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TIDCO - URP RESEARCH GRANT PROBLEM STATEMENT

Indigenous Development of High-Precision Ultrasonic and Electromagnetic Flow Meters for Industrial and Utility Automation

India's rapid urbanization and industrial growth have triggered an unprecedented demand for smart water management and industrial fluid monitoring. However, the Indian flow meter market is currently bifurcated: high-end, expensive European/US imports or low-cost, unreliable imports primarily from **China**.

The heavy dependency on Chinese products presents significant risks, including supply chain vulnerabilities, lack of long-term technical support, and potential data security concerns in critical infrastructure (Smart Cities). There is a critical "technology gap" in the domestic manufacturing of **Ultrasonic (Transit-time)** and **Electromagnetic (Faraday's Law)** flow meters that can match global standards in accuracy and reliability at an optimized Indian cost point.