Real Time Battery Health Monitoring System
(UTA 09-44)

Technology Need:

As we are increasingly relying on battery- powered devices, the urgent need to ensure the battery State-of-health (SoH) is becoming a crucial requirement to future development of batteries. This is a daunting task, considering that there is still no dependable method to read SoH, the most basic characteristic of a battery. Even if SoH were displayed correctly, they are not real-time and use a lot of power to provide the right information.

Solution/ Offering:

To address these issues, researchers at UTArlington have developed a system for estimating the online SoH for Li-ion batteries using battery impulse response. By reading the current SoH accurately, the user will be provided with live information about the battery's ability to store and deliver electrical energy at an efficient manner. As compared to conventional method of discharging in order to retrieve the available reading, our approach cuts down calculation time and offer real time estimation to the user without jeopardizing the actual health level of the battery.

Publication: Banaei, Anahita, and Babak Fahimi. "Real time condition monitoring in Li-Ion batteries via battery impulse response." *Vehicle Power and Propulsion Conference (VPPC), 2010 IEEE*. IEEE, 2010.

Value Proposition:

- ✓ Real time monitoring
- ✓ Battery Management System
- ✓ Retrofit for all other types of batteries

Industrial application:

- ✓ Automotive Industry
  - o Plugin & hybrid Vehicles
  - o Electric Vehicles
- ✓ Robotics and Electronics
- ✓ Medical Equipment

Current Stage:

- ✓ Patent Pending
  US 20110060538

Next Step(s):

- ✓ Prototype

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