

## VEHICLE DIAGNOSTICS

Vehicle diagnostics, i.e. the access to ECUs (off board communication) and the analysis of data traffic between these ECUs in the vehicle (onboard communication) is one of the key technologies in automotive electronics.

DE provides solutions for Diagnostics and Reprogramming both at plant and Service level by providing high speed communication hardware and software tools chains.

**DE has experience on both Hardware and Software development.**

### **Diagnostics**

- On Board Diagnostics
- ECU diagnostics
- PC based diagnostics solutions
- Handheld Solutions

### **Standards**

- OBD
  - ASAM
  - Autosar
  - J2534
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- DE has implemented Diagnostics (Both Emission and Non-Emission related) for many vehicles including Passenger cars, SUVs and Trucks (J1939)
  - DE has capability to provide following diagnostics related solutions:
  - Scan Tools (Hardware interface and software)
  - PC / Handheld based Diagnostics Testers
  - EOL (End Of Line) and Field ECU Flashing Solutions
  - ECU (Server) side Diagnostics Layer implementations
  - Vehicle Network Analysis and Simulation Tools
  - Compliance Test Applications

DE has executed many diagnostics and ECU flashing related projects on different protocols for various automotive OEMs

**Diagnostics Solutions:**

- DE has developed an OBDII compliance Test tool based on SAE J1699
- Implemented Emission related Diagnostic services based on SAE J1979 / ISO-15031-5 for Instrument Clusters on Pickup Trucks, Passenger cars and SUVs. These are based on Freescale HCS12 / ARM platforms.
- Implemented ISO 15765 Layer (Includes Transport / Network layer) on CAN bus for Diagnostic applications.
- Implemented Diagnostic package supporting Generic Global Diagnostics Specification (GGDS) to be used on different Ford vehicle ECUs.
- Developed GMLAN Diagnostics Tools
- PDA Based Diagnostics
- Remote Vehicle Diagnostics using cellular networks