



## 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

This bachelor's thesis aims to design and build a versatile and safe testbench for experimental testing within Formula Electric Belgium. The objective is to develop a fully functional setup integrating mechanical structures, electrical power systems, data acquisition, and safety systems, enabling reliable and repeatable testing of components or subsystems under controlled conditions.

Emphasis is placed on a holistic engineering approach, integrating mechanical design, electrical power distribution, sensing, and control into a single robust testbench. The mechanical structure must provide stiffness, alignment, and accessibility, while the electrical system safely supplies and controls power. A data acquisition system will measure key quantities such as torque, temperature, speed, and electrical power.

A main challenge is ensuring safe operation under all conditions. The testbench will incorporate emergency stops, interlocks, overload protection, and insulation, guided by risk assessment, fail-safe principles, and Formula Student standards.

The final outcome will be a validated testbench for future development and testing. Performance will be verified through calibration and trial experiments to assess accuracy, repeatability, and operational robustness.

### INTERESTED?



Send us your contact details and field of interest to

[recruitment@formulaelectric.be](mailto:recruitment@formulaelectric.be)

### PROFILE

- Strong interest in **hands-on engineering and system integration**
- Has an interest in **electrical power systems**, wiring, and protection concepts
- Is interested in **sensors, data acquisition, and measurement systems**
- Is comfortable working with **CAD**, basic electrical schematics, and measurement hardware

### RETURNS

- Unique experience within a racing team
- Genuine work experience to carry with you into your career
- Exposure to cutting edge technology and software