

Air Intake shape optimization

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 rules of the competition dictate that the temperature of the battery must never exceed 60 °C. This can be a challenge during the endurance event where a distance of 22 km needs to be covered. Furthermore performance of the battery can decrease drastically with these extreme temperatures let alone the higher risk of fire. Currently the batteries are air cooled to reduce the weight of the vehicle. The airintake is located to the side of the vehicle and has internal fan that helps draw in air when stationary or driving at low speeds.

To goal of this thesis is to design an airintake inlet shape. The primary focus would be to increase the mass airflow through the intake during highspeed cornering. The first phase would be determining the optimal position where the intake would disrupt as little of the aerodynamics as possible while having exces to quality airflow. During the second phase, the shape of the inlet is optimized for maximum airflow during cornering while keeping the drag low.

PROFILE

- Basic knowledge of fluid dynamics
- Basic knowledge of CAD
- Interested in CFD simulations

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

INTERESTED?



Send us your contact details and field of interest to

recruitment@formulaelectric.be