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Draft Proposal to ITRI for Funding on
TRL enhancement of Zn-Br, Batteries

Mission

This project aiming to enhance the TRL level of high performance and cost effective non-flow Zinc-Bromine (Zn-Br.) battery technology, which has been developed by us and demonstrated satisfactory performance up to Technology Readiness Level (TRL) 3. The aim is to

scale this up to (TRL) 7.

Why non-flow Zn-Br, Battery

cB Abundant and Globally Available Materials

Active materials in the battery are available in over 100 countries eliminating country dependency on critical materials —like China

in Lithium-Ion batteries, enhancing supply chain security and geopolitical neutrality.

£93 Scalable and Simplified Manufacturing

Architecture suited for mass production — production, due to higher costs, foregoing the current lead acid battery manufacturing lines enabling easier adoption and scaling.

(7) Competitive Levelized Cost of Storage

= The expected levelized cost of ownership (kWh LCDE) measured to BMS
US\$/kWh is projected to be highly-competitive.

= Simplified Battery Management System (BMS)

The design enables use of a basic cost effective battery architecture reducing system complexity.

Context

As global energy demand rises, the shift toward renewable energy accelerates, cost effective energy storage essential
Non-flow Zinc-bromine (Zn-Br.) battery's present.

a promising alternative to current batteries to their
abundant raw materials, lower costs and enhanced safety

by providing an affordable alternative to lithium-ion, lead-

acid batteries and Sodium Ion Batteries.

Impact Statement

A transformative impact on energy storage industry underway a concept through joint effort between IIT Bombay and Solon India-Ltd, demonstrating the feasibility of the technology.

This prototype exhibited stable performance over 1,000 charge-discharge cycles, underscoring battery's potential for long cycle life, reliability, and safe-operation At this early-stage technical

foundation.