



Aerodynamics

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 an aerodynamics engineer, your main responsibility is the design and development of the aerodynamic package of our race car. You will be using CFD software to simulate the airflow over the car with its different aerodynamic components (front wing, rear wing, diffuser, etc.) in order to compute the drag and downforce. By iterating over an entire range of possible geometries, you are able to optimize your design depending on your objectives. Another important step in the design of a good aerodynamic package is validation of your simulations. This is also amongst your responsibilities.

During the design and optimization of your aerodynamic package, you must keep in mind that you will (have to) produce and mount the package on the car yourself! This means that you will have to think about different mounting systems and about how you will make your wings sufficiently stiff such that they can carry the required loads. Therefore you will also compute some strength (FEM) simulations to verify this.

Up for the challenge?

Profile

- Interest in fluid dynamics/aerodynamics
- Basic knowledge of Computational Fluid Dynamics is recommended, but not required
- Willing to learn quickly about different aspects of race car aerodynamics
- Basic knowledge of composite materials

Returns

- A field of expertise that is quite unique to this project
- Hands on experience in a competitive environment
- Taking part in a very unique project
- Insight into different software programs (NX, Star ccm+, etc.)
- Hands on experience with production of composite materials
- Boosting your soft skills (Public speaking, maintaining professional relationships, ...)
- Business relations with aerodynamics related companies



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