

TDB-DST Supports TIEA Connectors Pvt. Ltd., Bengaluru, for Commercialization of Indigenous High-Reliability Connector Technologies for Aerospace, Defence, Space and Electric Mobility Applications

प्रविष्टि तिथि: 10 JUN 2026 3:37PM by PIB Delhi

As India advances its ambitions of becoming a global hub for advanced manufacturing and strategic technologies, the Technology Development Board (TDB), Department of Science & Technology (DST), Government of India, has extended support to TIEA Connectors Pvt. Ltd., Bengaluru, for the project titled “Commercialization of Airborne Connectors for Aerospace, Defense & Charging Connectors for EV.” The project aims to strengthen India's indigenous capabilities in the design and manufacture of high-reliability electrical interconnect systems for strategic and emerging sectors, including aerospace, defence, space, and electric mobility.



Electrical connectors are among the most critical components in modern electronic and electromechanical systems, ensuring uninterrupted transmission of power, signals, and data under demanding operating conditions. For sectors such as aerospace, defence, and space, where reliability and operational safety are paramount, connectors must maintain performance under extreme vibration, shock, temperature, and environmental stress conditions.

The technology being commercialized by TIEA is based on an advanced vibration-resistant contact architecture designed to deliver stable electrical performance in highly dynamic environments. The innovation incorporates a proprietary multi-point elastic contact mechanism that enhances contact retention, reduces electrical resistance, and prevents signal interruptions even under severe vibration loads. Unlike conventional stamped-contact connector systems, the technology provides multiple effective contact points, resulting in superior vibration endurance, improved durability, and extended operational life.

A key feature of the technology is its ability to maintain reliable electrical engagement under vibration levels of up to 100G, making it suitable for mission-critical aerospace, defence, and space applications. The connectors are manufactured using high-performance Beryllium Copper (BeCu) alloy and incorporate

specialized locking mechanisms to ensure secure engagement and sustained electrical integrity under harsh operating conditions. For strategic applications, the connectors are further enhanced through silver and gold plating, providing superior conductivity, corrosion resistance, and long-term reliability.

The project is fully aligned with the Government of India's vision of Aatmanirbhar Bharat and the growing emphasis on indigenization of critical technologies for defence, aerospace, and advanced manufacturing sectors. TIEA has developed comprehensive in-house capabilities spanning product design, engineering, tooling, prototyping, validation, testing, and manufacturing. Critical processes such as precision tooling, high-speed stamping, scientific injection moulding, surface treatment, and performance testing are being carried out within the country, significantly reducing dependence on imported connector technologies and components.

Beyond strategic applications, the technology also addresses the growing requirements of India's electric mobility ecosystem by supporting the development of robust and reliable charging connector solutions for electric vehicles. The project is expected to contribute to strengthening domestic supply chains, enhancing technological self-reliance, and creating globally competitive manufacturing capabilities in high-value electronics components.

Speaking on the occasion, Shri Rajesh Kumar Pathak, Secretary, TDB, stated, "As India expands its capabilities in aerospace, defence, space technologies, and electric mobility, the availability of reliable indigenous component technologies becomes increasingly important. High-performance connectors are critical building blocks for modern electronic systems, and their domestic development strengthens both technological self-reliance and supply chain resilience. TDB is committed to supporting Indian enterprises that are developing globally competitive technologies for strategic and high-growth sectors."

Expressing gratitude for the support, the promoters of TIEA Connectors Pvt. Ltd. stated that the assistance would enable the company to accelerate commercialization of its indigenous connector technologies and expand manufacturing capabilities to address the growing requirements of aerospace, defence, space, electric vehicle, and industrial markets in India and abroad.

NKR/FT/NM

(रिलीज़ आईडी: 2271121) आगंतुक पटल : 349

इस विज्ञप्ति को इन भाषाओं में पढ़ें: Urdu , हिन्दी , Tamil , Kannada