



# Defence Materials and Stores Research & Development Establishment (DMSRDE)

## Why in News?

Raksha Rajya Mantri Shri Sanjay Seth visited the **Defence Materials and Stores Research & Development Establishment (DMSRDE)** in Kanpur, a key [DRDO](#) laboratory, and **appreciated its contributions to indigenous defence technologies, especially in the context of [Operation Sindoor](#)**.

## Key Points

- **Recognition for Indigenous Defence Innovations:**
  - DMSRDE received appreciation for its significant **contributions to the development of advanced defence systems and indigenous products**.
  - Key achievements include:
    - **Bullet Proof Jacket (Level-6)**-- [Lightest bulletproof jacket](#) in the country
    - Naphthyl Fuel for the [BrahMos missile](#)
    - High-Pressure Polymeric Membranes for Indian Coast Guard ships
    - [Silicon Carbide Fibres](#)
    - Activated **Carbon Fabric-based Chemical, Biological, Radiological and Nuclear (CBRN) Suits**
    - A range of stealth materials enhancing battlefield survivability
- **Leading in Technology Transfer and Industry Collaboration:**
  - DMSRDE **carried out the highest number of technology transfers** among all DRDO labs over the past two years.
  - The lab has intensified its focus on collaboration with industry and academia, aligning with the national vision of achieving a developed India ([Viksit Bharat](#)) by 2047.
- **Broader Contributions:**
  - Showcased innovations in [nano-materials](#), [technical textiles](#), [camouflage systems](#), coatings, rubbers, and lubricants.
  - It reinforces DRDO's commitment to developing cutting-edge dual-use technologies.
- **About DRDO:**
  - DRDO was **established in 1958** by merging the **Technical Development Establishment (TDEs)** of the Indian Army, the **Directorate of Technical Development and Production (DTDP)**, and the **Defence Science Organisation (DSO)**.
    - DRDO is the R&D wing of the **Ministry of Defence**, Government of India.
    - It initially had 10 laboratories; it currently operates 41 laboratories and 5 [DRDO Young Scientist Laboratories \(DYSLs\)](#).
  - **Philosophy:** The guiding principle of DRDO is "**Balasya Mulam Vigyanam**" (**Strength lies in science**), driving the nation in both peace and war.
  - **Mission:** Achieve **self-reliance in critical defence technologies** and systems while equipping the Indian armed forces with state-of-the-art weapon systems and equipment, as per the requirements of the three Services.

## BrahMos Missile

- An Indo-Russian joint venture, the BrahMos missile **has a range of 290 km and is the world's fastest cruise missile** with a top speed of Mach 2.8 (about three times the speed of sound).
  - It is named after the **Brahmaputra River of India** and the **Moskva River of Russia**.
- It is a two-stage (**solid propellant engine in the first stage and liquid ramjet in the second**) missile.
- It is a multiplatform missile which **can be launched with great accuracy from land, air and sea having multi-capability capabilities** and can operate during day and night despite bad weather.
- It operates on the **"fire and forget" principle** i.e., it does not require guidance after launch.

## Operation Sindoor

- **About:** Operation Sindoor was a coordinated precision strike operation launched by the Indian Armed Forces on 7th May 2025, in retaliation for the Pahalgam terror attack.
  - It was executed through the coordinated efforts of the **Army, Navy, and Air Force**, conducted from Indian territory.
  - Unlike past operations with aggressive names meant to project strength, this operation's name was chosen as a **personal tribute to the victims**, particularly the **widows of the Pahalgam attack**.
- **Targets:** Under 'Operation Sindoor,' the Indian Armed Forces targeted terror facilities linked to **Jaish-e-Mohammed, Lashkar-e-Taiba, and Hizbul Mujahideen** in Pakistan and PoJK.
  - These strikes aimed to dismantle terrorist infrastructure used for planning attacks against India.

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