ecurieaix

E-Powertrain & Electronics
PCB Development - SC PCBs

Test- & Race-Operation

Manufacturing & Commissioning

HV-Powertrain
- HV-Accumulator with Batterymanagement-System und Cell-Characterisation
- Traction Inverter
- Motor Control

E-Powertrain & Electronics Overview.

Low Voltage System
- PCB Design and Embedded Software
- Control- and Communication-systems and Telemetry
- Sensors & Actuators
- Wiring Harness
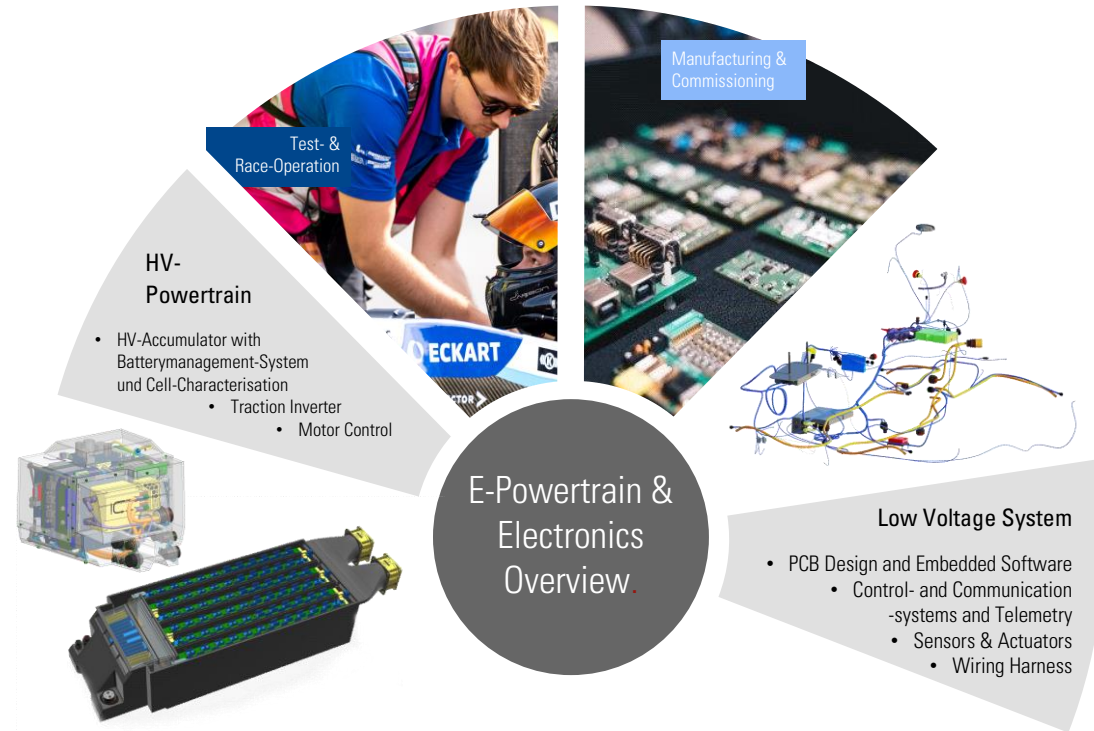
What are Safety Critical PCBs?

The safety of the driver and the systems are paramount in the operation of our race car. That's why there are a number of safety systems prescribed by the regulations that deactivate the drivetrain in the event of a fault and transfer the vehicle to a "safe state". One important feature is the shutdown circuit (also known as the pilot or interlock circuit) - in the event of a fault, it is interrupted and the traction battery is disconnected from the vehicle on two poles. The safety-critical boards include the "Tractive-System-Active-Light", "Brake-System-Plausibility-Device", "High Voltage Discharge & Indicator Board" and the "Autonomous-System-State-Indicator".

As with almost all boards of the Low Voltage System, we develop the hardware of the safety-critical boards ourselves to achieve the best possible implementation of the requirements of the regulations in the vehicle. For this purpose we use Alitum Designer, Matlab and LtSpice. The maintenance of the system includes manufacturing, commissioning and servicing. Exact knowledge of the rules and regulations and interest in simulation work are important.

What will be your tasks?

- Familiarization with existing hardware projects in Altium Designer
- Full maintenance of the hardware project
- Simulations of safety-critical circuits in LtSpice, Simulink or PSpice
- Further development of the system
- Collaboration in electrotechnical tasks (e.g. on the batteries, code adaptations, etc.)
- Collaboration on cross-group tasks (e.g. testing, manufacturing)

What are our requirements for you?

- Motivation and team spirit
- Interest in many electrical engineering topics
- Structured working & craftsmanship
- Participation in weekly appointments
- Knowledge of the subjects "Grundgebiete der Elektrotechnik 1", "Grundgebiete der Elektrotechnik 2" and "Grundgebiete der Informatik 2" is advantageous
- Experience in circuit board development with Altium, KiCad, Eagle or similar is advantageous
- Experience with electrical simulations in LtSpice, Simulink or similar is advantageous

One Goal. One Team.

Would you also like to accompany your component from CAD to the race track? Apply on our homepage!

www.ecurie-aix.de/bewerbung

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