



Innovative integrated diagnostic system **“Bosch Diagnostic Solution” maps out complete life cycle for mechatronic vehicle systems**

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- ▶ Bosch Diagnostic Solution allows demanding diagnostic processes to be mastered
- ▶ Diagnostic concepts can be developed more flexibly and efficiently
- ▶ Porting of diagnostic content irrespective of platform
- ▶ Frontloading for early consideration of diagnostic requirements

Where vehicles are concerned, the number of model variations and their functions is constantly increasing. This leads to increasingly complex and more closely networked mechatronic vehicle systems. For this reason, the development, production, and servicing of modern vehicles calls for increasingly demanding diagnostic processes. To enable workshops to efficiently identify and remove errors in the future, too, service diagnostics must be considered at a very early stage, even when new control units are being developed, and be given the same level of attention as systems, components, and functions. With the “Bosch Diagnostic Solution” (BDS) diagnostic platform, Bosch has developed an innovative solution to systematically support the entire diagnostic development process.

Early consideration of diagnostics

Bosch Diagnostic Solution enables all diagnostic requirements for development, production, and servicing to be taken into consideration at a very early stage of vehicle development. For example, the functions of the control unit diagnostics can be developed at the same time as those of the diagnostic tester, using a uniform database. As a result, many of the steps involved in the creation of diagnostic software now take place during the control unit development phase. The integrated Bosch Diagnostic Solution thus meets the demand for “frontloading” in diagnostic development and helps to improve diagnostic quality.

Modularity for individual requirements

Bosch Diagnostic Solution comprises several independent modules. This provides the flexibility needed to meet individual customer requirements. For example, fault symptoms, fault causes, and diagnostic methods can be linked using the DPA (Diagnosis Possibilities Analysis) tool. This provides the user with an evaluation as concerns outlay, success rates, and costs, as well as concerns any requirements for a new diagnostic method.

With modern diagnostic methods, the partitioning tool helps the developer to determine the sequential logic, initially in an abstract manner. It then calculates the optimum partitioning of this diagnostic method into software parts in control units and diagnostic testers or additional test equipment. The partitioning tool can be used to intuitively demonstrate complex interrelations in diagnostic concepts and to automatically generate the required documentation.

Another module, the tester function editor, can be used to program software parts for the diagnostic tester in a graphic development environment. This is provided to the authors of diagnostic content as an executable code. In the case of more complex tests, the sequence editor enables tester functions and other tests to be compiled into sequences. The development tool, also graphic-based, generates a platform-independent, executable code from an XML format as required.

The Bosch Diagnostic Solution includes two other modules for creating and running diagnostic content. While the authoring system enables all the diagnostic information that needs to be processed to be bundled into “diagnostic object models,” the diagnostic content can be processed on the diagnostic device using the runtime system. The complete diagnostic content can be created by diagnostic experts using the BDS, all without any support from software developers. BDS aims for openness and meets the established ASAM-MCD standards while allowing vehicle-manufacturer-specific extensions.

The versatile and modular components of the Bosch Diagnostic Solution thereby form the basis for increased quality and flexibility in the development and use of diagnostic methods for modern vehicles in development, production, and servicing.

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The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.

Additional information can be accessed at www.bosch.com.

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Bildtext | Caption

„Bosch Diagnostic Solution“ bildet kompletten Lebenszyklus mechatronischer Kraftfahrzeug-Systeme ab

Bei Kraftfahrzeugen nimmt die Zahl der Modellvarianten und ihrer Funktionen stetig zu. Dies führt zu immer komplexeren und stärker vernetzten mechatronischen Fahrzeugsystemen. Darum erfordern die Entwicklung, die Produktion und der Service moderner Fahrzeuge immer anspruchsvollere Diagnoseprozesse. Mit der Diagnoseplattform „Bosch Diagnostic Solution“ (BDS) hat Bosch eine zukunftsweisende Lösung für die systematische Unterstützung des gesamten Diagnose-Entwicklungsprozesses entwickelt.

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