Battery Leak Detector

Method & System for Detecting Leakage of Energy Storage Structure Liquid

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Market Study Deliverables

Conduct an abbreviated market study assessment to:

a) Define the technology in common language as a priority for military and commercial applications.

b) Create collateral material for industry outreach.

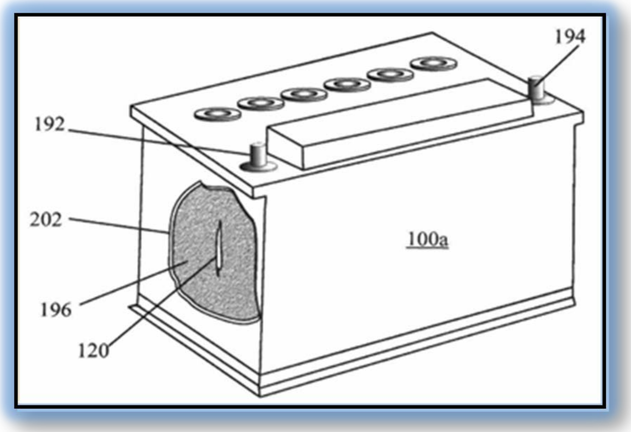
c) Validate collateral material communication through primary and secondary research.

Technology Synopsis

A fast, effective simple system that can be automated for detecting leakage of electrolyte from lead -acid batteries with nonconductive cases.

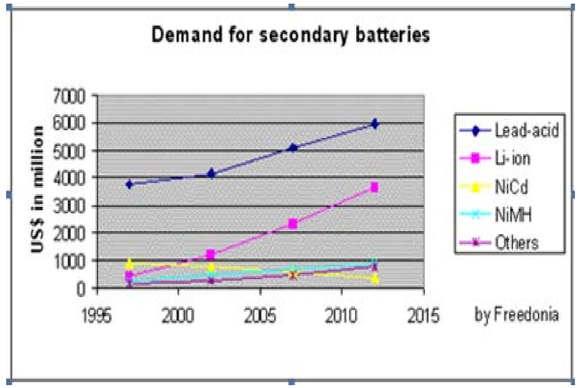
Problem Solved:

- Pollution of the immediate environment
- Corrosion to the battery and compartments
- Usage of unacceptable battery
- Decreases turnover of batteries



Market Opportunity

The global market for lead-acid batteries is forecast to reach $15.4 billion by the year 2015.



Situational Summary

Inventor Susan Waggoner of the NAVSEA Crane Lab Invented: Detect electrolyte leakage in lead-acid batteries.

- The technology is not currently used. Technology is in the patenting process.
- Prototype is unavailable.
- Applications for the technology are in the military and commercial industries.

Potential Applications

Industry Segments	Applications	Uses	Size of market
A. *Military B. Commercial	**1. Vehicular** • **Aircrafts** • Automobiles • Marine • Tanks • Trucks 2. Fluid containment devices (tanks)	1. Detecting Electrolyte Leakage from Batteries with nonconductive cases 2. Eliminating poor performers out of critical applications 3. Preventing damage to battery compartments	$33B Military Aircraft (2011)[1]

**Primary Market Focus*

1. **Source:** http://annualreport2009.gkn.com/Business_Review/Review_of_Performance/Aerospace_Performance/Default.aspx?id=86

Competition

Company Name/Inventor	Product Name	Location	Features
NTT Facilities Inc.	VRLA battery remote management system	Tokyo, Japan	• Automatically measures voltage and ambient temperature of each cell • Reports time for battery replacement • Electrolyte leakage detection externally
Lineage Power	Acid Spill Management System	Plano, Texas	• Eliminate corrosion damage • Reduce the time required to effectively clean batteries • Eliminate trickle self-discharge by making the case neutral and non-conductive. • Detect leaks by color change when acids or acid salts are present.
Sue Waggoner	Method and System for Detecting Leakage of Energy Structure Liquid	Crane, Indiana	• Eliminate corrosion damage • Able to detect internal leakage by using internal components • Cost effective to manufacturers

According to **PulseTech Products Corporation,** "thousands" of damaged lead acid batteries are needlessly disposed, adding to an already unhealthy situation.

Competitive Advantage

- **System is internal to the battery**
- **Can be automated or check with multi-meter.**

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