – Liquid
Diameter – One meter	Warhead – Both conventional and nuclear



Mon, 21 Nov, 2016

(Online)

India successfully test-fires nuclear capable Prithvi-II missile

India on Monday successfully test-fired its indigenously developed nuclear capable Prithvi-II missile twice in quick succession from a test range at Chandipur in Odisha. The medium-range surface-to-surface ballistic missiles was test fired in a salvo mode as part of a user trial by the army. The trial launch was held at about 9.35 a.m. from a mobile launcher at the Integrated Test Range, sources said.

The missiles have a strike range of 350 km and are capable of carrying 500 kg to 1,000 kg of warheads and is thrust by liquid propulsion twin engines. It uses advanced inertial guidance system with manoeuvring trajectory to hit its target.

The entire launch activities were carried out by the Strategic Forces Command and monitored by the scientists of Defence Research and Development Organisation (DRDO) as part of training exercise, said defence sources. The nine-metre-tall, single-stage liquid-fuelled Prithvi-II has been inducted into Indian armed forces in 2003 and was the first missile to be developed by the DRDO under the Integrated Guided Missile Development Programme.

International Business Times

Mon, 21 Nov, 2016

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Nuclear-capable Prithvi-II test-fired from a test range in Odisha

Prithvi-II is a nuclear-capable missile with an operational range of 350km.

Prithvi-II, a nuclear-capable surface-to-surface missile with India's strategic forces command has been test-fired from the Integrated Test Range (ITR) in Chandipur, Odisha on Monday.

The "twin trail" was done in salvo mode from a mobile launcher in the Odisha test range, PTI reported.

The testing was part of "practice drill" and was carried out by personnel of the strategic forces command with scientists of Defence Research and Development Organisation (DRDO) monitoring it.

The missile has been inducted into the air force and the army and has a strike range of 350km. It also can carry warheads weighing 500kg to 1,000kg. The missile is propelled by single stage liquid propulsion with twin engines.

The missile uses advanced inertial guidance system with manoeuvring trajectory to hit its pre-designated target.

It is however not clear if the tests were part of India's very own anti-ballistic missile shield, which has the capability of destroying As part of the Advanced Air Defence (AAD), Indian armed forces regularly test a modified Prithvi-II, which is intercepted and destroyed by an interceptor missile at an altitude of 15 km.

The New Indian Express has reported that DRDO will also be testing Agni-I and AAD interceptor on Tuesday and Wednesday respectively. These are part of India's crucial Ballistic Missile Defence (BMD) programme.

India successfully conducts twin trial of nuclear capable Prithvi-II missile from a test range in Odisha: Defence sources.



Mon, 21 Nov, 2016

(Online)

भारतीय सेना के पास आ गया है सबसे विध्वंसक पृथ्वी-II मिसाइल

देश के पास आया चीन-पाक को तबाह कर देने वाली मिसाइल

सर्जिकल स्ट्राइक के बाद से ही पाकिस्तान और चीन दोनों भारत पर दबाव बनाने की फिराक में हैं। लेकिन भारत अब इन दोनों के आगे झुकने को तैयार नहीं है और अब इन्हें सबक सिखाने का मन बना चुकी है। शायद यही कारण है कि 10c पर पाकिस्तान जब फायरिंग करता है तो भारत उनको मुंहतोड़ जवाब देता है। लेकिन अब भारत अपनी सैन्य शक्ति को और मजबूत बनाने की तैयारी में जुट गई है।

भारतीय सेना के पास अब परमाणु सक्षम पृथ्वी-2 मिसाइल होगी और इसका सफलतापूर्वक एक साथ दो परीक्षण किया है। मिसाइल का परीक्षण ओडिशा में किया गया। सूत्रों की माने तो ओडिशा स्थित बालासोर जिले के चांदीपुर में पृथ्वी II मिसाइल का सफल प्रक्षेपण हुआ। पृथ्वी 2 का प्रक्षेपण परिसर 9.35 से सुबह करीब नौ बजकर 35 मिनट पर किया गया।

भारत में बना हुआ यह सफल मिसाइल 500 से 1000 किलोग्राम तक का भार उठाने में सक्षम है। 350 किलोमीटर की मारक क्षमता वाली पृथ्वी 2 मिसाइल में लिक्विड प्रोपल्शन ट्विन इंजन लगे हैं। इस मिसाइल के आने के बाद भारतीय सेना और भी मजबूत हो चुकी है। वहीं भारत के खिलाफ साजिश रचने वाला पाकिस्तान इस मिसाइल के आने के बाद काफी घबराया हुआ है।

जानिए, क्या हैं पृथ्वी-2 मिसाइल की खासियत

- पृथ्वी2 मिसाइल को भारत में निर्मित किया गया है यह एक बैलिस्टिक मिसाइल है।
- पृथ्वी 2 मिसाइल बेहद घातक है यह सतह से सतह पर 350 किलोमीटर तक दुश्मन को पलभर में मार करती है।
- भारत में बना यह मिसाइल लिक्विड और सॉलिड, दोनों तरह के ईंधन से ऑपरेट होती है।

- पृथ्वी 2 अपने साथ परंपरागत और परमाणु, दोनों तरह के हथियार ढोने में सक्षम है।
- पृथ्वी-2 मिसाइल में दो इंजन लगे हैं और इसकी लंबाई 8.56 मीटर, चौड़ाई 1.1 मीटर और वजन 4,600 किलोग्राम है।
- पृथ्वी 2 मिसाइल महज 483 सेकेंड तक और 43.5 किमी की ऊंचाई तक उड़ान बड़ी ही आसानी से भर सकती है।



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भारत के सबसे विध्वंसक हथियार पृथ्वी-2 मिसाइल का सफल प्रक्षेपण

नई दिल्ली, (चौथी दुनिया व्यूरो) ओडिशा स्थित बालासोर जिले के चांदीपुर में पृथ्वी-2 मिसाइल का सफल प्रक्षेपण हुआ। इससे भारतीय सेना की शक्ति और अधिक मजबूत हो गई है। ये मिसाइल परमाणु हथियार ले जाने में सक्षम है। पृथ्वी-2 के प्रक्षेपण के दौरान सेना के वरिष्ठ अधिकारी समेत देश के प्रसिद्ध वैज्ञानिक मौजूद थे। बताया गया है कि मिसाइल पांच सौ से एक हजार किलोग्राम का भार आसानी से उठा सकती है तथा खास बात यह है कि इस मिसाइल को भारत में ही तैयार किया गया है। सेना के अधिकारियों ने बताया कि पृथ्वी मिसाइल की शक्ति से हम अपने दुश्मनों को भेदने में और अधिक सक्षम हो गये हैं।

500 से 1000 किलोग्राम तक का भार उठाने में सक्षम इस मिसाइल को देश में बनाया गया है। मिली जानकारी के अनुसार मिसाइल को सुबह 9.35 बजे एकीकृत परीक्षण रेंज (आईटीआर) के प्रक्षेपण परिसर-3 के एक मोबाइल लॉन्चर से प्रक्षेपित किया गया। सतह से सतह पर 350 किलोमीटर की दूरी तक मार करने वाली पृथ्वी मिसाइल दो लिक्विड प्रपल्शन इंजन से चलती है। पृथ्वी भारत की पहली देश में निर्मित बैलिस्टिक मिसाइल है। यह सतह से सतह पर 350 किलोमीटर तक मार करती है। पृथ्वी-2 लिक्विड और सॉलिड, दोनों तरह के ईंधन से ऑपरेट होती है। यह परंपरागत और परमाणु, दोनों तरह के हथियार ढोने में सक्षम है। इससे पहले पृथ्वी-2 का सफल यूजर ट्रायल 16 फरवरी 2016 और 14 नवंबर 2014 को किया गया था। पृथ्वी-2 में दो इंजन लगे हैं जिनकी लंबाई 8.56 मीटर, चौड़ाई 1.1 मीटर और वजन 4,600 किलोग्राम है। यह मिसाइल 483 सेकेंड तक और 43.5 किमी की ऊंचाई तक उड़ान भर सकती है। यह मिसाइल 500 से 1000 किग्रा तक का भार उठाने में सक्षम है।

पाकिस्तान और चीन की दोस्ती और दोनों ही देशों की तरफ से भारत पर जो दबाव बन रहा है उससे निपटने और किसी भी परस्थिति से निपटने में इस मिसाइल की भूमिका अहम है। भारतीय सेना के पास अब परमाणु सक्षम पृथ्वी-2 मिसाइल होगी और इसका सफलतापूर्वक एक साथ दो परीक्षण किया गया है। इससे पहले इसी परिसर से 12 अक्टूबर 2009 को इसी प्रकार का दोहरा परीक्षण किया गया था। उस समय भी दोनों परीक्षण सफल रहे थे।

भारत ने किया पृथ्वी-2 मिसाइल का सफल प्रक्षेपण

भारत ने सतह से सतह पर मार करने में सक्षम पृथ्वी-2 मिसाइल का सफल प्रक्षेपण किया, इस मिसाइल का प्रक्षेपण ओडिशा में चांदीपुर परीक्षण रेंज से किया गया

भारत ने सतह से सतह पर मार करने में सक्षम पृथ्वी-2 मिसाइल का सफल प्रक्षेपण किया। इस मिसाइल का प्रक्षेपण ओडिशा में चांदीपुर परीक्षण रेंज से किया गया। पृथ्वी-2 मिसाइल भारत में ही विकसित की गयी है और यह परमाणु क्षमता संपन्न है। मिसाइल का परीक्षण प्रक्षेपण परिसर पर सुबह करीब नौ बजकर 40 मिनट पर किया गया।

पृथ्वी-2 की विशेषताएं-

पृथ्वी-2 मिसाइल में लिक्विड प्रोपल्शन ट्विन इंजन लगे हैं। इस मिसाइल की मारक क्षमता 350 किलोमीटर क्षेत्र की है। पृथ्वी-2 मिसाइल एक बार में 500 से 1000 किग्रा तक के आयुध ले जाने में सक्षम है। प्रक्षेपण के दौरान मिसाइल की डीआरडीओ राडार और इलैक्ट्रो ऑप्टिकल ट्रैकिंग सिस्टम से निगरानी की गयी। सूत्रों के अनुसार पहले पृथ्वी-2 के दो परीक्षण करने की योजना बनाई गई थी।

पहले सफल परीक्षण के बाद तकनीकी समस्याओं के कारण दूसरा परीक्षण नहीं किया गया। इससे पहले चांदीपुर परीक्षण रेंज से ही 12 अक्टूबर 2009 को दो सफल परीक्षण किए गए थे। इसके बाद पृथ्वी-2 का पिछला परीक्षण 16 फरवरी 2016 को इसी रेंज पर किया गया था। पृथ्वी-2 के सफल परीक्षण के बाद भारत किसी भी आपात स्थिति का मुकाबला करने के लिए तैयार है।



Prithvi II मिसाइल का हुआ सफल परीक्षण

बालासोर । भारत ने ओडिशा स्थित बालासोर जिले के चांदीपुर में Prithvi II मिसाइल का सफल प्रक्षेपण किया है। भारत ने ओडिशा में सोमवार को देश में निर्मित 'पृथ्वी-II' मिसाइल का सफल प्रक्षेपण किया। पृथ्वी II मिसाइल को साल 2003 में भारतीय सेना में शामिल किया गया था। यह प्रक्षेपण ओडिशा में बालासोर जिले के चांदीपुर द्वीप से किया गया। 500 से 1000 किलोग्राम तक का भार उठाने में सक्षम यह मिसाइल देश में बनाई गई है।

जानकारी के अनुसार मिसाइल को सुबह 9.35 बजे एकीकृत परीक्षण रेंज (आईटीआर) के प्रक्षेपण परिसर-3 से एक मोबाइल लॉन्चर से प्रक्षेपित किया गया। सतह से सतह पर 350 किलोमीटर की दूरी तक मार करने वाली पृथ्वी मिसाइल दो लिक्विड प्रोपल्शन इंजन से चलती है। यह पहली मिसाइल है जिसे डीआरडीओ ने 'इंटीग्रेटेड गाइडेड मिसाइल डेवलेपमेंट प्रोग्राम' के तहत तैयार किया था।

पृथ्वी II मिसाइल की विशेषताएं-

- यह भारत की पहली देश में निर्मित बैलिस्टिक मिसाइल है।
- यह बैलिस्टिक मिसाइल सतह से सतह पर 350 किलोमीटर तक निशाना साध सकती है।
- इसे लिक्विड और सॉलिड दोनों तरह की ईंधन से ऑपरेट किया जा सकता है।
- यह मिसाइल परंपरागत और परमाणु, दोनों तरह के हथियार ले जाने में सक्षम है।
- 8.56 मीटर लंबी, 1.1 मीटर चौड़ी और 4,600 किलोग्राम वजन वाली यह मिसाइल 43.5 किमी की ऊंचाई तक उड़ान भर सकती है।



Mon, 21 Nov, 2016

DRDO still aims for Kaveri in LCA

Kaveri, the indigenous aeroengine with over 25 years' chequered story, may after all fly on the indigenous LCA fighter as was originally planned.

Senior officials of the Defence Research and Development Organisation (DRDO), which spearheads the two marquee programmes, said on Sunday that they hoped to take the help of an overseas aeroengine maker to revive Kaveri, remove its shortcomings and get it certified to safely power the fighter.

France's engine maker Snecma, which already has projects with Hindustan Aeronautics Ltd, is seen as a candidate; it could come on the back of offsets (or return obligations) that are due after the government ordered 36 Rafale fighter planes from another French company Dassault for nearly Rs. 59,000 crore.

"We will most probably use it for the LCA [Light combat Aircraft]. If not, we will use it for 'Ghatak', the proposed combat drone," said DRDO Chairman S. Christopher, who is also Secretary, Defence R&D, at a news conference here. The engine was test flown on a Russian IL-76 aircraft back in 2011 and was found wanting on at least five counts, scientists had earlier said.

C.P. Ramanarayanan, who as Director General (Aero R&D) heads the aeronautics labs and their programmes, said Rs. 2,100 crore has been pumped into the Kaveri programme.

Tejas certification

LCA Tejas will undergo the remaining three or four mandated tests up to March and will go in for certification as battle-ready or 'FOC' by mid-2017.

Aeronautical Development Agency Director Commodore C.D. Balaji (retd) said one of the prototypes would be fitted with a probe or nozzle for mid-air refuelling and begin flight tests in a few weeks. An actual refuelling with a flying tanker would be tried out by March 2017.



Mon, 21 Nov, 2016

'Tejas' is as good as French-made Rafale fighter jet, says Parrikar

The indigenously manufactured light combat aircraft 'Tejas', which was inducted into the Indian Air Force earlier this year, is as good as the French-made Rafale fighter jet and comparable with other top LCAs across the world, defence minister Manohar Parrikar said on Saturday.

“This is a plane which is completely indigenously manufactured and can compete with any other fighter plane in the world. It is as capable as the Rafale. Only this is a light combat aircraft (LCA),” Parrikar said.

“Only a 3.5 ton missile can be carried on it, Rafale on the other hand can carry a nine ton (missile). This plane can fly at the rate of 450 kms, Rafale can run 900 kms because it has twin engines,” he added.

The defence minister also said that the Tejas, which was stalled for 33 years, was expedited because of his explicit directions to those in-charge of the project.

“I told them that all shortcomings should be fulfilled and the plane should be ready in a year,” Parrikar said, adding that some days ago an order had been placed for 83 more planes.



Mon, 21 Nov, 2016

DRDO decides to produce 10 unmanned aircraft like Rustom-II

Development of nine prototypes of the advanced Unmanned Aerial Vehicles (UAV) would be done after the successful flight of the first such drone.

Close on the heels of Rustom-II, India's indigenously developed long-endurance combat-capable drone successfully completing its maiden-flight, DRDO on Sunday decided to produce 10 such unmanned aircraft for induction into the Indian armed forces in the future. “We have decided to produce 10 pilot less or unmanned aircraft like Rustom-II, aimed at giving a boost to India's development programme for UAV,” DRDO Director S Christopher told reporters in Bengaluru. He said, “Young DRDO engineers would work hard to make it successful. It would, at least, take one year to do it. We will also seek to get an order from Indian armed forces.”

Christopher said development of nine prototypes of the advanced Unmanned Aerial Vehicles (UAV) would be done after the successful flight of the first such drone. “The first flight will be followed by development of nine more prototypes of the advanced UAV for testing, after which the certification process will start,” he said. Christopher clarified that TAPAS-BH-201 (Tactical Advanced Platform for Aerial Surveillance-Beyond Horizon-201) will be in a non-combat role.

“Media reports are incorrect. Tapas is an UAV and not UCAV,” he said. He exuded confidence in going forward with the indigenous UAV on the lines of LCA Tejas which had proved its ability and is ready to be deployed in the armed forces, both in Air Force and Navy. On the test flight of Rustom-2, rechristened as Tapas 201, Christopher said the UAV had met the initial expectations and the Rs 1,500 crore programme was on line.

On updates on indigenous Light Combat Aircraft (LCA) Tejas which is now inducted into armed forces, he said DRDO desires to take the total orders to 123 after meeting the placement of an additional 83 aircraft for the Indian Air Force (IAF). The 83 aircraft will see improvements made in avionics and weaponry capability and this include the next version of LCA Mk2.

While the first 20 LCAs for IAF will go as per the initial operational configuration, all efforts are being made to incorporate other changes mandated for the final operational clearance for the second 20 aircraft.

DRDO is in talks with private firm Snecma, which is ready to help Kaveri programme revive under the offset clause, company Director General (Aero), C P Ramnarayanan said, adding funds to the extent of Rs 2,105 crore has already been spent on this aero engine programme but with little success. The latest plan to revive it with Snecma's help will see another Rs 500 crore or more being spent.

IAF to soon fly 10 aircraft without pilots

CLOSE on the heels of Rustom-II — India's indigenously developed long-endurance combat-capable drone successfully completing its maiden-flight — DRDO on Sunday decided to produce 10 such unmanned aircraft for induction into the Indian armed forces in the future.

"We have decided to produce 10 pilotless or unmanned aircraft like Rustom-II, aimed at giving a boost to India's development programme for Unmanned Aerial Vehicles (UAV)," DRDO Director S Christopher said.

Decision was taken by DRDO on Sunday

He added, "Young DRDO engineers would work hard to make it successful. It would, at least, take one year to do it. We will also seek to get an order from Indian armed forces".

Christopher said development of nine prototypes of the advanced UAV would be done after the successful flight of the first such drone. "The first flight will be



It is soon after Rustom-II that DRDO engineers are working hard on the ten unmanned aircrafts. Orders from IAF are also to be sought.

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Force and the Navy.

On the test flight of Rustom-2, rechristened as Tapas 201, Christopher said the UAV had met the initial expectations and the ₹1,500-crore programme was on line. On Light Combat Aircraft Tejas, which is now inducted into armed forces, he said DRDO desires to take the total orders to 123 after meeting the placement of an additional 83 aircraft for the IAF.

PTI

DRDO to Produce 10 Unmanned Aircraft

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DRDO to produce 10 unmanned aircraft

PRESS TRUST OF INDIA
Bengaluru, 20 November

Close on the heels of *Rustom-II*, India's indigenously developed long-endurance combat-capable drone successfully completing its maiden-flight, DRDO today decided to produce 10 such unmanned aircraft for induction into the Indian armed forces in the future.

"We have decided to produce 10 pilotless or unmanned aircraft like *Rustom-II*, aimed at giving a boost to India's development programme for UAV," DRDO director S Christopher told reporters here.

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Tapas Has No Combat Capabilities: DRDO

Even as Indian Defence Forces have increased the use of Unmanned Aerial Vehicles (UAV) and drones in the changing situation at the borders, the Defence Research and Development Organisation (DRDO) the research arm of the Indian forces, has clarified that the recently test flown UAV TAPAS 201(RUSTOM-II) has no combat capabilities but has developed only for surveillance.

In a Press conference DRDO chief S Christopher clarified on Sunday in Bengaluru that the Rustom-II has been developed to meet only the surveillance needs of the forces. He said "We have to make 10 aircraft for

test-flying before going into certification. We will require a one year of continuous effort before we can go knocking on the doors of the users (armed forces).”

S Christopher said TAPAS-BH-201(Tactical Advanced Platform for Aerial Surveillance-Beyond Horizon-201) will be in a non-combat role. “Media reports are incorrect. Tapas is an UAV and not an UCAV,” Christopher said. He said the UAV is developed for surveillance purpose only at a total cost of `1,500 crore.

Recently the DRDO was successfully carried out the maiden flight of TAPAS 201 (RUSTOM – II), a Medium Altitude Long Endurance (MALE) UAV at the Aeronautical Test Range (ATR), Chitradurga, 250 km from Bangalore. Chitradurga is a newly developed flight test range for the testing of UAVs and manned aircraft.

The flight accomplished the main objectives of proving the flying platform, such as take-off, bank, level flight and landing. TAPAS 201 has been designed and developed by Aeronautical Development Establishment (ADE), the Bangalore-based premier lab of DRDO with HAL-BEL as its production partner.

According to an official release, the development of UAV immensely contributes towards the Make-in-India initiative as many critical systems such as airframe, landing gear, flight control and avionics sub-systems are being developed in India with the collaboration of private industries. Defence Electronics Application Laboratory (DEAL) of DRDO has developed the data link for the UAV. Rustom- II will undergo further trials for validating the design parameters, before going for User Validation Trials.

According to Dr CP Ramanarayanan director general of Aeronautical Systems, DRDO, is set to conduct the trial test on Light Combat Aircraft (LCA) powered by Kaveri engines in the next 18 months.He said apart from military use, the Indian Railways has shown interest in using this engine to power trains. Bharat Heavy Electricals Limited is partnering the project.

Deadline for the testing of Kaveri engines have been delayed several times, after work for its development started in 1986.

Commenting on the expenses incurred with respect to the project, he said that till date `2,100 crore has been spent on the project. The total cost of developing the engine, which is expected to power Tejas LCA, will increase by another 500-600 crore by 2018, he added.

The agency also gave updates on the Light Combat Aircraft (LCA) Tejas programme in the backdrop of the Centre clearing decks for placement of an additional 83 aircraft for the Indian Air Force (IAF), taking the total orders of LCA to 123.

Responding to queries regarding export potential of the new engine, programme director for Combat Aircraft and director of Aeronautical Development Agency C D Balaji said that there have been enquiries for Tejas from a few countries. At a recent airshow in Bahrain, countries such as Turkmenistan, Bangladesh and Sri Lanka have expressed interest in the aircraft, he said.



Mon, 21 Nov, 2016

‘More work needed on drone’

TAPAS 201 BH, (Tactical Airborne Platform for Advanced Surveillance, earlier known as Rustom-2,) the surveillance drone that was test flown at Challakere last week, will need to be perfected over at least a year before it can be offered to the forces, DRDO Chairman S.Christopher said.

Rafale deal to help DRDO realise stealth drone dream?

These 83 aircraft would be fitted with advanced Active Electronically Scanned Array (AESA) radar being developed indigenously.

Bengaluru: An oblique spin-off of the \$8.8 billion deal with France for 36 Rafale fighter jets for the Indian Air Force (IAF) could help DRDO achieve fruition of “Ghatak”, the country’s first stealth combat drone or unmanned combat aerial vehicle (UCAV).

Safran, a French company which manufactures engines for Rafale combat jets, has offered to partner DRDO in the development of a variant of the indigenous Kaveri engine for “Ghatak”.

“We are working on technologies required for “Ghatak” with about Rs 230 crore sanctioned as part of pre-project studies. We are waiting for approval (of the project) by the Union government,” Dr S. Christopher, director general, DRDO, and secretary, department of defence R&D, ministry of defence (MoD), told the media here on Sunday.

He said Safran’s offer could help accelerate the development of Kaveri engine to power Tejas (Light Combat Aircraft) fighter jets. So far, an expenditure of about Rs 2,100 crores was incurred on Kaveri engine by Gas Turbine Research Establishment (GTRE), Bengaluru, over the last three decades.

In case the government approves collaboration with Safran, the French engine maker would contribute about Rs 500 crore to Rs 600 crore and ensure certification of engines within the next 18 months for Ghatak, Tejas and Advanced Medium Combat Aircraft (AMCA), he added.

Dr Christopher said Sri Lanka, Turkmenistan, and Bangladesh were interested in buying Tejas combat aircraft.

In fact, Turkmenistan’s Chief of Air Staff had a hands-on experience flying the Indian military jet to become the second Chief of Air Staff to pilot Tejas. In May, Chief of the Air Staff, Air Chief Marshal Arup Raha, flew Tejas during a 40 minute sortie over Bengaluru and neighbouring areas of Tamil Nadu.

He said the latest decision of Ministry of Defence to sanction Rs 50,000 crores for 83 Tejas combat jets for IAF would also cover the cost of development of an ecosystem for production and supply of systems, engines and spares.

Each Tejas Mark-I jet would cost about Rs 250 crores to Rs 260 crores with manufacture of these 83 aircraft likely to stretch between 2020 and 2025, with Hindustan Aeronautics Ltd (HAL) set to ramp up production from eight fighter jets a year to 16 every year.

These 83 aircraft would be fitted with advanced Active Electronically Scanned Array (AESA) radar being developed indigenously.

Commodore C.D. Balaji, director, Aeronautical Development Agency (ADA), the nodal organization for ‘Tejas’, said the Final Operational Clearance (FOC), a key milestone in the military jet’s development would be completed in the first half of 2017.

Dr Christopher said the Unmanned Aerial Vehicle (UAV) ‘Rustom-II’ flew with clock-work precision during its maiden flight last week. Ten ‘Rustom-II’ category UAVs would be made for flight tests and verify capabilities such as intelligence gathering and surveillance. A portion of the budget of Rs 1,500 crores sanctioned for ‘Rustom-II’ would be used for the Aeronautical Test Range (ATR), an out-door test and evaluation facility near Chitradurga in Karnataka, he added.