Powertrain

Green Innovation meets performance

Our Project

Formula Electric Belgium is a team of engineering students who build a **Formula-Student racecar** to compete in international competitions. We design and build a brand-new car every year and compete with other teams in multiple worldwide competitions during the summer months. Formula Student is by far the biggest **engineering competition** in the world and continues to grow. From next year on, we will be competing in both the **electrical** and **driverless** competition. You can join the project during one or two years by applying for the '**Postgraduate in Innovation and Entrepreneurship in Engineering'.**

Tasks

As a Powertrain engineer you work for the drivetrain of the car. All the components that convert the electrical energy to mechanical energy at the wheels are designed and made by the powertrain department. You get to work on the battery where you choose the cells and configure them in a way to have a sufficient energy for the races. These cells get laser welded together after being put in modules. These modules are placed in a battery casing together with the electronics controlling and regulating the cells for safe operation. Structural analysis, heat calculations, laser welding and working with composites are things you will encounter making the battery.

This energy gets converted in the drives which are chosen and tested for optimal performance and delivered to the 4 inwheel motors. You will research the best setting for the control system on the basis of the consumer profile and simulate this demand in a model simulation program. For the inwheel you mainly are engaged in designing and optimizing an electric motor, your own gearbox and structural components, such as self-designed uprights and rims. A great interest and understanding in the subjects "Machine parts" and "Production Technology" is a great asset to this position.

Profile

- Knowledge about bearings, gears and shafts (and their tolerances)
- Knowledge about production processes of gears and milling
- Knowledge about Matlab, Simulink and PID systems
- Interest in CAD/FEM-software
- Interest in CFD-software for heat simulations
- Basic knowledge of electrical machines

Returns

- A unique engineering experience
- Work with the newest technologies and innovative companies
- A summer season packed with competitions all over Europe
- Boosting your soft skills (Public speaking, maintaining professional relationships, …)
- Work in a team with well over 120 partners

Up for the challenge?

Subscribe for our recruitment mail on www.formulaelectric.be/recruitment and submit your **resume** and **motivation letter** (one page) to recruitment@formulaelectric.be