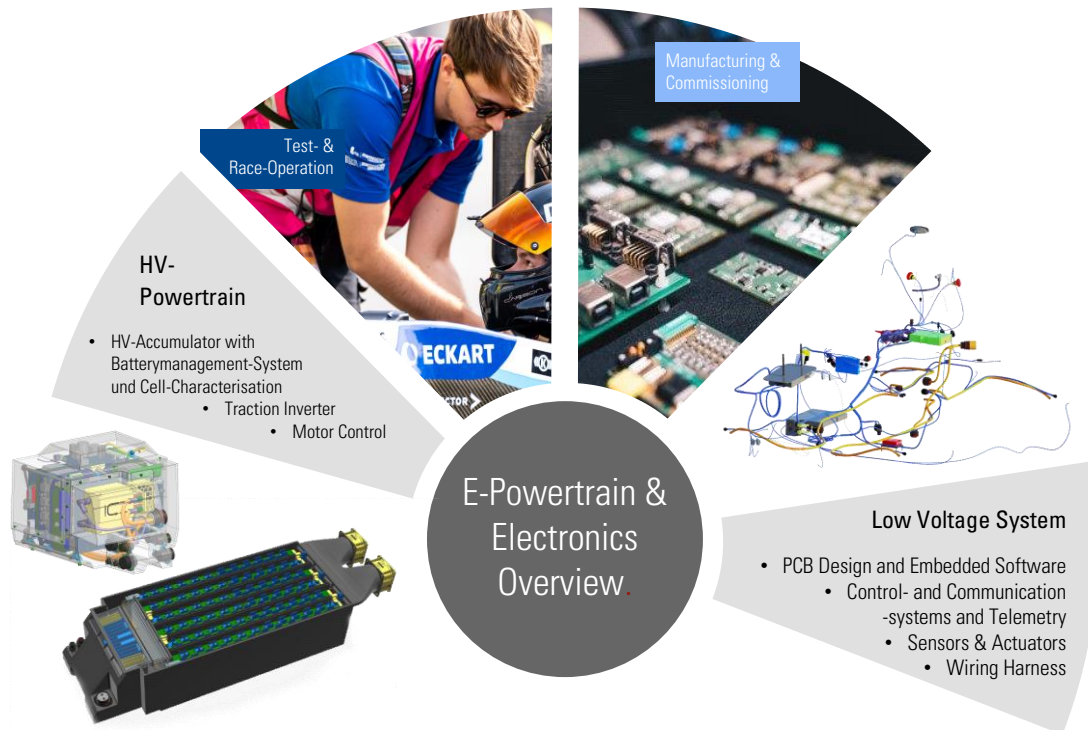


Embedded Systems - HVBMS



One Goal.
One Team.

What is the High Voltage Battery Management System (HVBMS)?

A high-voltage traction battery is used in our race car. This battery must be permanently monitored during operation. The primary task of the HVBMS is the monitoring of all cell temperatures and voltages and the controlled enabling of the accumulator via the contactors at both poles of the battery. This is controlled by a microcontroller, which periodically evaluates new readings and acts on this information. In the event of a fault, such as undervoltage of a cell, the microcontroller must open the contactors to bring the car into a safe state. Here it is especially important to know the periphery of the HV accumulator, as it contains all relevant signals.

As with almost all boards of the low voltage system, we develop hardware and software of the HVBMS ourselves to achieve the best possible match between the system and our requirements. For this we mainly use Altium Designer and VisualStudio Code. The maintenance of the system includes manufacturing, commissioning and servicing of hardware and software, as well as the interface work for the packaging of the system.

What will be your tasks?

- Familiarization with existing hardware projects in Altium Designer
- Familiarization with existing software projects
- Full support of the combined hardware-software project
- 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, especially battery cells and energy storages
- Craftsmanship
- Participation in weekly appointments
- Knowledge of the subjects "Grundgebiete der Elektrotechnik 2" and "Schaltungstechnik 1" is advantageous
- Experience in circuit board development with Altium, KiCad, Eagle or similar is advantageous
- Programming experience is advantageous



www.ecurie-aix.de/bewerbung