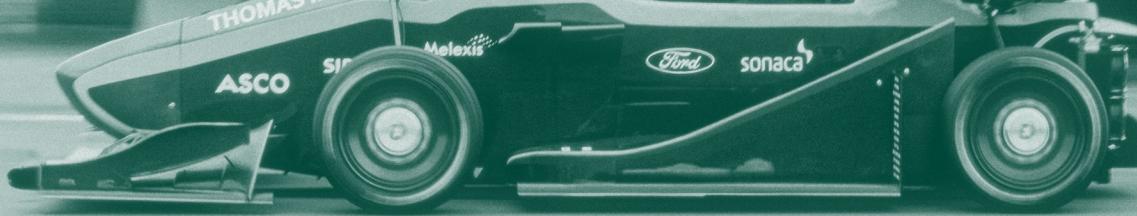


# BATTERY MANAGEMENT SYSTEM + SOC ESTIMATION



## OUR PROJECT

Formula Electric Belgium is a student-run electric race team which competes in Formula Student, the world's largest competition for engineering students. We aim to push the limits of performance, innovation and sustainability within electric racing every year, which is only possible with the help of our Thesis students. These pioneers are responsible for performance-defining innovations within the team, and we would love for you to join our team of highly ambitious and motivated engineers. As a Thesis student, you will research, design, prototype and test your innovations alongside the full-time members which make sure the team pushes itself and the car to new heights.

### AIM AND OBJECTIVE

The aim is to design a linear model for identification of current SOC of the battery at a certain time. The idea is to make it as precise as possible using additional sensors that provide onboard telemetry. This model would be integrated into the Battery Management System (BMS) PCB of the car's battery. Displaying the data could be something like BMS reads it from the sensors and displays it on the dashboard of the car.

Alongside, another aim is to redesign the BMS PCB. The goal is to make it more practical specially in terms mounting and dismounting in the Accumulator container with respect to its communication with the slaves of the battery modules. This would allow to make it easier debugging the PCB itself and connect/disconnect it easily whenever its needed.

### PROFILE

- Electrical Background
- Soldering
- Coding
- Familiar with PCBs
- Basic Knowledge about Communication Protocols (CAN).
- Circuit-building

### RETURNS

- Programming with C
- Familiarity with MCUs e.g. BQ79600, STM32, etc.
- SMD components Soldering.
- PCB designing via Altium.
- BQ diagnosis techniques

### INTERESTED?



Send us your contact details and field of interest to

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