

## **DRDO wants to sell super radar technology for fighter jets to industry invites applications**

*By Manu Pubby*

India's defence research and development organization (DRDO) wants to sell tech that it says it has developed for a 'super radar' for fighter jet aircraft and has asked the Indian Industry to submit proposals for transfer of technology (ToT). The Electronics and Radar Development Establishment (LRDE) has said that it is ready with its "Active Electronically Scanned Array Radar (AESAR)" technology and has four licenses to offer to the Indian industry. The lab has asked interested companies to submit their profiles to apply for the project. The AESAR is a key requirement for all future jet fighter purchases by India, with efforts also on to integrate it to the indigenous Light Combat Aircraft (LCA) Tejas that are on order by the Indian Air Force.

In a recent note, DRDO has said that its fire control Radar can be configured for use on any fighter class aircraft and has sought Expression of Interest (EOI) from prospective bidders. "Active phased array technology in the Radar enables user to achieve high mission reliability with multi-target tracking capability. The radar operational modes are designed to assist the fighter pilot in the execution of various combat missions in air-to-air, air-to-ground and air-to-sea operations," the DRDO note says. AESA radars are at the heart of modern fighter aircraft and are integrated on all cutting edge jets like the Dassault Rafale and Boeing F/A 18 besides the fifth generation F 22 and F 35 fleet.

These radars enable jets to detect enemy targets from a standoff distance without getting exposed. They can also track and target multiple threats simultaneously, giving one jet the ability to take down several targets. The AESA radar will also be a defining parameter for the upcoming contest to supply 110 fighter jets to India under a Make in India scheme. Israeli company ELTA is equipping 58 of the Indian Air Force Jaguar jets with AESA radars as part of the upgrade plan. No other Indian Air Force fighter had the AESA radar yet but India is processing a global tender for AESA radars for a new fleet of 83 LCA MK 1A fighters for which also ELTA has been down selected.

The integration of an AESA radar was a key parameter for the air force to clear the order for 83 LCA Mk 1A fighters, after years of blocking the indigenous fighter on concerns that it would not be combat worthy.

<https://economictimes.indiatimes.com/news/defence/drdo-wants-to-sell-super-radar-technology-for-fighter-jets-to-industry-invites-applications/printarticle/65597037.cms>

## **International Business Times**

## **DRDO offers its in-house AESA radar tech to private firms**

AESA radar makes the workload of the pilot that much easier to manage with a high probability of mission success. It has the capability to track and destroy multiple targets simultaneously in the air and on the surface from stand-off distances. The Defence Research and Development Organisation (DRDO) has successfully developed technology for the cutting edge Active Electronically Scanned Array (AESA) radar in-house.

It now wants to share the technology with private firms interested in producing it, reports The Economic Times. Electronics and Radar Development Establishment (LRDE), which is part of DRDO, lead the development of the AESA radar and has offered the Indian Industry four licenses and has asked interested firms to submit their profiles and apply for transfer of technology. The Indian Air Force has made it mandatory that every new fighter aircraft it purchases will come fitted with AESA radar. Work is on to integrate the radar on the indigenous Tejas light combat aircraft.

According to DRDO, an AESA radar makes the workload of the pilot that much easier. It has the capability to track and destroy multiple targets simultaneously in the air and on the surface from stand-off distances. In the IAF, 58 Jaguar deep penetration strike aircraft, which form part of the nuclear triad, are being equipped with AESA radars. These radars have been supplied by ELTA of Israel. What is the AESA radar? Compared to conventional radar such as the passive electronically scanned array (PESA) N011M fitted on the IAF's frontline Sukhoi Su-30 MKI fighter, AESA radar has a fixed antenna from which radio beams are transmitted into different directions without moving the antenna.

The antenna has a number of small transmit/receive modules, working independently of each other, which are connected to the main computer which functions as the transmitter/receiver of the antenna. Compared to this arrangement, the PESA radar has a moving antenna, which is connected to a single transmitter/receiver through phase shifters controlled by a computer.

While the PESA can emit only one beam of radio waves at a single frequency at a time, the AESA is capable of radiating multiple beams at multiple frequencies in one go. Using a wide range of frequencies, platforms equipped with AESA radars remain hidden while at the same time radiating powerful radar signals to detect, track and destroy targets. All modern fighter aircraft like the fifth generation F-22 and F-35, Euro-fighter Typhoon, F16 Block 70 and Dassault Rafale, 36 of which are slated to join the IAF in 2019, are equipped with state-of-the-art AESA radar.

<https://www.ibtimes.co.in/drdo-offers-its-house-aesa-radar-tech-private-firms-779097>