

Lighter Indigenous Armour Panels

Prelims: Current events of national and international importance | Defence

Why in News?

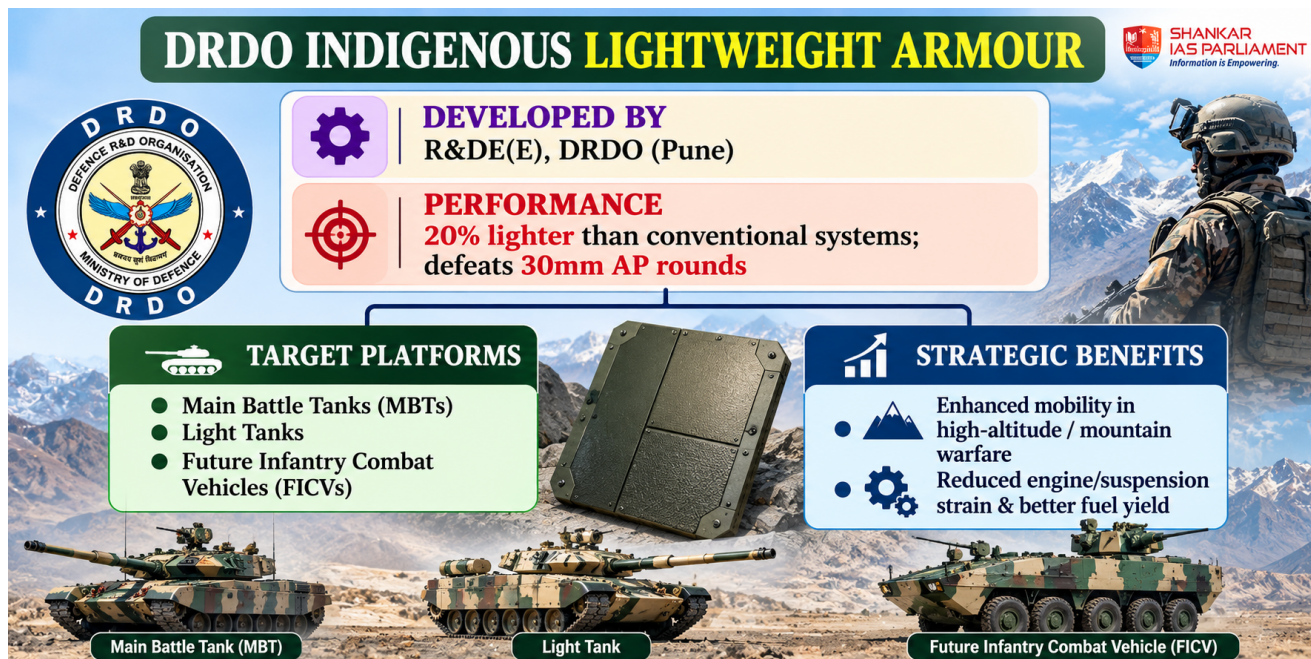
Recently, the Defence Research and Development Organisation (DRDO) successfully developed indigenous armour panels that are 20% lighter than existing protection systems.

Key Highlights

- **Ballistic Protection & Weight Reduction**
 - Designed to withstand high-threat impacts from **30mm armour-piercing rounds**, matching top global military standards.
 - Achieves a **20% weight reduction** compared to conventional steel armour variants by leveraging advanced composite matrices, ceramics, and layered structural configurations.
- **Target Vehicle Platforms**
 - Tailored for Main Battle Tanks (MBTs), Light Tanks, and Future Infantry Combat Vehicles (FICVs), where maintaining strict weight limits without compromising crew safety is paramount.
- **Technology Transfer (ToT)**
 - DRDO has initiated the Transfer of Technology (ToT) process, offering the manufacturing know-how to domestic private-sector defence firms to ramp up industrial-scale production.

Strategic Significance

- **Mountain Warfare** - Lighter combat vehicles and tanks are vital for rapid deployment and operational maneuverability in rugged high-altitude sectors (such as northern borders), where excess weight severely restricts mobility.
- **Countering Modern Battlefield Threats** - Modern armored vehicles face multi-vector threats, including advanced drone munitions, anti-tank guided missiles (ATGMs), and RPGs.
- Reducing base vehicle armour weight frees up payload capacity for active protection systems (APS) and electronic counter-measure suites.
- **Boost to Aatmanirbhar Bharat** - Replaces reliance on imported specialized vehicular protection components with robust, indigenous manufacturing capabilities.



Reference

[Times of India | DRDO develops 20% more lightweight armour](#)