

HIGH VOLTAGE

INNOPTUS SOLAR TEAM



THE PROJECT

The goal of the project is to build the eleventh Belgian solar car. With this car, you will participate in the world championship for solar cars in Australia, the Bridgestone World Solar Challenge 2025. You will go through the whole process of designing, producing, testing and racing, together with a group of ambitious and motivated students. With numerous companies, you will develop new innovations to build the most efficient solar car. In the end, you and your team will compete against universities from all over the world to compete for the first place. This project will help you become a state-of-the-art engineer!

THE FUNCTION

As a High Voltage Engineer you take on one of the three responsibilities below in order, together with your colleagues, to design and implement a powertrain that is efficient and reliable.

Motor

Your goal is to design and produce a motor that is more efficient and reliable than commercially available engines. You look for the perfect motor configuration by simulating different combinations of pole pairs, winding configurations, etc. You do this using an electromagnetic model. For this you need a good theoretical basis. You also conduct material and production research to actually build the new motor. For the design and production of the motor you will have to work closely with the mechanics department and you will have to seek expertise and support from several partner companies.

Battery

By looking for the latest innovations and technologies for battery cells, you design a tailor-made battery pack with maximum energy capacity. A correct choice of cells is essential for a competitive solar car and for the further design of the electrical circuit. In addition, all electronics must be designed to make the battery pack as reliable and safe as possible and to be able to be monitored from outside.

Solar panel

For the solar panel, you first look for solar cells with the highest efficiency and work closely with the aerodynamic department to determine the optimal shape of the car and the solar panel. After the electrical design, it is important to find optimal production. After this, you will produce and encapsulate the solar panel yourself in Imec's clearroom. Accuracy and an eye for detail are extremely important. Finally, you assemble the finished panel on the solar car.

These positions are distributed within the energy department. Be sure to indicate in your motivation letter which one appeals to you most and why.



innoptus **SOLAR TEAM** **YOUR PROFILE**

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- An extensive interest in both electronics and electromechanics
- A motivated team player with strong communication skills
- A creative, out-of-the-box mindset
- High degree of independence and professionalism
- Bachelor or master in engineering technology, or (bio) engineering sciences
- Ready to put a lot of time and effort into this project!

OUR OFFER

- A project full of experiences you don't get in your normal studies
- Experiencing a real engineering project and its different phases
- Being in contact and cooperating with the largest companies in the industry
- A group of friends and an international racing adventure to remember
- The experience of a lifetime and so much more!