

GOVERNMENT OF INDIA
MINISTRY OF DEFENCE
DEPARTMENT OF DEFENCE PRODUCTION
LOK SABHA
STARRED QUESTION NO.126
TO BE ANSWERED ON THE 4TH MARCH, 2016

R&D PROJECTS OF HAL

*126. SHRI PRALHAD JOSHI:
SHRIMATI VANAROJA R.:

Will the Minister of DEFENCE j{k k ea=h
be pleased to state:

- (a) the details of major R&D projects undertaken and the achievements thereof in the Hindustan Aeronautics Limited (HAL) during the last two Plan periods;
- (b) whether HAL is importing most of its raw material from abroad, assembling them in India and supplying finished products to Defence Forces;
- (c) if so, the details thereof; and
- (d) whether any initiative has been taken by HAL under 'Make in India' programme to promote indigenous manufacturing and if so, the details thereof?

A N S W E R

MINISTER OF DEFENCE

j{k k ea=h

(SHRI MANOHAR PARRIKAR)

¼Jh euksgj ijhZdj½

(a) to (d): A Statement is laid on the Table of the House.

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF LOK SABHA
STARRED QUESTION NO. 126 FOR ANSWER ON 4.3.2016**

(a) HAL has an extensive set up with 11 R&D centres co-located with the production divisions for R&D activities on aircraft, helicopters, engines, systems, avionics and upgrade. Design and development of 15 types of aircraft / helicopters have been done indigenously so far. In addition over 600 types of accessories and avionics have been indigenously designed and developed by HAL.

Major R&D projects taken up during last two plan periods are detailed below:

Intermediate Jet Trainer (IJT):

Project was sanctioned in 1999. Two prototypes were produced earlier and at present 9 Limited Series Production (LSP) aircrafts produced are being utilized for flight trials. Cumulatively more than 1050 flights have been carried out towards certification.

Advanced Light helicopter-Weapon Systems Integrated (ALH-WSI):

Project was sanctioned in 2005. Initial operational clearance for Army variant received in February 2013 and for IAF variant received in December 2015.

Light Combat Helicopter (LCH):

Sanction for the development project was accorded in October 2006. Cumulatively more than 650 flights have been carried out. Basic configuration has been frozen in October 2015.

Light Utility Helicopter (LUH):

The project was sanctioned in February 2009. Initial ground test vehicle run started in December 2014. Build of first prototype is in progress.

Basic Trainer Aircraft (BTA):

Design and Development of HTT-40, has been taken up by HAL in 2009. Ground run of first prototype carried out in February 2016.

Fifth Generation Fighter Aircraft (FGFA):

FGFA is a co-development programme with Russia. Preliminary Design Phase contract was completed in June 2013. Negotiations for R&D contract are under progress.

Jaguar Darin-III Upgrade:

The project was sanctioned in 2009. Three prototypes have been upgraded and flight evaluation is under progress. Cumulatively more than 180 flights have been carried out.

Mirage Upgrade:

The project was sanctioned in 2011. Initial operational clearance by French OEM obtained in April 2015.

25 KN Turbo-Fan engine:

HAL has taken up Design and Development of IJT class engine in December 2012. Core engine run started in December 2015.

Mini Unmanned Ariel Vehicle (UAV):

Design and Development of mini UAV in 8 Kg class has been taken up by HAL. First composite Technology Demonstrator made its maiden flight in September 2014. Two prototypes have been produced.

Rotary Unmanned Ariel Vehicle (UAV):

Design and Development of Rotary UAV in 10 Kg class has been taken up by HAL in collaboration with IIT Kanpur. First flight was carried out in December 2015.

HAL has filed over 1100 IPR Applications during the last three years. Currently, 29 IPRs (9 patents and 20 copyrights) are held by HAL and over 200 patent cases have been published.

(b) & (c): HAL carries out Design, development, manufacture and maintenance of the fixed and rotary wing platforms. It takes manufacturing of aircraft either through technology transfer (license build) or through indigenous design and development. However, raw materials are being mainly imported by HAL for production of components, sub-assemblies, final assemblies of various systems and platforms.

(d) Subsequent to the announcement of “Make in India” initiative by the Government of India, HAL has taken the following steps to promote indigenous manufacturing:-

- (i) HAL is liaising with National Aerospace Laboratories (NAL) for development of composites and with MIDHANI for development of alloys.**
- (ii) A portal for “Make in India” has been launched by HAL on its website-www.HAL-India.com to encourage MSMEs for taking up manufacture of items / LRUs as an import substitution measure.**
- (iii) HAL is giving modules of Light Combat Aircraft (LCA) to private industries & has planned the same for Light Combat Helicopter (LCH) & Light Utility Helicopter (LUH).**
- (iv) Seminars and vendors meet have been organized by HAL.**
- (v) HAL has signed a Memorandum of Understanding with Turbomeca, France for MRO of Shakti Engine used on Dhruv and other Helicopters.**
- (vi) An Inter-Government Agreement has been signed between Government of India and Government of Russian Federation on cooperation in the field of helicopter engineering relating to Ka-226T helicopter, wherein HAL alongwith other companies registered in India, have been named as authorized organizations from the Indian side.**
