

## **DRDO: Achievements and Way Ahead**

**(Category - II)**

### **Introduction:**

**DRDO was formed in 1958, but already functioning as a Technical Development Establishment of the Indian Army and the Directorate of Technical Development and Production (DTDP) with the Defence Science Organization. DRDO deeply engaged in developing Defence technologies covering various disciplines, like Aeronautics, Armaments, Electronics, Combat Vehicles, Engineering Systems, Instrumentation, Missile, Advanced Computing and Simulation, Special Materials, Naval Systems and Agriculture.**

### **DRDO Achievements:**

**Vision of DRDO is Make India prosperous by establishing World class Science and Technology base. DRUSE – DRDO Robotics and Unmanned Systems Exposition is designed to serve on an open platform to popularize and synergize the national talent in the areas of robotics. It has established in the area of Surface-to-Surface missile which has been demonstrated through development of PRITHVI missile and its variants demonstration of re-entry and related technologies for Agni – I and development of the longer range version Agni – II.**

**Agni – V ICBM (Intercontinental Ballistic Missile) test fired. AKASH missile Flight tested successfully in very low altitude near range mission. Ministry of Defence scraps \$500 million, Israeli missile deal, wants DRDO to Make in India. India conducted a flight test of its indigenously designed and developed long range sub-sonic cruise missile “NIRBHAY”, which can carry warheads of up to 300 kg, from a test range at Chandipur along the Odisha coast. DRDO has handed over its technology to a Defence firm to manufacture bullet proof jackets for the Armed Forces. DRDO delivered Pilotless target Aircraft LAKSHYA, Aircraft arrester barrier, a variety of brake parachutes and balloon barrage system to the Armed Forces.**

The first LCA Technology Demonstrator (TDI) has undergone a number of successful test flights. The remotely piloted vehicle NISHANT, it is advanced stage of evaluation. DRDO developed Main Battle Tank “ARJUN MK - I”, it is contemporary to world class tanks like M1A2 of USA and Leopard 2 of Germany. Multi Barrel Rocket Launcher system “PINAKA” MK – I, INS ARIHANT – Nuclear Powered Ballistic missile submarine are expected to be in commission by 2023. Anti-Air Defence System Test fired, TEJAS successfully launches close combat missile in 2012. LCA TEJAS at Bahrain International Airshow in 2016

BrahMos has been developed as Joint Venture between DRDO and Federal State Unitary Enterprise of Russia. It is the World’s Fastest Cruise Missile in operation. The Missile is named after two rivers, the Brahmaputra and Moskua. DRDO Lab have developed a device named “TARANGINI” which can fathom underwater depth and can also measure the hardness of the bottom surface. DRDO has taken up development of the Rs. 6000cr, Airborne Warning and Control System (AWACS). AWACS are eyes in the sky can detect incoming aerial threats like hostile fighters, drones and cruise missiles from 400km away.

On April 9, 2015 successfully test fired Nuclear Weapon capable of DHANUSH missile from a ship off the Odisha coast. The Ship based missile was launched from an Offshore Patrolling Vessel (OPV), deep inside the Bay of Bengal to test its full range. It successfully hit the target point with high degree of accuracy. National Centre for Automatic Testing (NCAT) at Ahmednagar for testing and evaluation of automotive vehicles. Advanced Research Centre International (ARCI) is cooperative venture between India, Bylo-Russia, USA, and Ukraine. The Surface-to-Air missiles, TRISHUL, and AKASH and Anti-Tank missile NAG. They developed INDRA PC radar, equipment for Army Radio Engineered Network (AREN).

Electronic Warfare (EW) system, DRDO developed a number of EW systems with considerable success, these include AJANTA, COIN, VIKRAM and Radar Warning Receivers (RWR) for MiG – 23 and MiG – 27. The other EW project are SAMYUKTA and SANGRAHA. Underwater warfare systems like SIMHIKA, HUMSA,

**HUMVAD and PANCHENDRIYA. DRDO has successfully developed Supercomputer PACE+. A three dimensional medical imaging system “ANAMICA” and software called GITA (Graphical Interactive Three dimensional Application). DRDO using cold desert Agro- Animal technologies have helped to sustain the population of Leh (Ladakh). DRDO has helped in establishing a self sustaining village NANG, at a height of about 4000m.**

**Conclusion:**

**There is no conclusion for DRDO and there are more Way Ahead. DRDO will continue the achievements.**