

Bosch Engineering

Intelligent remote diagnostic system

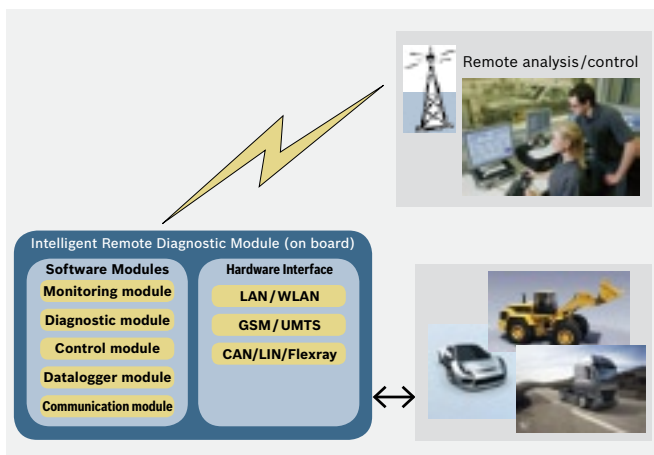


BOSCH

Invented for life

Engineering services for intelligent remote diagnostic solutions

The development of low production volume and niche market vehicles often requires specialized engineering services. Bosch Engineering GmbH offers solutions for these vehicles. Individual engineering services and experiences from mass production projects are utilized to realize the demands of the customer as well as the target markets.



Intelligent remote diagnostic system (IRDS)

IRDS combines full data logger functionality with diagnostic tester functionality. Diagnostic services, measurements and ECU functions can be executed automatically or by a remote request via a wireless interface (UMTS, EDGE, GPRS). Fault code memory entries of the ECUs in the system, the error related internal ECU signals or sensor values and the GPS position are available at the same time in one system and enable a supervisory view of the entire system.

Challenges in mobile applications

- ▶ Limited access to fault code memory reports
- ▶ Insufficient / incorrect measurements due to inflexible, predefined configurations
- ▶ Measurements are not available (promptly)
- ▶ No possibility to read internal electronic control unit (ECU) variables
- ▶ No access to internal electronic control unit (ECU) parameters, thus no possibility to check different system settings

Challenges in stationary applications

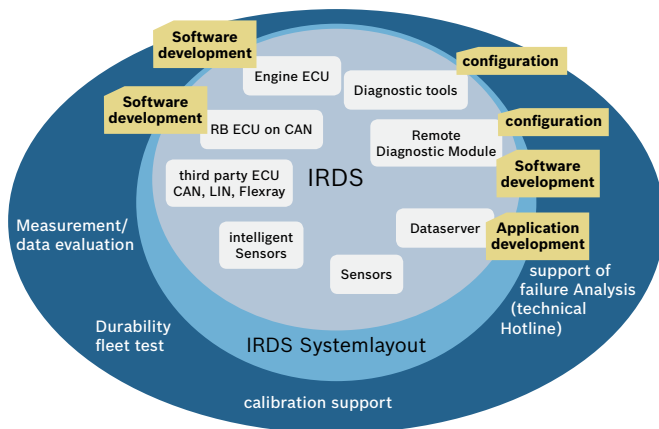
- ▶ Reported error data is not meaningful enough
- ▶ No possibility to execute self-tests of actuators / sensors
- ▶ No possibility to predict errors, which lead to system shut-off

System Features

- ▶ Customer specific intelligent diagnostic functionality
- ▶ Diagnostic monitoring of various electronic controllers (no specific tester tool necessary)
- ▶ Remote access to the fault code memory of ECUs
- ▶ Remote activation of diagnostic services in ECUs and intelligent sensors
- ▶ Remote control of ECU functions
- ▶ Remote control of RDM I/O interfaces
- ▶ Online remote access via CCP for measuring and calibration of ECU internal variables
- ▶ Customer specific error reports including vehicle position
- ▶ Data retrieval of test vehicles in worldwide use
- ▶ Malfunction notification when thresholds are exceeded via SMS/email
- ▶ Supervisory data management and data evaluation

Advanced functions to control and monitor the ECUs in the system can be implemented for the remote diagnostic module (RDM). The measured / requested data are stored inside the RDM and transmitted to a web server.

An online access to the system via a wireless interface allows to configure the system, control measurements and functions at any time a wireless communication connection is established.



Supervisory data management and data analysis

The data management and data analysis tool offers an easy way to handle various measurements and gives a fast access to the measurements for comparison and statistical analysis.

Engineering services

Bosch Engineering GmbH provides a scalable intelligent remote diagnostic system to face the challenges in mobile and stationary applications. This includes the customer specific system layout and configuration as well as software development for the electronic control units and the supervisory remote diagnostic module (RDM).

Services for remote diagnostics

- ▶ Setup of intelligent remote maintenance / remote diagnostic systems
- ▶ Remote support / assistance for failure analysis and system calibration
- ▶ Development of new remote functions for the ECU / target system
- ▶ Development of software supervisory functions for the Remote Diagnostic Module

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