



# Powertrain

## High Voltage motor connection

## Green Innovation meets performance

### Our Project

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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 as a volunteer. This allows you to contribute to the next race car whilst keeping a flexible schedule.

### Tasks

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A key feature in the energy flow from battery to wheels is the connection of the High Voltage and signal cables to the motors. In previous years this was accomplished through two **3D-printed parts** which were glued to the motor casing.

Because of the glued connection, the cables are **hard to access** and maintenance or replacements are next to impossible. To solve this issue, we want to **redesign** this connection in an easily (de-)mountable way.

This case focuses on the mechanical design of the component, with extra attention to the ability to **withstand dust and water**. The volunteer gets the freedom to work separately under supervision of a team member.

### Profile

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- Knowledge about engineering technologies in production
- Problem solving skills (creativity)
- Team player with a goal to learn
- Basic skills in 3D design (Siemens NX)

### Returns

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- Full technical knowledge about a braking system
- A unique engineering experience
- Applying your engineering skills in the real world
- Developing your hard- and soft-skills in a company-like environment
- Work with the newest technologies and innovative companies
- Work in a team with young motivated engineers

### Up for the challenge?

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Want to do a similar task within the team? Submit your **resume** and **motivation letter** (one page) to [volunteers@formulaelectric.be](mailto:volunteers@formulaelectric.be)