ZUKEN®

GreenGT chooses Zuken for the wiring of its hydrogen-powered vehicles

"E3.series is exactly the electrical CAD software we need to speed up our development without compromising the quality of our embedded systems.
Zuken's tools allow us to minimize the risk of errors in the design of our schematics and wiring harnesses and shorten our development cycles, which is crucial to the success of our projects."

GreenGT Hydrogen Pioneers

Jérôme Bernard, GreenGT SA, Head of the Embedded Systems Department

GreenGT SA reduces the development time of its prototypes by using E3.series to design schematics and wiring harnesses for fuel cell systems and high-performance hydrogen vehicles

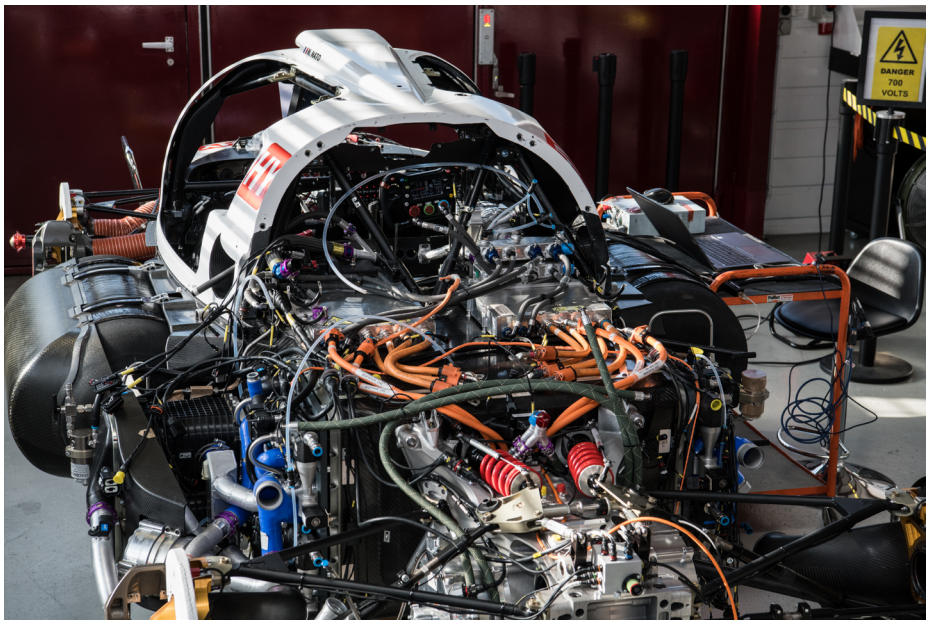
Founded in 2008, GreenGT SA operates in the fields of mobility and hydrogen energy systems. It designs fuel cell systems and develops drive systems for high performance hydrogen electric vehicles. Since last year, the company has been using the E3.series to rapidly develop the electrical systems of its prototypes.

GreenGT is a Swiss company active in the field of electro-hydrogen technologies. It analyzes, designs, develops, realizes and sells research projects, products and services applied in the field of mobility and energy production.

For 15 years now, GreenGT has been developing electro-hydrogen solutions for pioneering projects that stand out for their extreme specificity.

Thanks to their experience and unique expertise, GreenGT is able to develop entirely clean drive systems and energy generators that blend performance and sustainability in the best possible way, by focusing on innovation in research and development.

For example, GreenGT has developed the drive system for the racing prototypes of the MissionH24 program for the ACO, an ambitious initiative to establish a hydrogen class at the 24 Hours of Le Mans.



The GreenGT SA fuel cell system

Advantages

- Pparameterization of schematic pages and design tools
- Easy-to-use component library for creating new connectors
- Fast and efficient technical support from Zuken with their cabling experts
- Dynamic interaction from E3.cable to E3.Formboard to minimize the risk of errors.

E³.series from Zuken is a Windows-based, scalable, easy-to-learn system for the design of wiring and control systems, hydraulics and pneumatics.

The out-of-the-box solution includes schematic (for circuit and fluid diagrams), cable (for advanced electrical and fluid design), panel (for cabinet and panel layout), and formboard (for 1:1 wiring harness manufacturing drawings).

Integrated with MCAD, E³.series is a complete design engineering solution from concept through physical realization and manufacturing output.

"We use E3.Cable to create schematics. The flexibility of use and the technical support are saving me valuable time."

Pauline Rivière,
GreenGT SA, Electrical Design Engineer

"With E3.Formboard I can create concise manufacturing drawings with all the necessary information for the manufacturer."

José Couto,
GreenGT SA, Wire harness design engineer

Rapid development, minimized risks

The ongoing challenge for GreenGT is to meet customer expectations within a reasonable timeframe in a still evolving hydrogen industry. Quality, which is synonymous with safety, cannot be compromised. Electrical engineering requires the right software to design schematics and produce reliable wiring harnesses.

Two closely linked disciplines

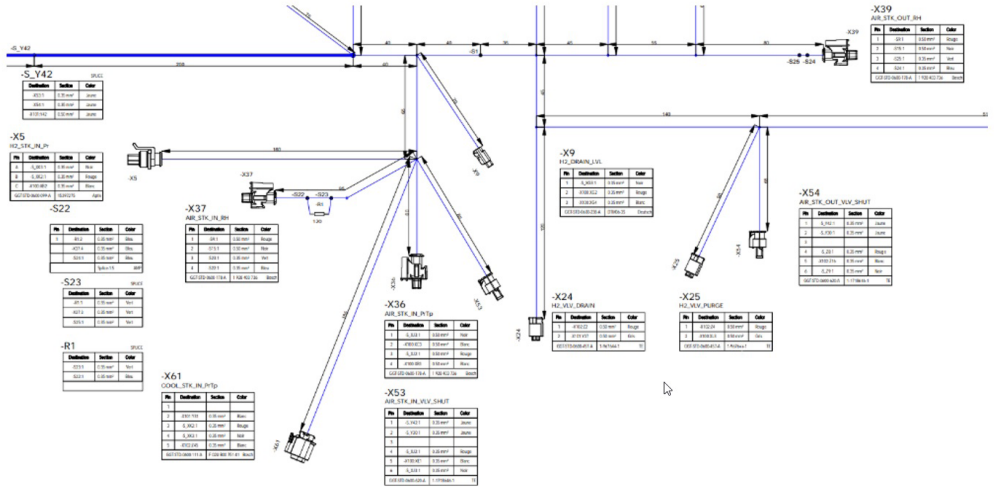
In our wiring department, two engineers are responsible for electrical engineering: Pauline, who is in charge of developing the electrical schematics, and José, who is responsible for the routing and development of the wiring harnesses. They are in close contact on our projects and it is important that they have a collaborative development tool that allows them to easily exchange ideas and work together to advance the development of our systems.

Schematics with E3.cable

Our schematics allow us to define how electrical and electronic components are connected, compare solutions and suggest alternatives. The control electronics, the ECUs, are the central elements of our designs as they are responsible for the intelligence of the system and require a clear and straightforward representation of their connections. The final step is to use the schematics, exported in PDF format, to check the systems after wiring.

Wiring diagrams with E3.Formboard

Formboards are used in the production of our harnesses, either in-house by our prototype cable builders or externally in small batches by specialist companies. Correctly illustrated harness drawings and perfectly documented BOMs reduce the technical exchange with the supplier and minimise the risk of production errors. Again, PDF is our preferred exchange format.



Fuel cell system harness manufacturing drawings