

ADVERTORIAL

SHOW DAILY

An initiative by RED Read. Engage. Deliver.

AERO INDIA 2021

Self-reliance and exports the twin goals

Aero India 2021 got underway at the Yelahanka air base in Bengaluru on Wednesday, with India highlighting its resolve to create a \$25-billion defence market by the year 2024

INAUGURATING THE biennial Aero India 2021 at the Yelahanka air base here, Rajnath Singh, in the presence of the top leadership of the industry from India and abroad, said India has set a target of achieving a \$25-billion defence market and \$5 billion worth of aerospace and defence exports by 2024, as part of its twin goals of self-reliance and export promotion.

Focussing attention on the threat faced by India on the Ladakh border with China, the Indian defence minister said there have been unfortunate attempts by a neighbour to employ force to alter the status quo along the unresolved border. He did not name China directly, though.

"India is vigilant and prepared to counter and defeat any misadventure to defend our people and the territorial integrity at all costs. Our resolve towards this end is shown by our growing defence capabilities. AeroIndia 2021 will showcase this commitment," Singh said.

Singh said India's robust stance, immediate, calibrated response and the unrelenting spirit of its soldiers had led to stabilisation of the situation along the country's northern borders.

On the inaugural day of Aero India, the Ministry of Defence signed a contract worth Rs 48,000 crore (\$65 billion) with state-run Hindustan Aeronautics Limited for 73 Light Combat Aircraft 'Tejas' Mk1A and 10 Tejas Mk1 trainers, to be



Indian Defence Minister Rajnath Singh at the inaugural ceremony

supplied to the Indian Air Force by 2028.

A day earlier, Rajnath Singh had inaugurated a 35-acre new production facility for the HAL's LCA Division here. This happened a day after the Narendra Modi government presented its Budget 2021-22 which outlined that India would spend an additional \$3 billion on defence preparedness, to beat the military challenge from nuclear-armed neighbours China and Pakistan.

"All 83 Tejas aircraft will be provided in nine years with the first one coming in 36 months," HAL Chairman and

The Ministry of Defence signed a contract worth Rs 48,000 crore with state-run HAL for 73 LCA 'Tejas' Mk1A and 10 Tejas Mk1 trainers

Managing Director R. Madhavan said at the press conference in the presence of Karnataka Chief Minister B. S. Yediyurappa, Chief of Defence Staff General Bipin Rawat, Chief of Naval

Staff Admiral Karambir Singh, Chief of Army Staff General Manoj Naravane and Chief of Air Staff Air Chief Marshal RKS Bhadauria.

It was also revealed at the curtain raiser that a Request for Quotation (RFQ) for HTT-40 Basic Trainer Aircraft, designed and developed through internal funds by HAL, was expected to be issued to the defence public sector undertaking by the defence ministry during the course of the three-day biennial event. The RFQ is currently being vetted.

"HAL's new LCA facility is an example of how 'Atmanirbhar Bharat' is shaping and HAL deserves the largest indigenous order of 83 LCA Mk-1A," the defence minister said. The new facility will enable HAL to enhance its production capacity to 16 from the current eight aircraft a year.

The first day also marked two key defence diplomacy events on the sidelines of the Aero India 2021. The Indian Air Force hosted a Chief of Air Staff Conclave that was attended by Air Chiefs from 75 nations. The conclave is unique, with air chiefs from many nations brainstorming and synergising their thoughts on current issues related to aerospace power strategy and technology.

In view of the COVID 19 situation, the conclave has been planned in a Hybrid form with extensive use of digital media, just like the Aero India show itself. Rajnath Singh opened the conclave.

With the growing need for Nations to join hands in maintaining peace and harmony, the Air Chiefs Conclave provides a much-needed platform to discuss issues related to military aviation, space operations and aerospace strategy, apart from giving them opportunities to learn about each other's best practices.

The Conclave is also a perfect example of India's defence cooperation with other countries working as a diplomatic instrument, giving an opportunity to build bridges of friendship, mutual trust and capacities on a global basis.



Defence Minister Rajnath Singh visited the BrahMos Aerospace pavilion on the inaugural day of Aero India 2021. The Defence Minister was briefed by DS & DG, BrahMos (DRDO) and CEO & MD of BrahMos Aerospace Dr. Sudhir Kumar Mishra about the progress and achievements made in various business activities, as part of the targets set by Prime Minister Narendra Modi under the ambitious Aatmanirbhar Bharat programme. The Defence Minister also inaugurated the 10th edition of Brahmand World Defence Update 2021



Admiral Karambir Singh, Chief of Naval Staff, visited the BrahMos Aerospace pavilion during the ongoing Aero India Airshow in Bengaluru. Dr. Sudhir Kumar Mishra, Distinguished Scientist & Director General (BrahMos), DRDO, and CEO and MD, BrahMos Aerospace, briefed the Navy Chief on the BRAHMOS weapon system and its achievements

BEL delivers transmit/receive modules to Thales for Rafale RBE2 Radar

AS PART OF Thales' Offsets commitments under the Rafale India contract, and in line with the Make in India policy, Defence PSU Bharat Electronics Ltd (BEL) has manufactured T/R (transmit/receive) modules for the RBE2 radar on the Dassault Aviation Rafale and delivered them to Thales.

Thales is demonstrating its commitment to the Make in India policy through transfers of technology and production, and associated training for BEL engineers in France. BEL has implemented a set of rigorous industrial processes and played an active role in the transfer programme.

Thales is an active stakeholder in the Make in India policy, promoted by the Indian Government, and in the Offsets conditions included in the Rafale India programme. In November 2020, the first RBE2 AESA (active electronic scanning array) radar with a front end manufactured by BEL in India was delivered by Thales to Dassault Aviation. BEL implemented a set of rigorous processes at its Bangalore facility in order to achieve this key milestone.

Specifically developed for Rafale, the RBE2 is the first in-service European AESA radar and has been combat proven on Rafale aircraft operated by the French Air Force. It was developed in close partnership with Dassault Aviation and the French Defence Procurement Agency (DGA) to meet the requirements of air forces, and uses innovative technologies to combine advanced fire control radar functions and target tracking capabilities. The T/R (transmit/receive) modules are key to the RBE2 radar's active electronic

scanning performance, enabling it to steer the radar beam with the speed of an electronic chip.

Initiated at the end of 2017, the transfer of technology to BEL has included validation of the company's technical capacity to deliver prototypes, qualify the various technologies involved in the wiring process, set up a dedicated SMC wiring production line with a preproduction run, train BEL engineers in France and install test benches for microwave characterisation at the BEL facility. The modules produced in India are then integrated with the RBE2 radar in France. BEL and Thales teams are thus working closely to transfer advanced technological know-how.

Building on Thales's 50+ years of expertise with earlier generations of radars for combat aircraft, the RBE2 gives the Rafale a number of key advantages. Compared to radars with conventional antennas, the RBE2 delivers an unprecedented level of tactical situational awareness, faster detection and tracking of multiple targets, and can also implement several radar modes instantaneously.

Thales is a very active stakeholder in the Offsets conditions included in the Rafale India programme. In November 2020, the first RBE2 AESA radar with a front end manufactured by BEL in India was delivered by Thales to Dassault Aviation

"We're delighted to see our collaboration with BEL delivering results, with the radar transmit/receive modules for the Rafale India programme being produced in Bangalore, in line with the Make in India policy. The Thales teams are fully mobilised alongside our partners Dassault Aviation in France and BEL in India," said Emmanuel De Roquefeuil, VP and Country Director, Thales in India

We are happy to be associated with Thales in delivering the Transmit/Receive modules for the prestigious Rafale programme. The Thales and BEL teams ensured that the ToT happened seamlessly. We have augmented our facility in Bangalore to meet the requirements of manufacturing this state-of-the-art sub-system. We look forward to working together on many more such challenging assignments with Thales," said M V Gowtama, Chairman & Managing Director, BEL



At Aero India 2021, JSC Rosoboronexport (part of Rostec State Corporation) is demonstrating over 200 military products, including models of the promising 5th generation multi-role fighter Su-57E and aerial refueling tanker IL-78MK90A



MBDA
MISSILE SYSTEMS

A PROUD PARTNER OF THE IAF

- SCALP / STORM SHADOW
- MICA
- METEOR
- ASRAAM

SECURING THE SKIES | PROTECTING YOUR ASSETS | MASTERING THE SEAS | COMMANDING THE COMBAT ZONE

mbda-systems.com

ADVERTORIAL

SHOW DAILY

An initiative by **RED**
Read. Engage. Deliver.

AERO INDIA 2021

Indo-Russian meet held at Aero India

RELATIONS BETWEEN India and Russia are rooted in history, mutual trust, and mutually beneficial cooperation. Both the countries have institutionalised dialogue mechanisms to take the cooperation forward. The defence facet of the relationship is one of the strongest pillars of India-Russia relationship and is evolving from the traditional buyer-seller one to that of joint production and development, with emphasis on technology sharing. Accordingly, an Inter-Governmental Agreement (IGA) on "Mutual Co-operation in Joint Manufacturing of Spares, Components, Aggregates and

ship with Russian OEMs under the framework of the "Make in India" initiative.

This is the first time that Russia has allowed the manufacturing of their OEMs' spare parts in a foreign country, indicating the strength of India-Russia cooperation. About 1000 types of spares are expected to be manufactured in India under this agreement, for which 30 Memoranda of Understanding (MoUs) have already been signed so far between Indian companies and Russian OEMs for manufacturing of these spares in India. The Indian Navy, Indian Air Force, and the Ordnance Factory Board has issued RFPs for about 400 spares under the IGA.

India-Russia Military Industrial Conference (MIC) is organised to provide a platform to Russian OEMs and Indian defence private & public sector companies to identify possible areas of cooperation. Five rounds of MICs have already been organised on the sidelines of Aero India/DefExpo in India & Russia. The 6th MIC was organised today during Aero India 2021 at Bengaluru.

The MIC is held in order to provide a platform to Russian OEMs and Indian defence private and public sector companies

J.R. McDonald, Vice President of Business Development, Integrated Fighter Group, Lockheed Martin Aeronautics, greets Raksha Mantri Rajnath Singh at the Lockheed Martin stand



MBDA showcasing the combat capabilities of Mistral to Chief of Army Staff General Manoj Mukund Naravane



METEOR is MBDA's revolutionary ramjet powered and network-enabled beyond visual range air-to-air missile, which is widely recognised as a game changer for air combat. Key to this is Meteor's throttleable ramjet engine, active radar seeker and datalink that combine to provide unmatched end-game speed and manoeuvrability at greatly extended ranges, resulting in its all-important 'No-Escape Zone' being several times greater than any other existing or planned BVR weapons. Meteor is a six-European nation programme that will provide the key future BVR air-to-air armament for Europe's new generation of combat platforms. The Indian Air Force is receiving this unrivalled system on its new Rafale aircraft.

BEML showcases its capabilities

BEML is showcasing some of its prime products during AERO INDIA 2021, the biennial mega Aero exhibition, being held in Bangalore, from 3rd Feb to 5th Feb. 2021. With the theme of 'Atmanirbharta', these include niche products such as Transporter Landing System (TLS) and Variants of Unmanned aerial vehicles (UAV). At the indoor Stall, BEML is also displaying various equipment and critical components in the aero-space sector.

BEML's focus at Aero India is to display its capability, promote Aerospace & Defence products and to interact with potential customers and also to explore collaborations with major players in the Defence & Aerospace Business. BEML would also be signing MoUs, to enter into collaborations with major players in the Defence & Aerospace Business. BEML would also be signing MoUs, to enter into collaborations with major players in the Defence & Aerospace Business.

TLS, being displayed at the BEML Outdoor Stall, is a ground-based precision landing system which can improve access to airports where terrain or land constraints make instrument landing system (ILS) installation infeasible or cost-prohibitive. TLS works over any terrain using directional antennas and can be installed even on short runways ending with water/obstructions. It would



M V Rajasekhar, Additional charge as CMD, BEML

be manufactured in India by BEML in collaboration with Advanced Navigation and Positioning Corporation, USA.




BEML Primoco UAV- 'One 150', the state-of-the-art UAV designed for civilian and also military uses, is one of the centre pieces at BEML Indoor Stall. It is built to take off and land autonomously also in poor weather conditions. It can fly continuously for 15 hours and has a 200-km radio range. This UAV can be used for surveillance, monitoring, border patrolling and law enforcement. Primaco UAV is planned to be built in India in collaboration with Primaco, Czech Republic.

BEML is also displaying the 25 kg Class Tactical UAV being developed indigenously in collaboration with IIT, Kanpur. The UAV is intended to carry versatile payloads of 3.0 kg, such as day & night cameras. It can take off and land on short runways, fly continuously for 8 hours and has a 50-km radio range.

• SPEED • PRECISION • POWER • RANGE

BrahMos

Strengthening the Defence of India

BrahMos Supersonic Cruise Missile
World Leader in Cruise Missile Family

- MULTIPLE PLATFORMS**
- MULTIPLE MISSIONS**
- MULTIPLE TARGETS**

visit us at **2021 AERO INDIA**
3rd - 5th Feb
Hall B/2.7 & 3.3

BrahMos AEROSPACE
16, Cariappa Marg, Kirby Place, Delhi Cantt., New Delhi-110010.
www.brahmos.com

BrahMos
JOINT VENTURE OF DRDO, INDIA & NPOM, RUSSIA

LOCKHEED MARTIN

We're not just innovators, we're opportunity makers.

When we envision the future, we see a world of never ending possibility. But that future will never be realized unless we prepare the next generation to be part of it. We're proud of our initiatives in India that incubate and celebrate innovation, and bring people, start-ups and medium sized enterprises together to actualize their dreams. By growing members of our industry, we empower them to be true makers of tomorrow.

Learn more at lockheedmartin.com/india

Lockheed Martin. Your Mission is Ours.®

