

Biocomposite battery case for a Formula Student race car



We are looking for motivated master students Engineering Technology

Project description:

Formula Electric Belgium (**FEB**) is a team of highly motivated engineering students that build an electric formula student race car. Just like Formula 1 the team builds a brand-new car each year to compete in multiple international competitions during the race season. Formula Student is the largest international engineering and design competition in the world. The competition is characterized by combustion vehicles, electric vehicles and since recently also autonomous vehicles. Formula Electric Belgium strives towards innovations and the raw performance of technologies. It is for this reason that the team will focus on the autonomous/electric race cars. Research and development applications will be made by postgraduate students in collaboration with thesis students from the KU Leuven and bachelor students from Thomas More.

Thesis description:

With sustainability become a more and more important factor into our everyday live. Formula Electric Belgium needs to be part of the change. Designing and driving a full electric race car is a very important step regarding tailpipe-emissions. But a large part of our energy consumption is focussed during the production of car itself. In an effort to become a more sustainable project natural fibre composites are being used into the aerodynamic package. But we want to push this technology further and build the **first** all-natural fibre composite battery case. Working together with different partners and techniques we want to have the most sustainable casing without compromising on weight and mechanical properties.

Thesis objective:

The objective is to design and evaluate a bio-composite battery case which is conform the regulations. These regard strength and bending properties but also dielectric properties and other safety features. If simulations are verified to be improved a proof-of-concept will be build and implemented into the next years car.

Profile:

- Interested in FEM
- Interested in composites
- Sustainability
- Hands-on mentality
- Creative
- Teamplayer

What do you gain?

- A unique engineering- and team experience where hard work and team atmosphere are central.
- Work with innovative technologies in a realistic environment/application.
- Create added value for your curriculum and the team

Are you interested? Please send your resume with accompanying motivation to:

recruitment@formulaelectric.be

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