

AUTONOMOUS DRIVING

## Vending vehicle with robot making coffee

The Chinese start-up company Pix has developed a self-driving vehicle that implements an embedded CAN network.



The Chinese prototype of a vending vehicle uses several CAN-connected ECUs (Photo: Pix)

The vehicle is intended for vending purposes. The prototype, recently presented in Guiyang, is staffed with a robot, which is able to make coffee. In other application scenarios it could be equipped with vending machines selling vegetables and other ingredients for your meal. Also autonomous cargo and driverless services shuttle services will be possible.



The IP67-rated control units come with CAN interfaces (Photo: Pix)

The vehicle is equipped with a CAN-connectable vehicle control unit. It controls the lights, the horn, the windshield wiper, the handles, the accelerator and so on. The electric steering unit provides CAN connectivity, too. Two working modes are available in this unit: human driving assistant mode and self-driving mode. In human driving assistant mode, the electric steering unit acts as the electric power steering system and reduces the resistance of steering. In self-driving mode, it controls the steering wheel automatically. After receiving the target steering wheel position in the CAN frame, the unit drives the torque motor to the target position using Kalman filter algorithms. Another device linked to the CAN network is the electric brake unit. It generates pressure in the vehicle's brake system and controls the speed of the vehicle. All these control devices feature IP67-rated housings.

The vehicle will obtain a self-driving car test license from Guizhou (China) authorities this year. The speed will be limited to 20 km/h. The vehicle will be used in industrial areas, theme parks, and airport environments. Among the interested parties is for example Starbucks, said the Chinese OEM (original equipment manufacturer).

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