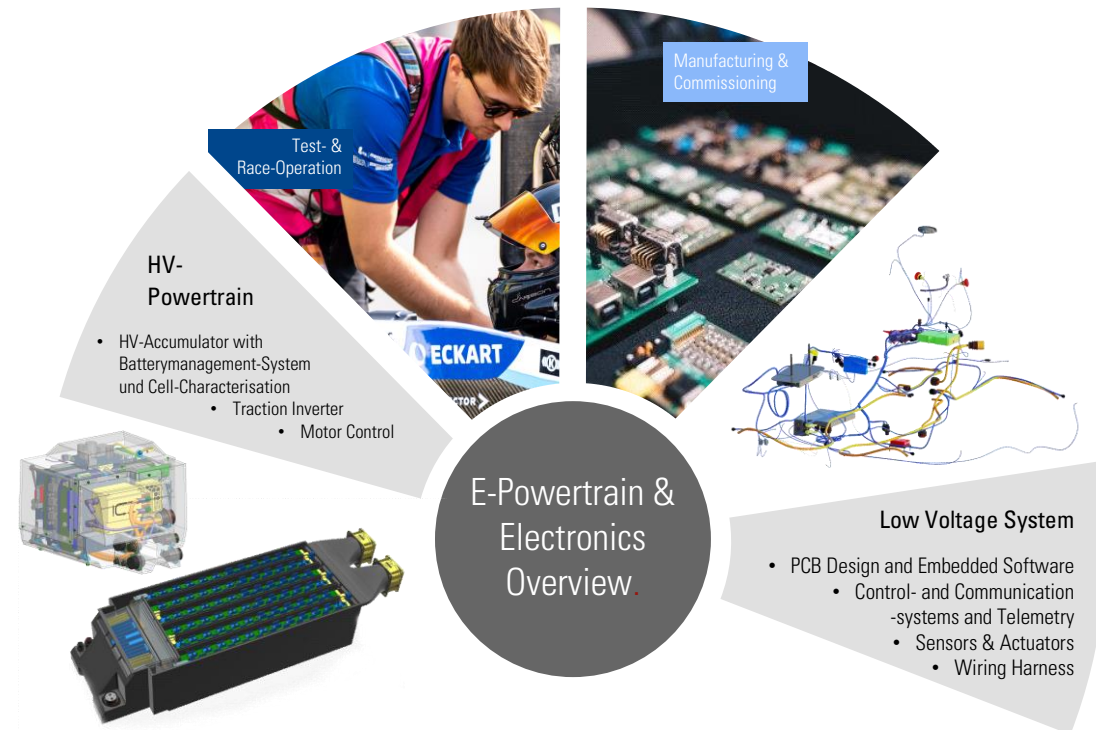


PCB Development - Cellboard



What is a Cellboard?

A high-voltage traction battery is used in our race car. This battery must be permanently monitored during operation. The primary task of the cellboard is to digitize the cell temperatures and voltages. This is done via a battery management chip that is periodically triggered by a master to start a new analog-to-digital conversion cycle. The data is passed on via an isolated bus system for further analysis afterwards. The cellboard also implements functions such as passive cell balancing to reduce the state-of-charge deviation of all cells. Here, it is particularly important to know the structure of the battery segments and the characteristics of the cells.

As with almost all boards of the low voltage system, we develop hardware and software of the cellboard independently 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



One Goal.
One Team.

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