ecurieaix

E-Powertrain & Electronics
Embedded Systems - ECU

E-Powertrain & Electronics Overview.

- **Test- & Race-Operation**
- **HV-Powertrain**
  - HV-Accumulator with Batterymanagement-System und Cell-Characterisation
  - Traction Inverter
  - Motor Control
- **Manufacturing & Commissioning**
- **Low Voltage System**
  - PCB Design and Embedded Software
  - Control- and Communication -systems and Telemetry
  - Sensors & Actuators
  - Wiring Harness

What is the Electronic Control Unit (ECU)?

The electronic control unit (ECU) is the core of the low voltage system of our race car. The universal design allows the board to be used in conjunction with various extensions that implement specific functions. The board provides access to central features of the Teensy microcontroller, provides supply voltages for connected sensors and offers smart features, e.g. an integrated SD card for recording measured values. The board is used in combination with the PDU, pedalbox control unit, VCU, telemetry and HVBMS. Since the ECU has interfaces to almost all systems in the vehicle, a good familiarization with the vehicle concept and knowledge of the electrical systems are particularly important.

As with almost all boards of the Low Voltage System, we develop hardware and software of the ECU independently to achieve the best possible match between the system and our requirements. For this we mainly use Alitum Designer and VisualStudio Code. Support of the system includes manufacturing, commissioning and maintenance. The interface work with other group members is very important here.

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, beyond your own area of expertise
- Structured work
- 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
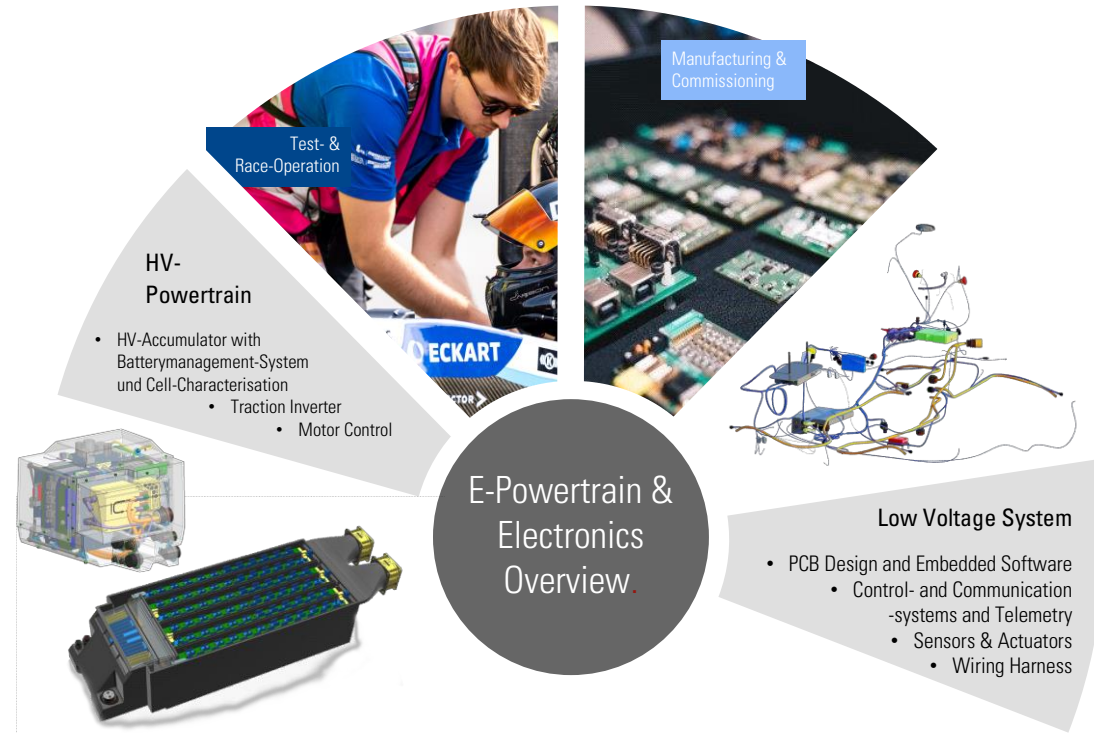
One Goal.
One Team.

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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