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MIT Battery Monitoring Workgroup - A Proposed Direction

- We have heard two presentations on this subject
  - JCI
  - TRW
- While they have been informative and valuable, this group needs a more specific definition of its purpose.
- Both presentations and previous developments in the literature indicate that there is no single preferred technology for battery monitoring

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- What is this device supposed to do?
  - Prevent Unanticipated Battery Failure
    - » Under conditions a, b, c…?
  - "The Best Surprise is No Surprise"
- This Implies a Prediction of Battery Failure
- We Need a Statement of Requirements for this device. What are the Requirements for
  - Accuracy?
  - Advance Warning - of what? how far in advance?
  - Interfaces with
    - » The Battery (inputs)
    - » The Charging System (outputs)
    - » The Driver (outputs)

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What Constitutes Battery Failure?

- Battery failure has to be defined. Some of the possibilities are:
  - Loss of Power (Engine Start) Capability
    - » Cold Start
    - » Warm Start (as in start/stop)
  - Loss of Energy (capacity at a stated voltage, temperature and rate)
    - » Is there a requirement for electrical system support in the event of charging system failure or prolonged stop with key on, engine off?

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- OPINION:
  - The details of how various battery properties are converted into system-useful information is beyond the scope of this group
    - **Since there is no single, universally accepted method for battery monitoring, that information will end up being proprietary**
  - Since we have heard from two suppliers and will hear from several more, all with different approaches, we need a set of requirements and definitions from all of the OEM's to enable the group to reach a usable conclusion.
  - Then we can determine the required inputs and outputs