

# Design and production of a formula student quick-release

## 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 of this bachelor thesis is to design and develop a Formula Student-compliant steering wheel quick-release mechanism that can be produced in-house. The primary objectives are to reduce both overall cost and system weight in comparison to commercially available solutions, while maintaining high standards of reliability, safety, and driver ergonomics.

Particular emphasis is placed on ease of manufacturing and assembly, ensuring that the design can be produced using the available ways of production at FEB (Formula Electric Belgium).

One of the main technical challenges of the project is minimising rotational and axial play in the quick-release mechanism, as any looseness can significantly reduce steering precision and negatively impact driver confidence.

To address this, the design process will focus on tight tolerance interfaces, appropriate locking geometries, and repeatable engagement mechanisms. Special attention will be given to wear-prone contact surfaces, as progressive wear can increase play over time.

### PROFILE

- Strong interest in vehicle dynamics.
- Analytical and problem-solving mindset
- Motivated team player with strong communication skills
- Basic knowledge of CAD and FEM

### RETURNS

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

### INTERESTED?



Send us your contact details and field of interest to

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