



What does Pedalbox Control (PB Control) mean?

The pedal box is the front part of the monocoque that houses the accelerator and brake pedals and the associated sensor technology. An electronic control unit (ECU) is used to evaluate the position signals from the pedals and other sensors (e.g. steering angle and chassis sensors). The control signals from the driver and measured responses from the vehicle are shared with the VCU via the CAN bus. In autonomous operation of the vehicle, additional safety features, in the form of the Emergency Brake System, must be integrated. The actuators are also controlled via the ECU. Additionally the driver is able to adjust vehicle parameters via the steering wheel, the evaluation is part of the PB Control position.

As with almost all boards of the low voltage system, we develop hardware and software of the pedal box ECU ourselves to achieve the best possible match between the system and our requirements. For this we mainly use Altium Designer and VisualStudio Code. Maintenance of the system includes manufacturing, commissioning and servicing. The interface work with the vehicle dynamics and driverless software group are particularly 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
- Interest in vehicle dynamics & autonomous driving topics is advantageous
- Craftsmanship
- Participation in weekly appointments
- Knowledge of the subjects "Grundgebiete der Elektrotechnik 3" and "Systemtheorie" 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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