

FEA analysis of the in-wheel of a formula student racecar

OUR PROJECT

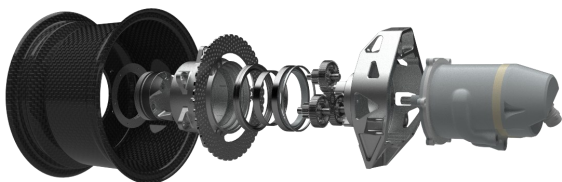
Formula Electric Belgium is a student-run electric race team which competes in Formula Student, the world's largest competition for engineering students. We aim to push the limits of performance, innovation and sustainability within electric racing every year, which is only possible with the help of 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

Our formula student racecar has a 4-wheel drive, where each wheel has a motor and internal gearbox. All parts inside our wheel are what we call the "in-wheel". It is a complex assembly that brings together the braking system, the upright, the wheel hub and the motor connection. The aim of this thesis would be to setup multiple FEA to determine the strength of these components. In a first step all loads and connection need to be determined. Then a big part of the research would be to determine the trade-off between complexity, computing time, ease of use,...

Key objectives would be:

- Determining the loads and required stiffness
- Setting up a FEA for the complete in-wheel
- Developing a FEA template for future use.



INTERESTED?



Send us your contact details and field of interest to

recruitment@formulaelectric.be

PROFILE

- (electro) mechanical engineer
- Experience in Siemens NX for modelling and FEA
- Be able to think outside of the box

RETURNS

- Practical experience in a high-end engineering context
- Work with the newest technologies and innovative companies
- Developing your hard- and soft-skills in a company-like environment
- Participation in the biggest student competition in the world