dSPACE – Technology Provider (not only) for Autonomous Driving

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dSPACE

Who we are

- **dSPACE** = digital Signal Processing And Control Engineering

What we do

- Development of tools (hardware and software) for developing control systems and electronic control units
  - From single ECUs to large-scale virtual vehicles

Who Uses dSPACE Tools to Develop Control Systems?

- Automotive industry (80% of our customers) → Development partners
dSPACE – 14-rack HIL system simulating ECUs of a truck
TOP 15 Customers in the Automotive Industry

- Audi
- DAIMLER
- HONDA
- BMW
- FCA
- FIAT CHRYSLER AUTOMOBILES
- TOYOTA
- Ford
- Porsche
- NISSAN
- MAN
- ZF
- RENAULT
- BOSCH
dSPACE Worldwide

- **1,093** employees at dSPACE GmbH, Paderborn
- **113** in Pfaffenhofen, Böblingen, and Wolfsburg
- **294** employees in other countries
- **1,500** in total (full-time)
Trends with autonomous driving

Environment sensors
- New technologies
- Resolution, range, costs
- 360° view, day & night

Vehicle networks
- Increasing bandwidth
- Service-oriented communication
- Automotive Ethernet Some/IP

Data processing
- High performance and efficiency
- Fusion of sensor raw data
- Scalability from ADAS to AD

Artificial Intelligence
- Deep-Learning
- Self-learning systems

Validation
- Hundreds of millions of test kilometers
- Sensor-in-the-loop Simulation
- SIL tests on PC clusters and in the cloud
Thank you!

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