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समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology

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Thu, 17 Mar2022

DRDO constructs multi-storey building in 45 days; to house R&D facilities for AMCA project

India's premier defence research institute DRDO has built a multi-storey facility for flight control system at Aeronautical Development Establishment in Bengaluru in record 45 days using in-house technology, officials said on Thursday. The seven-storey building, with a plinth area of 1.3 lakh square feet, will house research and development facilities for the development of a fifth-generation medium weight deep penetration fighter jet for the Indian Air Force.

"The DRDO has completed the construction of a multi-storey infrastructure for flight control system at ADE Bengaluru with hybrid technology consisting of conventional, pre-engineered and precast methodology in record 45 days," said one of the officials.

He said the complex will have facilities for developing avionics for fighter aircraft and flight control system (FCS) for the Advanced Medium Combat Aircraft (AMCA) project.

India has been working on the ambitious AMCA project to develop a fifth-generation medium fighter jet with advanced stealth features to significantly bolster its air power capability.

The initial development cost of the project, being undertaken by the ADE, has been estimated at around Rs 15,000 crore. The defence ministry on Monday said it has initiated the process of obtaining the approval for the design and prototype development of the AMCA from the prime minister-led Cabinet Committee on Security. Defence Minister Rajnath Singh is slated to inaugurate the building on Thursday.

The officials said the building has been constructed using composite construction technology in the "shortest time frame" of just 45 days to provide the necessary infrastructure for the AMCA project and related activities. The foundation stone for the project was laid on Nov 22, 2021, and actual construction began on February 1. "It is a unique record of completing a permanent seven-storey building with hybrid construction technology, that too in ready-to-move condition for the first time in the country," the official involved in the project claimed.

In hybrid construction technology, the column and beam elements of the structural frame are built with steel plates, the columns are of hollow steel tubular section. The building features air-conditioning, electrical and fire protection systems as per the standard national building code and the design check and technical support was provided by teams from IIT Madras and IIT Roorkee, the officials said.

<https://www.indiatvnews.com/news/india/drdo-constructs-multi-storey-building-in-45-days-to-house-rd-facilities-for-amca-project-bengaluru-indian-air-force-latest-national-news-updates-2022-03-17-764744>

Wed, 16 Mar 2022

Detailed design for India's indigenous combat aircraft launched; SPV formed for manufacturing AMCA

The indigenous Advanced Medium Combat Aircraft (AMCA) would be manufactured through a Special Purpose Vehicle (SPV) jointly formed between Hindustan Aeronautics Limited (HAL), Defence Research and Development Organization (DRDO) and private players.

AMCA is expected to give a major boost to the Indian Defence and Aerospace industry. And, the process of getting design and prototype development approved by the Cabinet Committee on Security (CCS) has been initiated. This was stated in the Parliament by the Minister of state for Defence Ajay Bhatt earlier in the week.

The project is in line with Prime Minister Narendra Modi's vision of Aatmanirbhar Bharat, and is being designed and developed by HAL and Aeronautical Development Agency (ADA). In the AMCA project which is a fifth generation aircraft for the Indian Air Force (IAF), "The preliminary design phase has been completed and detailed design activities have been launched. HAL is being and will be involved in structural design and as a design partner for the entire range of systems," a source confirmed to Financial Express Online.

Test Box

The assembly activity for fabrication of AMCA 'Test Box' at HAL's ARDC facilities in Bengaluru has already been launched.

Importance of Test Box

The main requirement of 'Test Box' is to withstand the bird impact combined with lower radar cross section signature. For the assembly build, jig-less assembly approach is adopted wherein the concept / philosophy of 'Determinate Assembly' methodology is brought in during the component design and manufacturing processes. "This methodology will pave the way for reducing substantial assembly time and bringing in-process quality during assembly. The 'Jig Less Assembly' methodology has been initiated by positioning the components," said the source.

Last week, DRDO had announced the proverbial 'metal cutting' for the first prototype of India's futuristic fighter jet, the AMCA. DRDO tweeted that the fabrication of AMCA with special material has started and the unit will undergo structural and testing before it is put on the first prototype.

In India's efforts to move towards self reliance, this is a huge step and the development of the 5.5 generation fighter jet will be the mainstay of IAF.

ADA is expected to make five prototypes of AMCA for flight testing and development. It has been reported earlier that the first flight of the prototype is expected to take place in 2024-25 and Mk-1 series production will start in 2030, and Mk-2 variant in 2035.

More about AMCA

The setting of SPV was first floated in 2020 and received government's approval, when the configuration was frozen after the Preliminary Design Review (PDR) in December of that year. IAF has committed to 40 AMCA Mk-1 fighters and at least 100 Mk-2 variants, and also some units of the unmanned variant.

The Mk-1 will be fitted with 98 Kn GE-414 engines; the Mk-2 version will be powered by 110 Kn engines which will be jointly developed by HAL and French company Safran.

[Detailed design for India's indigenous combat aircraft launched; SPV formed for manufacturing AMCA | The Financial Express](#)

DRDO On Twitter



DRDO
@DRDO_India

Hon'ble Raksha Mantri inaugurates the Flight Control System Complex at ADE, DRDO in Bengaluru, which was built by #DRDO in record 45 days utilising in-house hybrid technology.

[@rajnathsingh](#) [@BSBommai](#) [@PMOIndia](#)
[@DefenceMinIndia](#)



5:17 PM · Mar 17, 2022 · Twitter Web App



पत्र सूचना कार्यालय

भारत सरकार

रक्षा मंत्रालय

Wed, 16 MAR 2022 7:36 PM

फलैग ऑफिसर कमांडिंग-इन-चीफ (पूर्वी नौसेना कमान) ने मुंबई में पश्चिमी नौसेना कमान का दौरा किया

पूर्वी नौसेना कमान के फलैग ऑफिसर कमांडिंग-इन-चीफ वाइस एडमिरल बिस्वजीत दासगुप्ता एवीएसएम, वाईएसएम, वीएसएमने 14 से 16 मार्च 2022 तक मुंबई का दौरा किया। पश्चिमी नौसेना कमान पहुंच कर एडमिरल बिस्वजीत दासगुप्ता ने नौसेना गोदी (मुंबई) के गौरव स्तंभ पर माल्यार्पण किया और उन्हें गार्ड ऑफ ऑनर दिया गया। इस के बाद उन्होंने पश्चिमी नौसेना कमान के फलैग ऑफिसर कमांडिंग-इन-चीफ वाइस एडमिरल अजेंद्र बहादुर सिंह, पीवीएसएम, एवीएसएम, वीएसएम, एडीसी के साथ बैठक की।

पश्चिमी और पूर्वी नौसेना कमानों की जिम्मेदारी का संयुक्त क्षेत्र भारतीय भू-भाग का लगभग दस गुना है। दोनों कमांडर-इन-चीफ ने भारत की समुद्री सुरक्षा को बढ़ाने की दिशा में परिचालन महत्व के विभिन्न मुद्दों पर चर्चा की।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1806769>



Press Information Bureau

Government of India

Ministry of Defence

Wed, 16 Mar 2022 7:36 PM

The flag officer commanding-in-chief (Enc) visit to western naval command at Mumbai

Vice Admiral Biswajit Dasgupta, AVSM, YSM, VSM, Flag Officer Commanding-in-Chief, Eastern Naval Command visited Mumbai from 14 to 16 March 2022. On arrival, the Admiral laid the wreath at the Gaurav Stambh, Naval Dockyard (Mumbai) and was presented the

Guard of Honour. Thereafter, he called on Vice Admiral Ajendra Bahadur Singh, PVSM, AVSM, VSM, ADC, Flag Officer Commanding-in-Chief, Western Naval Command.

The combined Area of Responsibility of the Western & Eastern Naval Commands is about ten times the landmass of India. The two Commanders-in-Chief discussed various issues of operational importance towards enhancing India's maritime security.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1806727>



Wed, 16 Mar 2022

Def Ministry starts process for obtaining cabinet committee on security's approval for made-in-India AMCA project

The Defence ministry has initiated the process of obtaining the Prime Minister-led CCS' approval for the design and prototype development of the Advanced Medium Combat Aircraft (AMCA), Minister of State for Defence Ajay Bhatt said on Monday. India has been working on the ambitious AMCA project to develop a fifth-generation medium weight deep penetration fighter jet with advanced stealth features to significantly bolster its air power capability. The initial development cost of the project was estimated at around Rs 15,000 crore.

Only a very few select countries in the world such as the US, Russia and China have fifth-generation stealth fighter jets. "Yes, sir. The process for obtaining Cabinet Committee on Security's (CCS) approval for design and prototype development of Advanced Medium Combat Aircraft (AMCA) has been initiated," Bhatt said in Rajya Sabha while replying to a question on the project.

"Fifth-generation fighter aircraft, due to very special features, are costlier than fourth-generation fighter aircraft. Since AMCA is an indigenous fifth-generation aircraft, it is less costly than similar aircrafts available outside," the minister said. In October, Chief of Air Staff Air Chief Marshal Chaudhary said the IAF is fully committed to the AMCA project.

India's confidence in the development of the AMCA saw a significant jump after the development of the Light Combat Aircraft (LCA) TEJAS. Manufactured by state-run aerospace behemoth Hindustan Aeronautics Ltd (HAL), the TEJAS aircraft is a potent platform for air combat and offensive air support missions while reconnaissance and anti-ship operations are its secondary roles. In February last year, the defence ministry sealed a Rs 48,000 crore deal with HAL for procurement of 83 TEJAS fighter aircraft for the Indian Air Force (IAF).

<http://www.indiandefensenews.in/2022/03/def-ministry-starts-process-for.html>



पत्र सूचना कार्यालय
भारत सरकार

विज्ञान एवं प्रौद्योगिकी मंत्रालय

Wed, 16 Mar 2022 5:02PM

डीएसटी-इंस्पायर फैकल्टी फेलो ऊर्जा आत्मनिर्भरता के लिए अनोखी प्रकाश संबंधी सामग्री और प्रकाशिकी के लिए अनुसंधान और विकास का संचालन कर रहा है

डीएसटी-इंस्पायर फैकल्टी फेलो डॉ. आदर्श अशोक की अगुवाई में सोलर ऑप्टिक्स और मैटेरियल्स डेवलपमेंट ग्रुप अर्थात सौर प्रकाशिकी व सामग्री विकास समूह ने पिछले 5 वर्षों से सीएसआईआर-एनआईआईएसटी में प्रायोगिक और अभिकलनात्मक प्रकाशिकी के विकास को सुगम बनाया है। स्मार्ट सौर ऊर्जा प्रबंधन के लिए ऑप्टिकल मैटेरियल्स तथा ऑप्टिकल इंजीनियरिंग पर ध्यान केंद्रित करते हुए, डॉ. अशोक और उनके समूह ने हाल ही में प्रकार्यात्मक ऑप्टिकल सामग्री के साथ प्लानर ऑप्टिक्स की अनोखी सहक्रिया की पहचान की है।

एसीएस एपल नैनो मीटर-2020 पत्रिका में प्रकाशित इस शोध से कुशल व सक्षम सौर प्रकाश ऊर्जा प्रबंधन में मदद मिल सकती है। इसके अलावा, इन निष्कर्षों से उत्पन्न मौलिक समझ का उपयोग करते हुए, समूह ने प्रकाश संबंधी पदार्थ के पारस्परिक प्रभाव और अनुकूल प्रकाश प्रसार के लिए एक नया दृष्टिकोण विकसित किया है। इस पर एक नजरिया जर्नल ऑफ थर्मल एनालिसिस एंड कैलोरीमेट्री 2022 में प्रकाशित हुआ था। इससे ऊर्जा, पर्यावरण और स्वास्थ्य सेवा के क्षेत्र में अपूर्ण विकास को पूरा करने में मदद मिल सकती है। उनके द्वारा विकसित दो प्रौद्योगिकी में एक प्रौद्योगिकी नवाचार डायनामिक पावर विंडोज, शामिल है जिससे एक ही प्लेटफॉर्म में अनुकूलनीय पारदर्शिता (सौर ताप प्रसार नियंत्रण) और स्वच्छ बिजली उत्पादन हो सकता है। नवोन्मेषी और औद्योगिक रूप से मापनीय समतल प्रकाश संकेद्रक तथा डिफ्यूजर बीआईपीवी/टी और एग्रीवोल्टिक्स क्षेत्रों के लिए लक्षित अनुप्रयोगों में महत्वपूर्ण सौर प्रकाश प्रबंधन प्रौद्योगिकी को सक्षम बना सकते हैं।

उनकी शोध टीम ने सीएसआईआर, डीएसटी-इंस्पायर फैकल्टी स्कीम और इंडस्ट्री फंडिंग के सहयोग से प्रौद्योगिकी नवाचारों का सफलतापूर्वक प्रतिमान पेश किया है। विकसित प्रौद्योगिकी नवाचारों के लिए तत्काल प्रौद्योगिकी विकास क्षमता को स्वीकार करते हुए सीएसआईआर-एनआईआईएसटी और आईएसएएसी-एसयूपीएसआई, स्विस् बीआईपीवी सक्षमता केंद्र, स्विट्जरलैंड के बीच एक समझौता ज्ञापन का आदान-प्रदान किया गया।

श्री आदर्श ने कहा, "अगला कदम राष्ट्रीय और अंतर्राष्ट्रीय साझेदारी को मजबूत करके बीआईपीवी/टी

और एग्रीवोल्टिक्स क्षेत्र के लिए बेंचमार्क तथा अभिनव उत्पाद तैयार करने के लिए उच्च प्रौद्योगिकी की तैयारी के स्तर को हासिल करना है।” प्रौद्योगिकियों का महत्वपूर्ण व्यावसायिक मूल्य है, जो इनोवेट इंडिया, स्मार्ट सिटीज, स्मार्ट विलेज, मेक इन इंडिया और संयुक्त राष्ट्र के सतत विकास लक्ष्यों का पुरजोर समर्थन करता है।

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Press Information Bureau
Government of India

Ministry of Science & Technology

Wed, 16 Mar 2022 5:02PM

DST-INSPIRE faculty fellow conducting research and development for unique optical materials and optics for energy self-sustenance

Solar optics and materials development group led by Dr. Adersh Asok, a DST-INSPIRE Faculty fellow, has facilitated the development of experimental and computational optics at CSIR-NIIST for the past 5 years.

Focusing on optical materials and optical engineering for smart solar energy management, Dr. Asok and his group have recently identified a unique synergism of planar optics with functional optical materials. The study was published in the journal ACS Appl. Nano Mater. 2020 can help intelligent and efficient solar light energy management. Further, using the fundamental understanding generated from these findings, the group has devised new approaches for enhancing light-matter interactions, and tailored light propagation, a perspective on this was published in the Journal of Thermal Analysis and Calorimetry 2022. This can help meet the unmet developments in the energy, environment, and healthcare arena.

Two technologies developed by him include Dynamic Power Windows, a technology innovation that can offer adaptable transparency (solar heat gain control) and clean electricity generation in a single platform. Innovative and industrially scalable planar light concentrators and diffusers that enable game-changing solar light management technologies having targeted applications for BIPV/T and Agrivoltaics sectors.

His research team has successfully prototyped the technological innovations with the support of CSIR, DST-INSPIRE faculty scheme, and Industry funding. Realising the immediate technology development potential for the developed technology innovations, an MoU was exchanged between CSIR-NIIST and ISAAC-SUPSI, Swiss BIPV Competence Centre, Switzerland.

“The next steps are to climb higher technology readiness levels to benchmark and develop innovative products for BIPV/T and Agrivoltaics sector by strengthening National and International partnerships,” told Dr. Adersh. The technologies have significant commercial value, strongly supporting Innovate India, Smart Cities, Smart Village, Make in India, and UN sustainable development goals.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1806595>

