

## “TDB-DST Supports M/s Puretronics India Private Limited, Mumbai for Commercialization of India’s First Contactless Programmable Load Measurement System”

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Bridging a critical technology gap in India's industrial automation ecosystem, the Technology Development Board (TDB), under the Department of Science & Technology (DST), Government of India, has extended financial assistance to M/s Puretronics India Private Limited, Mumbai, for the project titled “LMO – Load Measurement Overload Sensor (India’s First Fully Contactless Programmable Load Measurement System).”



The project seeks to commercialize an indigenous next-generation load sensing technology designed for elevators, material handling systems, cable machinery, industrial automation, and other safety-critical applications. Developed specifically to address the limitations of conventional strain-gauge load cells and imported sensing solutions, the technology delivers accurate, maintenance-friendly, and vibration-resistant load monitoring, thereby strengthening India's capabilities in advanced industrial electronics while supporting the vision of Aatmanirbhar Bharat.

The project will establish manufacturing capabilities for the commercialization of the LMO (Load Magnetic Overload Sensor), which replaces conventional mechanical stress-based sensing with an innovative non-contact magnetic measurement principle. By integrating high-resolution magnetic sensing, advanced digital signal processing, and programmable embedded electronics, the system provides precise load measurement with minimal calibration requirements and seamless integration with PLC, SCADA, and IoT-based industrial automation platforms.

Designed and developed entirely in India, the LMO platform offers application-specific customization, simplified installation, and superior resistance to vibration and harsh industrial environments. The technology is expected to strengthen indigenous capabilities in advanced industrial sensors, support import substitution, and provide Indian manufacturers with a cost-effective and reliable solution for critical applications across elevators, cranes, hoists, and material handling systems.

Speaking on the occasion, Shri Rajesh Kumar Pathak, Secretary, TDB, stated, "Advanced sensor technologies form the backbone of modern industrial automation and smart manufacturing. Indigenous innovations such as the LMO Load Measurement System demonstrate India's growing capability to develop globally competitive industrial technologies tailored to domestic requirements. TDB remains committed to supporting such innovations that enhance industrial safety, strengthen manufacturing competitiveness, and contribute to the vision of Aatmanirbhar Bharat."

Expressing gratitude for TDB's support, the leadership of Puretronics India Private Limited stated that the financial assistance will enable the company to establish commercial-scale manufacturing, accelerate market adoption of its indigenous contactless load sensing technology, and position India as a competitive developer and manufacturer of advanced industrial sensing solutions for both domestic and international markets.

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