# Sustainable alternatives for carbon fi-

## bers for aerodynamic components

### **Green Innovation meets performance**

#### **Our Project**

Formula Electric Belgium is a student-based race team that pushes green innovation to performance. We design and build our own electric race car each year to participate in the international Formula Student competitions. This year, we are looking for pioneers to challenge the status quo and bring our topnotch electric race car to the next level. As a Thesis student, you will have to research, design, prototype and test your systems together with a group of highly motivated, ambitious students. You will work together with our team members and companies to develop new innovations.

#### Description and objective

Traditionally, most aerodynamic components on the car are made of carbon fibre skins with an aluminium internal structure. When looking at the sustainability of these materials, carbon fibre is a dirty material that requires huge amounts of energy in production and is almost not recyclable. A more sustainable material was already used in the cars of the last two years: wings with skins out of flax fibres, reinforced with a honeycomb out of recycled PET. This material has however a lot of drawbacks. This is why we want all possible alternatives to be researched in a critical way, taking into account not only sustainability but also performance and manufacturability. The students should assess potential alternatives in a critical way, being aware that false advertising and greenwashing are common phenomena.

Supported by this thesis, the team can make a final decision in the coming years on which materials are a viable alternative for carbon fibre for aerodynamic components.

#### Join our research team!



Mail your contact info and field of interest to <u>recruitment@formulaelectric.be</u>

#### Profile

- Bachelor Engineering Science or Technology
- Passion for green innovation
- Critical mindset
- Willing to learn quickly about composite production methods and race car aerodynamics
- Basic knowledge of material sciences

#### Returns

- Experience in an unique field of expertise
- Gain exposure to cutting-edge technologies and industry-leading organizations
- Possibility to network and cooperate with international stakeholders