

LOW-POWER SENSOR TECHNOLOGIES FOR COLD STORAGE LOGISTICS APPLICATIONS



Global Leader in HVAC and Logistics Solutions

As a provider of products for tracking refrigerated truck and container shipments, the Client was searching for novel and innovative technologies to power sensors for their cold storage logistics operations.



CHALLENGE

The Client engaged PreScouter in this Research Support Service Project to identify novel technologies for low-power sensors ranging from energy storage to energy harvesting, along with finding tech partners who could enable new capabilities for their logistics business unit.



APPROACH

PreScouter researched solutions in each of these segments, including:

- Energy storage: Batteries (Li-Ion, 3D-printed, micro batteries) and superconductors
- Energy harvesting: Radio frequency, piezoelectric, thermoelectric
- Wireless temperature sensing with integrated energy: SaaS platform solutions
- Research-stage technologies: Novel storage (e.g., micro fuel cells), harvesting, and wireless sensing solutions. For entries in this segment, PreScouter highlighted key characteristics such as power density, relative costs, sustainability, and tech readiness level.



OUTCOME

PreScouter identified 52 solutions and potential suppliers of novel technologies across the different segments and identified new sensorless technologies that could accomplish and replace the work the sensors were doing, a potentially major savings opportunity for the Client.



Impact of PreScouter's Work: The Client team found the solutions so innovative and relevant that they brought the PreScouter team in front of key executives to bring them up to speed on the results.