

GOVERNMENT OF INDIA
MINISTRY OF DEFENCE
DEPARTMENT OF DEFENCE PRODUCTION
LOK SABHA
UNSTARRED QUESTION NO. 3422
TO BE ANSWERED ON 05th August, 2022

APPLICATION OF SCIENCE AND TECHNOLOGY IN DEFENCE SECTOR

3422. SHRI RATTAN LAL KATARIA:

Will the Minister of DEFENCE be pleased to state:

- (a) whether the application of science and technology is being applied/utilized to achieve self-reliance in the manufacturing of defence products;
- (b) if so, the details thereof;
- (c) whether the Government has successfully carried out the first flight of an unmanned ‘fighter aircraft’ manufactured by the Defence Research and Development Organisation (DRDO) recently;
- (d) if so, the details thereof; and
- (e) the manner in which the said aircraft is likely to strengthen the defence forces?

A N S W E R

MINISTER OF STATE
IN THE MINISTRY OF DEFENCE

(SHRI AJAY BHATT)

(a) & (b): The Government has undertaken a number of policy initiatives for indigenous manufacturing of state-of-the-art defence products by utilizing the applications of science and technology in defence sector. These initiatives, inter-alia, include: -

- i. In order to promote indigenous design and development of defence equipment ‘Buy {Indian-IDD (Indigenously Designed, Developed and Manufactured)}’ category has been accorded top most priority for procurement of capital equipment.
- ii. An innovation ecosystem for Defence titled Innovations for Defence Excellence (iDEX) has been launched in April, 2018. iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including Micro, Small & Medium Enterprises (MSMEs), Start-ups, Individual Innovators, Research & Development (R&D) institutes and Academia and provide them grants/funding and other support to carry out R&D which has potential for future adoption for Indian defence and aerospace needs.

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- iii. To enable adoption of Artificial Intelligence in defence, Defence AI Council (DAIC) and Defence AI Project Agency (DAIPA) has been created. Further, an AI roadmap has also been finalized.
- iv. Specific provisions have been introduced in DAP-2020 under 'Buy and Make (Indian)' and 'Buy (Global - Manufacture in India)' category, wherein indigenous production is carried out with Transfer of Technology (ToT) from foreign OEM.
- v. Discharge of offset obligations by foreign OEMs through ToT to Indian enterprises including government institutions has been incorporated.
- vi. Government has notified the 'Strategic Partnership (SP)' Model which envisages establishment of long-term strategic partnerships with Indian entities through a transparent and competitive process, wherein they would tie up with global Original Equipment Manufacturers (OEMs) to seek technology transfers to set up domestic manufacturing infrastructure and supply chains.
- vii. Defence Research & Development (R&D) has been opened up for industry, startups and academia with 25 percent of defence R&D budget earmarked, to promote development of defence technology in the country.
- viii. Defence Research and Development Organisation (DRDO) identified nine thrust areas for focused research, namely Platforms, Weapon System, Strategic Systems, Sensors & Communication Systems, Space, Cyber Security, Artificial Intelligence & Robotics, Material & Devices and Soldier Support.
- ix. Technology Development Fund (TDF) Scheme also funds industries, especially – Start-ups and MSMEs upto an amount of Rs. 10 Crore, for innovation, research and development of defence Technologies in the field of defence and Aerospace.

As a result of these initiatives, many State-of-the-art products including 155mm Artillery Gun system 'Dhanush', Light Combat Aircraft 'Tejas', Surface to Air Missile system 'Akash', Main Battle Tank 'Arjun', T-90 Tank, T-72 Tank, Armoured Personnel Carrier 'BMP-II/IIK', Su-30 MK1, Cheetah Helicopter, Advanced Light Helicopter, Dornier Do-228, High Mobility Trucks, INS Kalvari, INS Khanderi, INS Chennai, Anti-Submarine Warfare Corvette (ASWC), Arjun Armoured Repair and Recovery Vehicle, Bridge Laying Tank, Bi-Modular Charge System (BMCS) for 155mm Ammunition, Medium Bullet Proof Vehicle (MBPV), Weapon Locating Radar (WLR), Integrated Air Command and Control System (IACCS), Software Defined Radios (SDR), Lakshya Parachute for Pilotless Target Aircraft, Opto Electronic Sights for Battle Tanks, Water Jet Fast Attack Craft, Inshore Patrol Vessel, Offshore Patrol Vessel, Fast Interceptor Boat, Landing Craft Utility, 25 T Tugs, etc. have been produced in the country during the last few years.

(c) to (e): Yes, Sir. The Unmanned Aerial Vehicle designed and developed by DRDO, has been successfully tested in fully autonomous mode. This flight marks a major milestone in terms of proving critical technologies towards the development of future unmanned aircraft and is a significant step towards self-reliance in such strategic defence technologies.
