

“TDB-DST signs Agreement with Prantae Solutions for Commercialisation of Indigenous Point-of-Care Renal Diagnostic Platform “Proflo-U”

“Strengthening Primary Healthcare: TDB Backs Indigenous Kidney and Maternal Health Diagnostic Technology”

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In alignment with the Government of India’s vision of Aatmanirbhar Bharat and its emphasis on strengthening affordable, accessible, and technology-driven healthcare systems, the Technology Development Board (TDB), Department of Science and Technology, has signed an agreement with M/s Prantae Solutions Private Limited, Odisha, for financial assistance towards the project titled “*Manufacturing and Commercialization of Renal Care Innovative Diagnostic Product: Proflo-U for Point-of-Care Kidney Health Assessment*” aimed at enabling early detection and monitoring of kidney disease and pregnancy-related complications at the primary healthcare level.

Chronic Kidney Disease (CKD) continues to pose a growing public health challenge in India, with over two lakh patients estimated to be added annually to the end-stage renal disease category. Early detection through biomarkers such as urine albumin, creatinine, and Albumin-to-Creatinine Ratio (ACR) is essential, especially among high-risk populations including patients with diabetes, hypertension, and the geriatric demographic. These biomarkers are also vital for early diagnosis of pregnancy complications such as preeclampsia and are included in the ICMR essential diagnostics list for antenatal care. However, reliable quantitative solutions at the primary healthcare level remain limited, as gold-standard immunoturbidometric methods are laboratory-restricted and conventional dipstick methods lack sensitivity in early diagnostic ranges.

To bridge this critical gap, M/s Prantae Solutions has developed **Proflo-U**, an innovative, patented, indigenous point-of-care diagnostic platform comprising:

- **Urine Albumin Measurement Kit** – A nano-sensor based in vitro diagnostic medical device built on three granted Indian patents (Nos. 360496, 308432, 543714) and one PCT application (PCT/IN2023/050508). The kit offers a broad detection range (20–1200 mg/L) with ambient temperature stability.
- **Urine Creatinine Measurement Kit** – An in vitro diagnostic device with a wide detection range (150–4000 mg/L), stable at room temperature.
- **Portable Urine Analyzer** – An indigenously developed, patent-granted analyzer integrating absorbance and fluorescence technologies. The lightweight, rechargeable device is Bluetooth and IoT enabled, integrated with the Proflo-U mobile application employing AI/ML features and

calibration-free functionality.

The project envisages establishing a manufacturing and commercialization facility in Odisha to scale production of Proflo-U and make it accessible across primary health centres, diagnostic networks, and antenatal care systems. The product has been rigorously validated against gold-standard clinical methods and is designed to combine laboratory-grade accuracy with the operational simplicity of point-of-care testing.

Speaking on the occasion, **Sh. Rajesh Kumar Pathak, Secretary, TDB**, stated that the support to Prantae Solutions reflects TDB's continued commitment to strengthening indigenous diagnostic capabilities and enabling affordable healthcare technologies that can be deployed at the last mile. He emphasized that point-of-care innovations such as Proflo-U have the potential to significantly reduce disease burden through early detection and timely intervention, thereby contributing to improved public health outcomes and reduced healthcare expenditure.

Founders of M/s Prantae Solutions Private Limited, expressed their gratitude to the Technology Development Board for its support, stating that the assistance will accelerate the manufacturing and nationwide deployment of Proflo-U, an indigenously developed point-of-care diagnostic platform addressing critical gaps in early detection of kidney disease and pregnancy-related complications. They noted that TDB's support validates their translational biotechnology research and strengthens their mission to deliver affordable, reliable, and technology-driven healthcare solutions in line with the vision of Aatmanirbhar Bharat.



FK/AK

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