

GOVERNMENT OF INDIA  
MINISTRY OF DEFENCE  
DEPARTMENT OF DEFENCE PRODUCTION  
**LOK SABHA**

**UNSTARRED QUESTION NO. 3918**  
TO BE ANSWERED ON 24<sup>th</sup> March, 2023

**STATE-OF-THE-ART TECHNOLOGY DEFENCE PRODUCT**

3918. SHRI GIRISH BHALCHANDRA BAPAT:

DR. PRITAM GOPINATHRAO MUNDE:

SHRI RAHUL RAMESH SHEWALE:

Will the Minister of DEFENCE be pleased to state:

- (a) whether the Government has undertaken a number of policy initiatives for indigenous manufacturing of State-of-the-Art technology Defence products;
- (b) if so, the details thereof;
- (c) the number of projects sanctioned under Technology Development Fund scheme in the country, State-wise particularly in Maharashtra;
- (d) the details of funds allocated, released and utilised so far on such projects; and
- (e) the status of current progress in each sanctioned project, project-wise?

A N S W E R

MINISTER OF STATE  
IN THE MINISTRY OF DEFENCE

(SHRI AJAY BHATT)

(a) & (b): Several policy initiatives and reforms have been taken by Government in the past few years to encourage indigenous design, development and manufacture of defence equipment, there by promoting self-reliance in defence manufacturing in the country. These initiatives, inter-alia, include according priority to procurement of capital items from domestic sources under Defence Acquisition Procedure (DAP)-2020; Notification of four 'Positive Indigenization Lists' of total 411 items of Services and three 'Positive Indigenization Lists' of total 3738 items of Defence Public Sector Undertakings(DPSUs), for which there would be an embargo on the import beyond the timelines indicated against them; Simplification of Industrial licensing process with longer validity period; Liberalization of Foreign Direct Investment(FDI) policy allowing 74% FDI under automatic route; Simplification of Make Procedure; Launch of Mission DefSpace; Launch of Innovations for Defence Excellence (iDEX) scheme involving startups & Micro, Small and Medium Enterprises (MSMEs); Implementation of Public Procurement (Preference to Make in India) Order 2017; Launch of an indigenization portal namely SRIJAN to facilitate indigenisation by Indian Industry including MSMEs; Reforms in Offset policy with thrust on attracting investment and Transfer of Technology for Defence manufacturing by assigning higher multipliers; Establishment of two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu; Opening up of Defence Research & Development (R&D) for industry, startups and academia with 25 percent of defence R&D budget; Progressive increase in allocation of Defence Budget of military modernization for procurement from domestic sources, etc.

(c): Under Technology Development Fund scheme, 68 projects have been sanctioned in the country. The State-wise details including Maharashtra are given below: -

Sl. No.	State/UT	No. of Projects sanctioned
1.	Andhra Pradesh	1
2.	Assam	1
3.	Delhi	2
4.	Haryana	3
5.	Karnataka	14
6	Kerala	4
7.	Maharashtra	14
8.	Odisha	3
9.	Punjab	1
10.	Rajasthan	1
11.	Tamilnadu	9
12.	Telangana	9
13.	Uttar Pradesh	5
14.	West Bengal	1
	<b>Total :</b>	<b>68</b>

(d): Till date, a total of 68 projects at total cost of Rs. 287.4 Crore have been sanctioned under TDF Scheme, out of which DRDO's share is Rs. 250.12 Crore. A total fund of Rs.58.87 Crore out of the DRDO share of Rs. 250.12 Crore have been released.

(e): The status of current progress in each sanctioned project under TDF Scheme is given below: -

Sl. No.	Name of the Project	Project Stage (Milestone in Progress)*
1	Design and Development of Video Processing/ Switching Board for an Advanced Military Aircraft With ARINC 818 Std (Digital Video Std) (LOGIC FRUIT) (22-01-2021)	Project completed & Technology handed over to Indian Air Force
2	Composite Materials Sea Water Pumps 40TPH & 125 TPH (06-09-2022)	Project completed & Technology handed over to Indian Navy
3	Development of Composite Material based High Pressure (HP) Air Bottles and Hydrogen Cylinders	I
4	Auxilliary pressure reducing & shut off Valve for Aircraft application	I
5	Fuel Probe for Aircraft Application	I
6	Development of Fuel System - Transfer Control Valves for Aircraft Applications	I

7	Development of Fuel System Pressure Transducer for Aircraft Application	I
8	Design and Development of Reconfigurable Digital Intercept Receiver for ES	I
9	Development of Simulator for unmanned Ground, Marine (Sea Surface and underwater) and Aerial Vehicles	I
10	Technology of Recovery of Lithium Precursors from used Lithium ion Batteries	I
11	Translation of Mandarin Speech to English Speech and vice versa, M/s Cogknit	I
12	Translation of Mandarin Speech to English Speech and vice versa, M/s Gnani	I
13	Development of Cold Flaps (Four Types) for Aero Engine	I
14	Development of Tethered Underwater Communication Buoy	I
15	Development of Tools for Data Assessment Active learning & Believability for Visual Data	I
16	Development of Composite Flex Seal for Large Aerospace Vehicles	I
17	Development of Long Life Sea Water Battery	I
18	Bearings for Aircraft Application	I
19	Development of Direct Drive Frameless BLDC Motor	I
20	BLDC Motors and Quadrature Incremental Encoders	I
21	Encoders	I
22	BLDC Motors and Quadrature Incremental Encoders.	I
23	Development of Direct Drive Frameless BLDC Motor.	I
24	Solid State Power Amplifier (SSPA) for AMDR Radar	I
25	Design and Development of Robotic Propellant Machine System	I
26	Aero Gas Turbine Engine Health Monitoring System: Chistats Labs Pvt. Ltd.	I
27	Portable Automatic Weather Station	I
28	Development of Course Correction Fuze for Artillery	II
29	Development of 03 Concentric Rings for Aero Engine Application	II
30	Development of Avionics Antenna LRUs for Aircraft Application	II
31	Development of Dual flow self-regulation JT Cooler	II
32	Development of Fuel System Components for Aircraft Application	II
33	Pressure Measuring Instrument for Aircraft Application	II
34	Development of Indegenous water jet propulsion System	II
35	Development of VLF LOOP AERIAL	II

36	Development of Fuel Flow Metering Unit for Fighter Aircraft (BRZA-7)	II
37	Development of Exoskeleton of Indian Army	II
38	VLF HF Matrix	II
39	Development of Pulse HVPS (High Voltage Power Supply) for ELTA ASPJ (Airborne Self Protection Jammer)	II
40	Fuel system - Temperature Transducer for Aircraft Applications	II
41	Development of P-19 Modulator Valve	II
42	Autonomous Drone as First responder for search and report missions in closed/indoor environment	II
43	Multi therapeutic technology for faster healing of wounds	II
44	AI based detection of a person based on physiological parameters	II
45	AI-Passive Distributed FOS Interrogator	II
46	Development of CW HVPS for ASPJ MAIN UNIT	II
47	Propellant Machining 6-DOF Robot	II
48	Standalone Miniaturised Telemetry package (SMTP) for an airborne article	III
49	Development of Drones for Carriage of stores in high Altitude (ICE Engine Based)	III
50	Development of Drones for Carriage of stores in high Altitude (Electric Multicopter)	III
51	Development of Drones for Carriage of stores in high Altitude (Hybrid Aerial Vehicle)	III
52	Development of Futuristic high-Performance Propulsion system for small Satellites EOR and Station Keeping	III
53	Development of Electrical LRUs for Aircraft Applications	III
54	Development of Total Air Temperature Probe (TATP) for Aircraft Application	III
55	Development of Engine Driven Hydraulic Pump (EDHP) for Aircraft Application	III
56	Development of Futuristic high-Performance Propulsion system for small Satellites EOR and Station Keeping	III
57	Development of Nose Wheel Steering Manifold for Aircraft Application	III
58	Development of Slide and Swivel Joint for Aircraft Application	III

59	Development of WT(Water Tight)_GT(Gas tight) and Fire Class EMI EMC compliant doors and hatches for Indian Navel Ships	III
60	Development for Pump for Aircraft Application	III
61	Leveraging Health and Usage Monitoring System (HUMS) for enhancing Aircraft Serviceability	III
62	Marine Desalinators for Life Rafts Onboard Indian Naval Ships	III
63	Development of Tide efficient gangway	III
64	AI Recognize	III
65	Design and Development of Video Processing/ Switching Board for an Advanced Military Aircraft With ARINC 818 Std (Digital Video Std) (SAMTEL)	IV
66	Development of prussian blue formulation under GMP facility	IV
67	Development of Fuel System Valve for Aircraft Application	IV
68	Development of Light Weight Bullet Proof Materials (Short Closed)	Short Closed

\*

- Stage I - Preliminary System requirement (PSR) / Preliminary Design Review
- Stage II - Working Models / Detailed Design Review / Critical Design Review
- Stage III - Engineering Grade Functional Testing / Mil grade Prototypes production
- Stage IV - Qualification Testing (QT) & Environmental Testing / Functional Testing /Design iteration if any / Hardware Delivery
- Stage V - Documentation / Transfer of Technology (ToT) / Intellectual Property Rights (IPR) sharing / PSR, any other remaining activity

\*\*\*\*\*