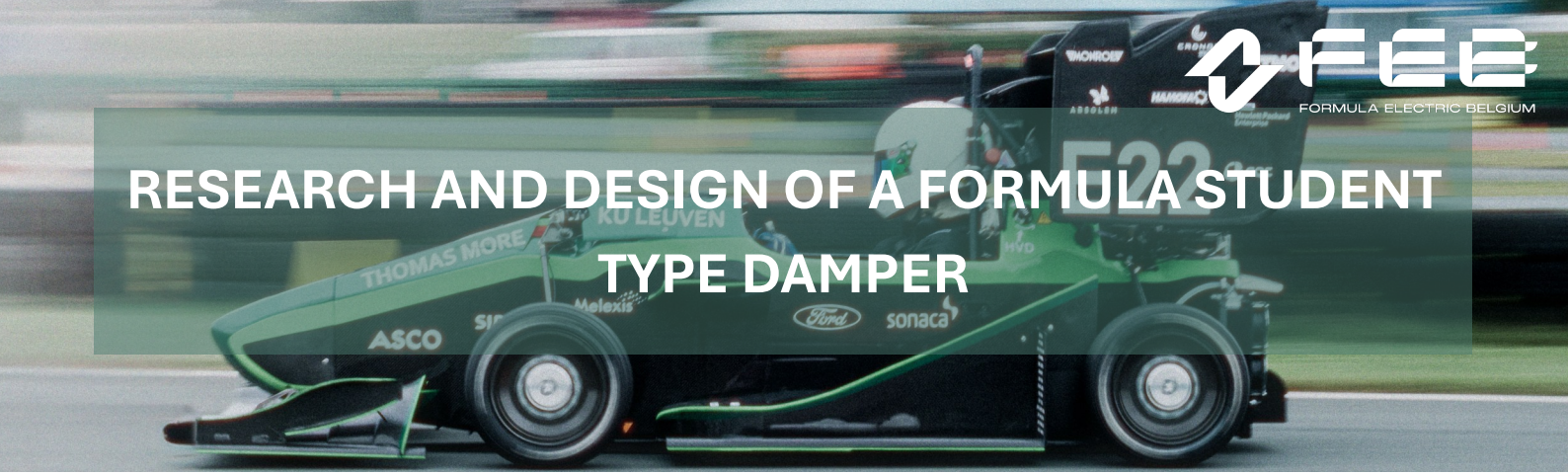

RESEARCH AND DESIGN OF A FORMULA STUDENT TYPE DAMPER

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 aim of this master's thesis is to research, design, and manufacture a Formula Student–compliant damper system that can be produced in-house at low cost. The project seeks to reduce dependency on expensive commercially available damper solutions while maintaining an adequate level of performance, reliability, and safety suitable for use in a Formula Student race car. A central objective of the work is to develop a solid understanding of damper fundamentals, including damping theory and functional principles, and to translate this knowledge into a practical and manufacturable design. Siemens NX is used as the primary CAD and design software throughout the development process.

Particular emphasis is placed on the design of adjustable damping characteristics, allowing independent or combined adjustment of compression and extension (rebound) to enable suspension tuning for different track conditions and driving requirements. The damper architecture will be developed with simplicity and repeatability in mind, ensuring that adjustments are intuitive and robust while minimizing manufacturing complexity.

Material selection is a key aspect of the design process, with careful consideration given to strength, weight, wear resistance, and manufacturability.

PROFILE

- Strong interest in Vehicle Dynamics.
- Analytical and problem-solving mindset
- Motivated team player with strong communication skills
- Knowledge of CAD and FEM

RETURNS

- Unique experience within a racing team
- Genuine work experience to carry with you into your career
- Exposure to cutting edge technology and software

INTERESTED?

Send us your contact details and field of interest to

recruitment@formulaelectric.be