

GOVERNMENT OF INDIA
MINISTRY OF DEFENCE
DEFENCE RESEARCH & DEVELOPMENT ORGANISATION
LOK SABHA

STARRED QUESTION NO.295

TO BE ANSWERED ON THE 5TH AUGUST, 2016

DRDO PROJECTS

*295. SHRI BHARAT SINGH:

Will the Minister of DEFENCE जेके एच
be pleased to state:

- (a) the details of ongoing and completed projects of the Defence Research and Development Organisation (DRDO) during the last three years and the current year, project-wise;
- (b) whether certain projects of DRDO proposed under the 11th Five Year Plan are still pending and have incurred time and cost overrun;
- (c) if so, the details thereof and the reasons therefor along with the corrective measures taken thereon;
- (d) whether DRDO has undertaken any research project relating to industrial production and public welfare and if so, the project-wise details thereof; and
- (e) whether the Government / DRDO has signed any agreement with industrial houses for commercial transfer of technology for the said research projects and if so, the details thereof?

A N S W E R

MINISTER OF DEFENCE

जेके एच

(SHRI MANOHAR PARRIKAR)

महोदय

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

STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (e) OF LOK SABHA STARRED QUESTION NO. 295 FOR ANSWER ON 5.8.2016

(a) Details of major ongoing projects (Cost above Rs. 100 Cr) with name of project, date of sanction, estimated cost and likely date of completion of the projects are given in the following table:-

S. No.	Project Name	Date of Sanction	Estimated Cost (Rs. in Crore)	Likely Date of Completion
1	Medium Range Surface-to-Air Missile (MRSAM)	February 2009	10075.68	August 2016
2	Light Combat Aircraft (LCA) : Phase-II	November 2001	5777.56	* March 2015
3	Airborne Warning & Control System (India) AWACS(I) : Phase I (<i>In principle sanctioned</i>)	February 2013	5113.00	February 2020
4	Kaveri Engine	March 1989	2839.00	*December 2009
5	Long Range Surface-to-Air Missile (LRSAM)	December 2005	2606.02	December 2016
6	Light Combat Aircraft (LCA) : Phase-III	November 2009	2431.55	December 2018
7	Airborne Early Warning & Control (AEW&C) System	October 2004	2520.00	* June 2016
8	Naval Light Combat Aircraft (LCA Navy Phase-II)	December 2009	1921.11	December 2018
9	Naval Light Combat Aircraft (LCA Navy Phase-I)	March 2003	1714.98	* December 2014

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S. No.	Project Name	Date of Sanction	Estimated Cost (Rs. in Cr)	Likely Date of Completion
10	Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) and Development of Aeronautical Test Range (ATR) at Chitradurga	February 2011	1649.41	February 2017
11	Air-to-Air Missile System `Astra`	March 2004	955.00	December 2016
12	Nirbhay - Development & Flight Trials	December 2010	102.28	December 2016
13	Quick Reaction Surface-to-Air Missile (QR-SAM)	July 2014	476.43	July 2017
14	National Open Air Range	August 2014	468.00	February 2018
15	Active Electronically Scanned Array Radar	January 2012	445.50	May 2019
16	Kautilya	July 2012	432.80	July 2017
17	Development of 1500 hp Engine	December 2013	398.02	December 2018
18	Solid Fuel Ducted Rocket Ramjet Technology for Air Launched Tactical Missiles (SFDR)	February 2013	366.00	February 2018
19	Hypersonic Wind Tunnel (HWT)	October 2010	412.00	October 2019
20	EW Systems for Capital Ships, Aircrafts & Helicopter of Indian Navy `Samudrika`	July 2012	342.29	July 2017

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S. No.	Project Name	Date of Sanction	Estimated Cost (Rs. in Cr)	Likely Date of Completion
21	New Generation Anti Radiation Missile (NGARM)	December 2012	317.20	December 2017
22	Post Development Support of AEW&C System (PDSAS)	September 2013	314.32	September 2018
23	AIP System on P-75 Submarines and Development of Deliverable LOX system	June 2014	270.00	June 2017
24	Low Vulnerable High Performance Propellant with Low Temperature Co-efficient and Improved Shelf Life of Ammunition	September 2014	267.02	March 2018
25	155 mm/ 52 Caliber Advanced Towed Artillery Gun System (ATAGS)	September 2012	247.90	March 2017
26	Land Based Prototype for AIP	August 2010	216.60	December 2016
27	40 GHz Upgradation of MMIC Facility	February 2012	198.72	September 2017
28	Advanced Light Weight Torpedo	February 2008	194.53	December 2017
29	Flying Test Bed	September 2012	173.48	September 2017
30	D-29 System (Internal EW system for MiG-29 Upgrade Aircraft)	March 2010	168.85	December 2016

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S. No.	Project Name	Date of Sanction	Estimated Cost (Rs. in Crore)	Likely Date of Completion
31	Submarine Periscope	March 2014	163.77	March 2019
32	DMR-249 Grade Steels, Plates, Bulb Bars and Weld Consumables	December 2012	159.30	December 2016
33	Instrumented Airborne Platform for Real-time Snow Cover, Avalanche and Glacier Monitoring	September 2011	125.94	September 2016
34	Augmentation of Environmental Test Facility for warheads and Electronic System	September 2013	121.17	October 2018
35	Experimental Technology Modules for Directed Energy Laser Systems	February 2014	114.86	July 2017
36	Tech Dev for Engine Fuel Control System	October 2014	177.72	April 2021
37	Project Pralay	March 2015	332.88	March 2018

*Under Revision

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Details of major projects (cost more than Rs 100 crore) completed during last three years and current year (from 01 Jan 2013 to 31 July 2016) are given below:-

S. No.	Project Name	Date of Sanction	Date of Completion	Expenditure (Rs in Crore)
1	Development of EW suite for Fighter Aircraft (EWSFA)	September 2005	December 2014	330.31
2	Development of Dual Colour Missile Approach warning	November 2008	June 2015	273.80
3	Systems for Fighter Aircraft Programme on NBC Defence Technologies	March 2010	March 2015	181.65
4	Setting up of a sea keeping and Manoeuvring Basin	September 2007	December 2015	168.58
5	Development of Medium Power Radar for IAF	November 2008	November 2011	134.14

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(b) & (c): Details of major projects (Cost more than Rs. 100 Crore) sanctioned during 11th Five Year Plan (2007 – 2012) along with date of sanction, original estimated cost, revised cost, original likely date of completion and revised date of completion of the project are given in the following table:-

S. No.	Project Name	Date of Sanction	Original Estimated Cost (Rs. in Crore)	Revised Cost (Rs. in Crore)	Original Likely Date of Completion	Revised Date of Completion
1	Medium Range Surface-to-Air Missile (MRSAM)	February 2009	10075.68	No revision	August 2016	No revision
2	Light Combat Aircraft (LCA) : Phase-III	November 2009	2431.55	No revision	December 2018	No revision
3	Naval Light Combat Aircraft (LCA Navy Phase-II)	December 2009	1921.11	No revision	December 2018	No revision
4	Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) and Development of Aeronautical Test Range (ATR) at Chitradurga	February 2011	1540.74	1649.41	August 2016	February 2017
5	Nirbhay - Development & Flight Trials	December 2010	56.93	102.28	May 2013	December 2016
6	Active Electronically Scanned Array Radar	January 2012	459.65	445.50	July 2016	May 2019

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S. No.	Project Name	Date of Sanction	Original Estimated Cost (Rs. in Crore)	Revised Cost (Rs. in Crore)	Original Likely Date of Completion	Revised Date of Completion
7	Kautilya	July 2012	432.80	No revision	July 2017	No revision
8	Hypersonic Wind Tunnel (HWT)	October 2010	412.00	No revision	October 2019	No revision
9	EW Systems for Capital Ships, Aircrafts & Helicopter of Indian Navy `Samudrika`	July 2012	342.29	No revision	July 2017	No revision
10	New Generation Anti Radiation Missile (NGARM)	December 2012	317.20	No revision	December 2017	No revision
11	155 mm/ 52 Caliber Advanced Towed Artillery Gun System (ATAGS)	September 2012	247.90	No revision	September 2015	March 2017
12	Land Based Prototype for AIP	August 2010	216.60	No revision	March 2016	December 2016
13	40 GHz Upgradation of MMIC Facility	February 2012	198.72	No revision	August 2015	September 2017

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S. No.	Project Name	Date of Sanction	Original Estimated Cost (Rs. in Crore)	Revised Cost (Rs. in Crore)	Original Likely Date of Completion	Revised Date of Completion
14	Advanced Light Weight Torpedo	February 2008	194.53	No revision	August 2013	December 2017
15	Flying Test Bed	September 2012	173.48	No revision	September 2017	No revision
16	D-29 System (Internal EW system for MiG-29 Upgrade Aircraft)	March 2010	168.85	No revision	December 2012	December 2016
17	DMR-249 Grade Steels, Plates, Bulb Bars and Weld Consumables	December 2012	159.30	No revision	December 2016	No revision
18	Instrumented Airborne Platform for Real-time Snow Cover, Avalanche and Glacier Monitoring	September 2011	125.94	No revision	September 2016	No revision

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Major reasons for delay in completion of projects:-

- Ab-initio development of state-of-the-art technologies
- Technological/technical complexities
- Lack of availability of:
 - Critical equipment; a special materials
 - Infrastructure and testing facilities like wind tunnel, floating test range
 - Technically skilled and specialized manpower
 - Manufacturing base like Aero engines, FPA fab
- Mid-term revision in Qualitative Requirements (QRs)
- Extended and repeated trials, non-availability of platforms (Su-30, ALH, Ship) for trials
- Delay in production of systems by designated production agencies
- Denial of technologies by the technologically advanced countries
- Legal problems in setting up of infrastructure including acquisition of land and environmental issues
- Problems in absorbing high-end technologies by the production agencies

Corrective measures taken/being taken to address the issues of delay in completion of ongoing projects:-

- Consortium approach is being used for design, development and fabrication of critical components.
- Three-tier project monitoring approach has been instituted in the major projects.
- Project Monitoring Review Committee (PMRC) and Project Appraisal and Review Committee (PARC) meetings are held regularly to monitor the progress of ongoing projects.
- Concurrent engineering approach has been adopted in technology intensive projects to minimize time-lag between development and productionisation of the systems.
- Information Technology and modern management techniques are being applied.

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- Encouraging joint funding by users to ensure their commitment towards earliest completion.
- Organisational re-structuring:
 - Decentralization of authority and responsibility with labs/cluster Director Generals (DGs)
 - High empowerment and accountability
- Involvement of Services & production Partners during development process and reviews ó To know their views in advance including finalisation of GSQRs.

(d) The core competence of Defence Research and Development Organisation (DRDO) is Research and Development in the area of defence technology. DRDO is not involved in manufacturing & production. So, the area relating to industrial production and public welfare of projects are not dealt by DRDO.

(e) Number of technologies commercialised during the last three year and the current year through agreement between DRDO and industrial houses are given as under:-

S. No.	Year	No. of Industries	No. of Technologies
1.	2013	13	4
2.	2014	15	12
3.	2015	30	15
4.	2016	11	10
