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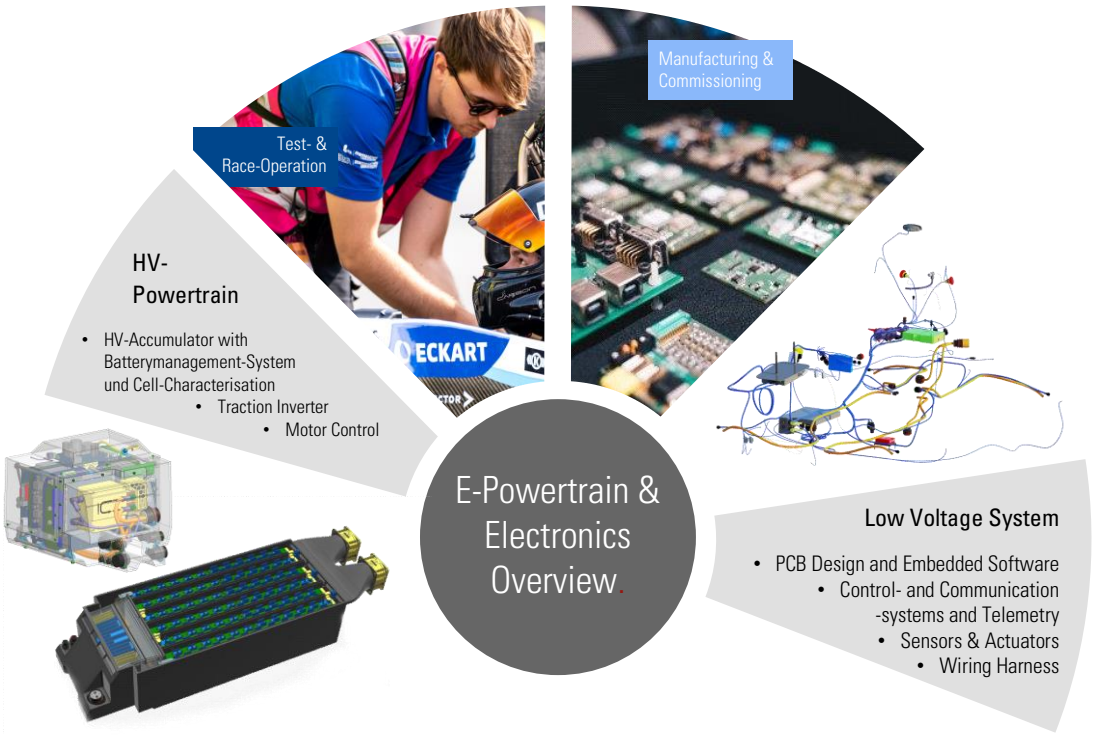
E-Powertrain & Electronics

Embedded Systems - PDU



What is the Power Distribution Unit (PDU)?

Different systems in our race car require different supply voltages and additional control signals, e.g. PWM signals to control fan speeds. The primary task of the PDU is to efficiently convert the variable output voltage of the low-voltage battery into constant voltages. In addition, several loads are smartly controlled by a microcontroller to reduce average power consumption and safely disconnect damaged peripherals in the event of a fault. Here it is particularly important to know the interdisciplinary interfaces in the vehicle. In addition, the microcontroller is used to evaluate sensors in the rear of the vehicle.

As with almost all boards of the low voltage system, we develop hardware and software of the PDU ourselves to achieve the best possible match between the system and our requirements. For this we mainly use Alitum Designer and VisualStudio code. The maintenance of the system includes manufacturing, commissioning and maintenance of hardware and software.

What will be your tasks?

- Familiarization with existing hardware projects in Altium Designer
- Familiarization with existing software projects
- Full maintenance 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
- Craftsmanship
- Participation in weekly appointments
- Knowledge of the subjects "Grundgebiete der Elektro-technik 2" and "Schaltungstechnik 1" is advantageous
- Experience in circuit board development with Altium, KiCad, Eagle or similar is advantageous
- Programming experience 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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