It can be observed that the most significant risk and impact would be not being able to successfully implement the TI- BQ76930 (BMS) IC into our project. The BMS IC is intended to perform cell balancing and battery protection features. PCB components were derived and selected partly because of their compatibility with the BMS IC. It was determined that performing a test on the BMS IC would allow us to validate our intended implementation with the 18650 lithium-ion battery cells.

We will begin by testing the charge and discharge capability of the BMS IC. If we successfully implement charging and discharging, we will begin to test short circuit, over-discharge, over-charge, and high temperature protection capabilities of the IC. We requested and received permission from our sponsor and team Lead to request a PO(Purchase Order) for a BMS IC to begin testing. Due to the nature of the IC we will also need to procure our selected MCU. Our IC is not capable of recovering after a circuit fault is detected and the system is shutdown, therefore it is necessary to procure the MCU to enable the system to recover from circuit faults on the fly. Based on our meeting with our sponsor on October 6, 2022, it was determined that the approval of our purchase order could take around two weeks, and delivery could take another week. So we are projecting that we will receive the BMS IC by the end of October 2022. Electrical engineers of the ECE team will perform the BMS IC test, which includes Cyrus, Pamela, and Bader.

From the prototyping activity, we desire to gain confidence in implementing all aspects of the BMS IC. We want to prove to ourselves that we can successfully charge/discharge the battery pack. We also want to prove that we can use the protection feature of the IC to eliminate any anxiety with respect to this risk associated with the project.