



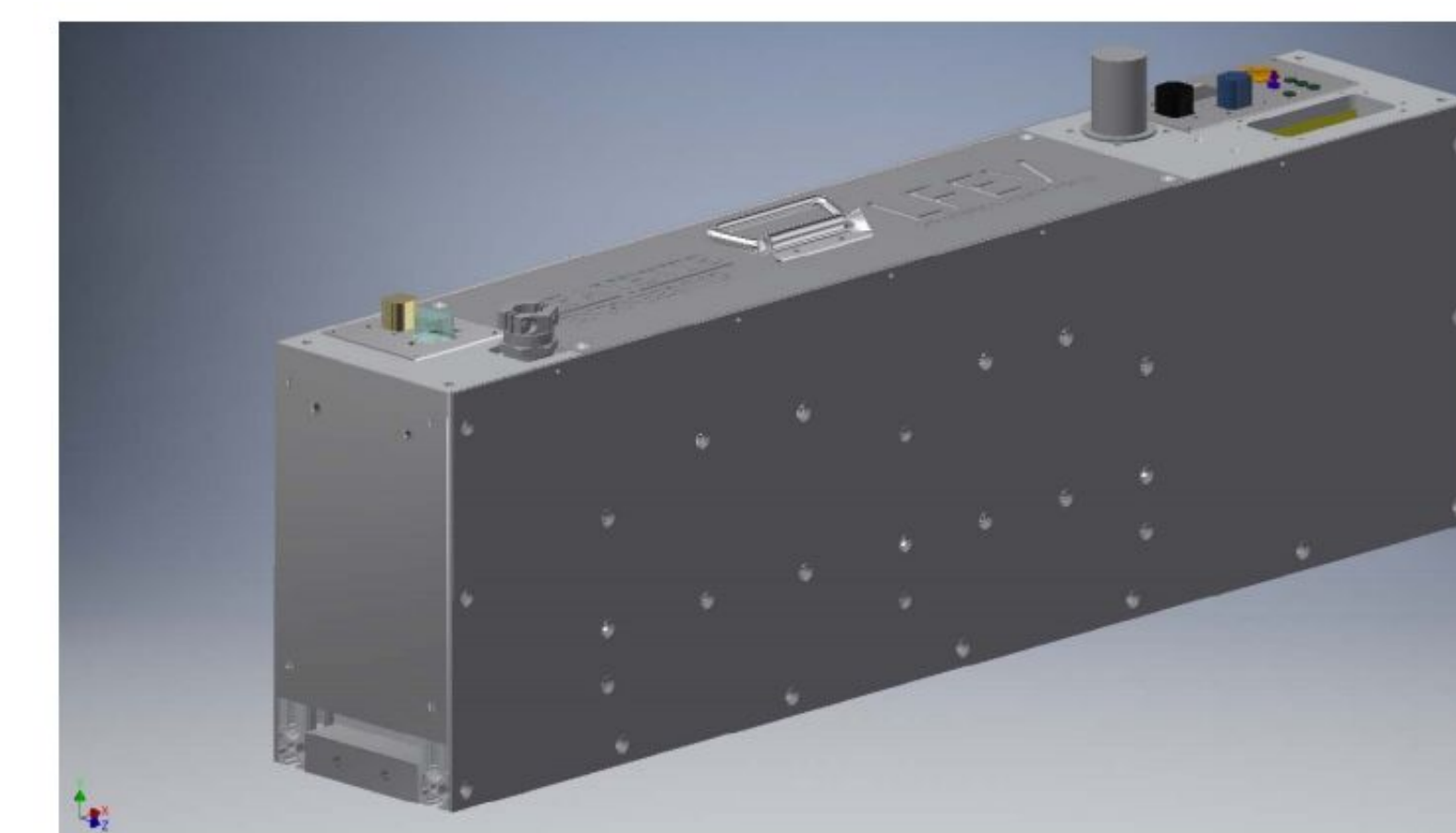
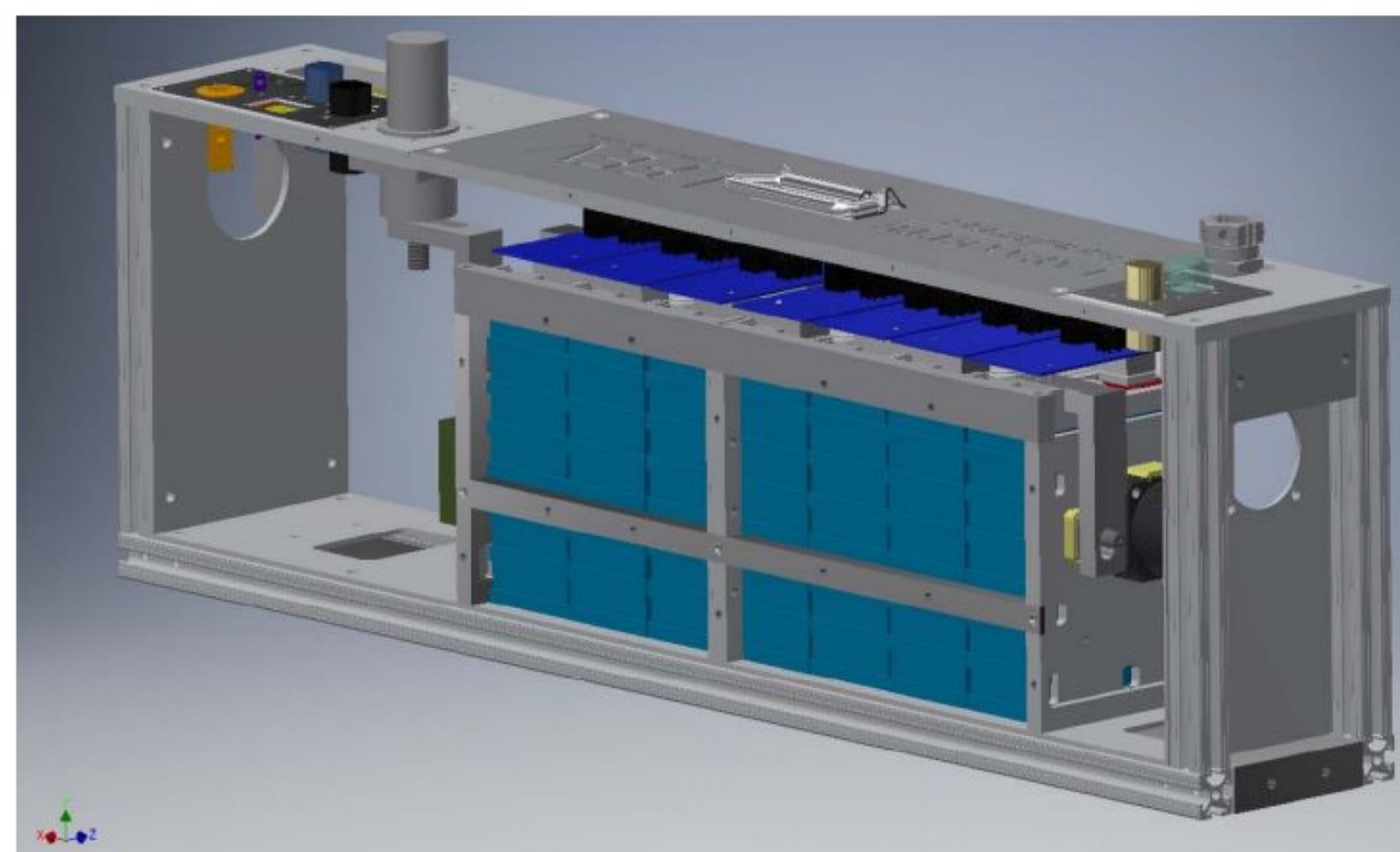
## Accumulator Overview

- 28s1p configuration of LiFePO<sub>4</sub> cells
- 4 segments, max 24V each, 0.9 kWh each
- AMS system consisting of 7 cell monitoring boards + 1 Pack Manager, per segment
- Grounded Aluminium casing with internal garolite insulation

## TSV Enclosure:

### Contains:

- Amphenol Connectors
- 2/0 and 3/0 Orange, fully shielded cable
- 1/8" Al sheets for enclosure
- Garolite insulation



## TSV Display:



- Configurable parameters
- Pack Voltage and Current Reading
- Cell Calibration Info
- Cell temperatures and cell voltages
- Pack State and state of charge

## AMS System

- Monitors status of cells
- Controls safety loop
- Relays information to the VSCADA system
- Charging of cells

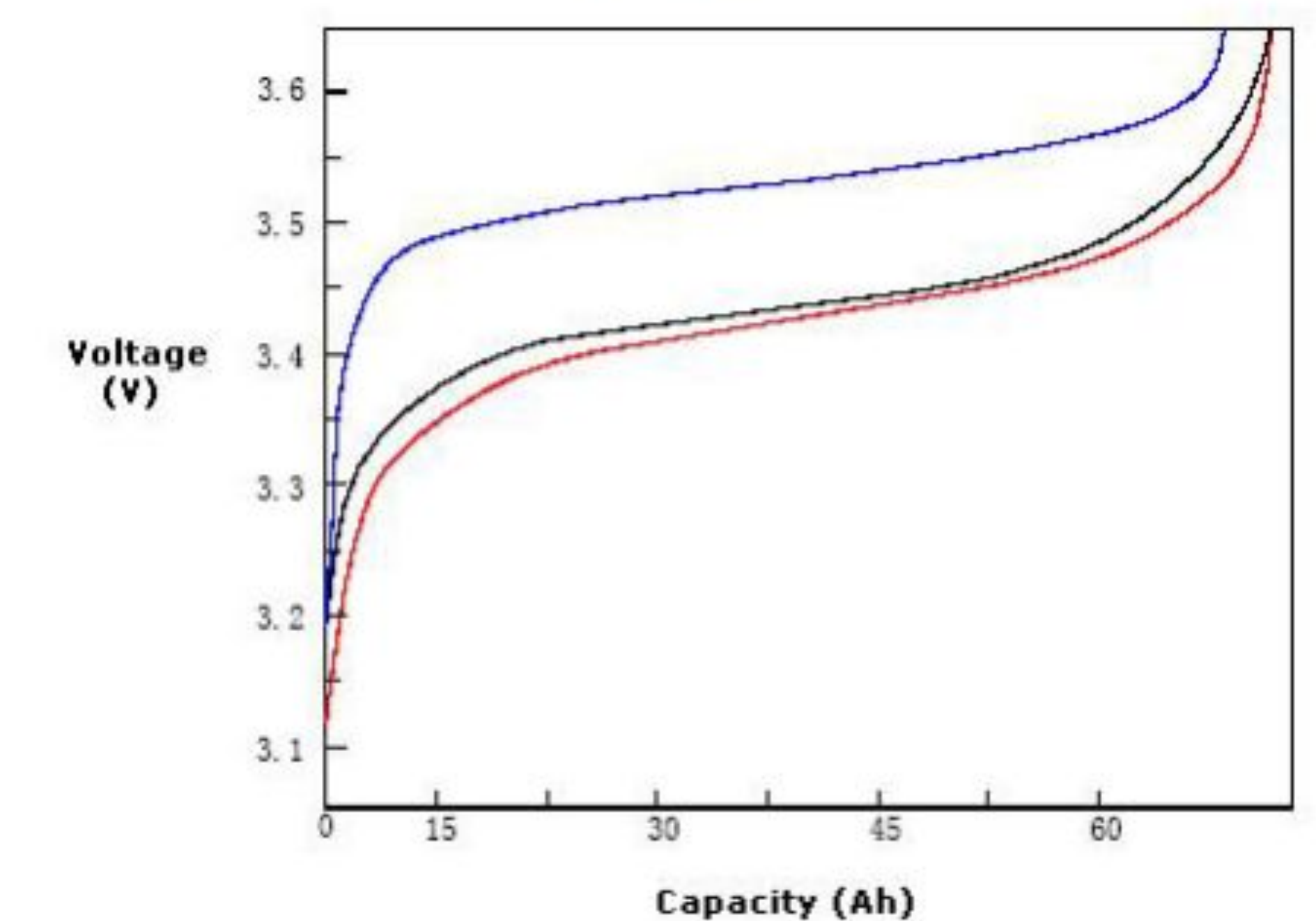
Each cell has a monitoring board which measures temperature and cell voltages, relaying it to the pack manager via I<sup>2</sup>C. This information is then communicated to VSCADA using CAN, by the Pack Manager



## Charging Procedure

- Isolation of Segments
- Individual charging of segments
- Cell balancing procedure via bypass algorithm
- Simultaneous fault detection

Charging Curve

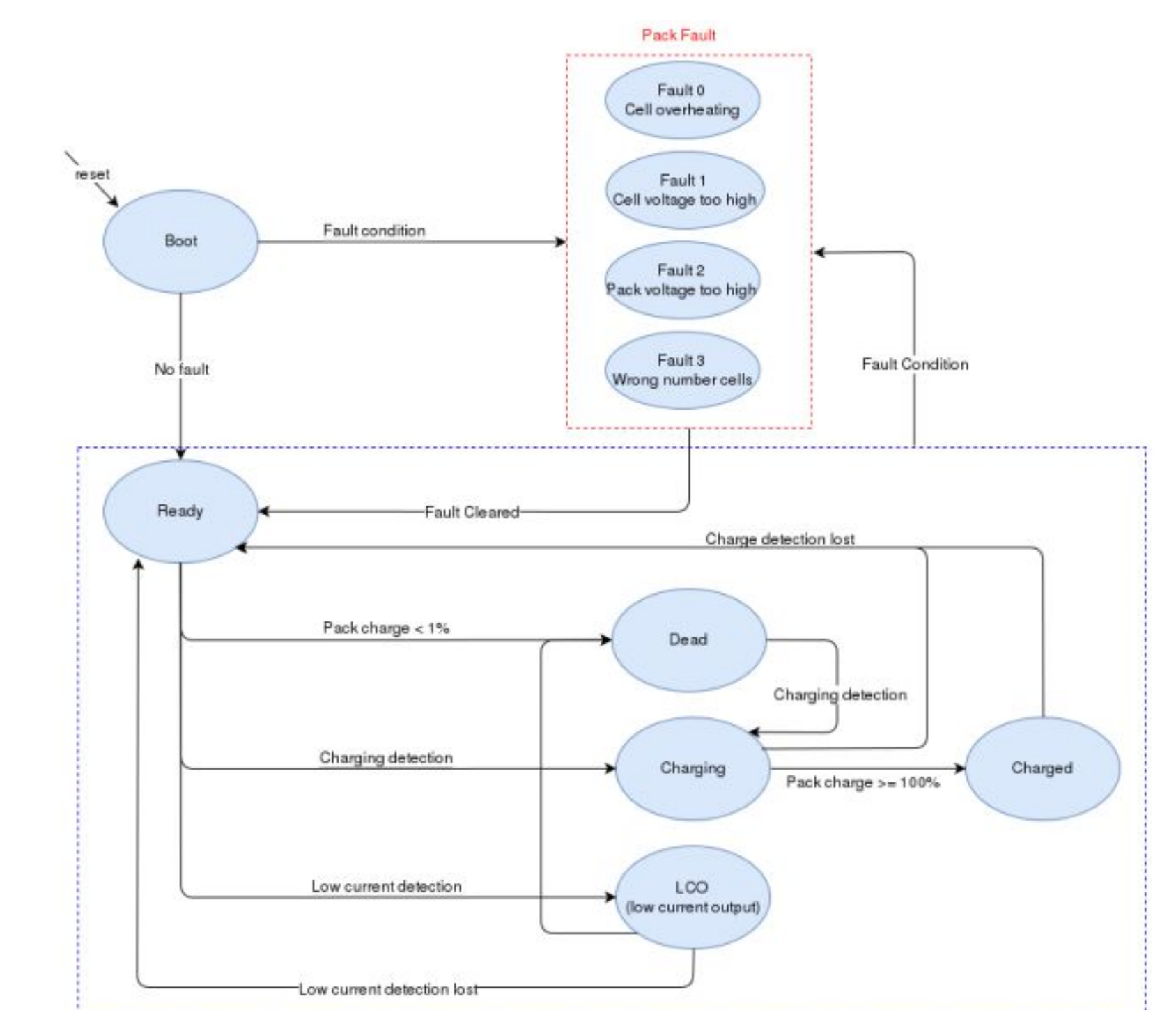


Note: Red = 0.5C rate, Black = 1.0C rate, Blue = 3.0C rate

## Safety Loop

- Control of Safety loop via time-delay relay
- Contains AIRs power
  - 8 A for 75ms
  - 0.5 A continuous

|                      | Trip Threshold | Nominal Value |
|----------------------|----------------|---------------|
| Cell Temperature     | 60 °C          | 23 °C         |
| Upper Cell Threshold | 3.6 V          | 3.2 V         |
| Lower Cell Threshold | 2.7 V          | 3.2 V         |



## Contact Information

Project Website: [www.sites.Lafayette.edu/ece492-sp18](http://www.sites.Lafayette.edu/ece492-sp18)  
Engineers: Waseh Ahmad 18', Sarah Botteron 18'



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