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AUTOMOTIVE NEWS

EDITION 2018

DEAR READERS,

Incredibly we are already approaching the end of this year, a year in which we have moved a lot both with and for you! The major software development of the year is without doubt Softing DTS 9. This is a completely new development which, with its considerable improvement of workflows and completely new operating concepts, will make your work even more efficient. Rollout of the first version is scheduled for the spring of 2019. Softing TDX has also been enhanced with further functionalities which will be reaching the first customer before the end of the year. Alongside extensions in the role and security concepts, the increased functionality includes among other things the linking in of back-end systems. Take a look at the relevant sections of this newsletter for more details on both products.

On the hardware side, our VIN|ING 2000 is currently being rolled out. It combines the advantages of the tried-and-tested HSC with the availability of all relevant bus interfaces. Thanks to this and the improvement in performance and memory capacity, it is definitely fit for the future, but also covers entirely new areas of implementation.

I would like to take this opportunity to draw your attention to our Testing Department. Our experts there have been developing successful customized solutions for many years – from the break-out box to HV Adaptation, from electric testing and error simulation to HiL setup. Please do not hesitate to get in touch with us for information on any of these aspects.

Yours
Markus Steffelbauer
Head of Product Management

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DATES 2019

March 12-14, 2019 | Stuttgart, Germany
SAE OBD Symposium – Europe

March 19-20, 2019 | München, Germany
CTI – Automotive Diagnostics

March 26-27, 2019 | Stuttgart, Germany
MessTec & Sensor Masters

April 9-11, 2019 | Detroit, MI, USA
SAE World Congress Experience

May 7-8, 2019 | Dresden, Germany
Diagnostics in Mechatronic Vehicle Systems

May 21-23, 2019 | Stuttgart, Germany
Testing Expo Europe

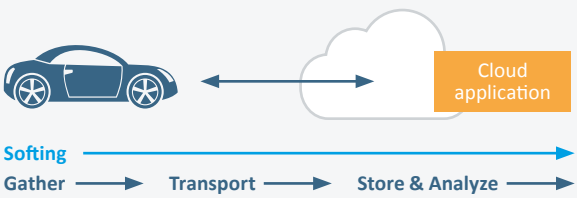
June 25-26, 2019 | Ludwigsburg, Germany
Progress in Automotive Electronics

Sept. 09-11, 2019 | Indianapolis, IN, USA
SAE COMVEC

Sept. 17-19, 2019 | Garden Grove, CA, USA
SAE OBD Symposium

Diagnostics 4.0

The remote accessing of information continues to be a trend in diagnostics. Together with our Softing Group colleagues from GlobalmatiX, we can now offer everything from one source, from gathering data in the vehicle through data transmission to data storage and analysis in the cloud. Depending on the particular application case, data can be gathered using VCIs or a TCU installed in the vehicle. Data is transmitted using the GlobalmatiX cellular network license – all over the world and at a price that can be calculated in advance! Our Diagnostics 4.0 applications then run in our customers' clouds or, alternatively, we also offer this service.



On the basis of Softing's solutions, fleets are easy to control, regardless of whether in fleet testing during engineering and development or – for new business models – in mixed fleets at the end customers'. Campaigns for the programming of multiple vehicles can also be represented simply. Naturally we ensure end-to-end security in line with current standards!

For more information:
automotive.softing.com/en/diagnostics-4.0

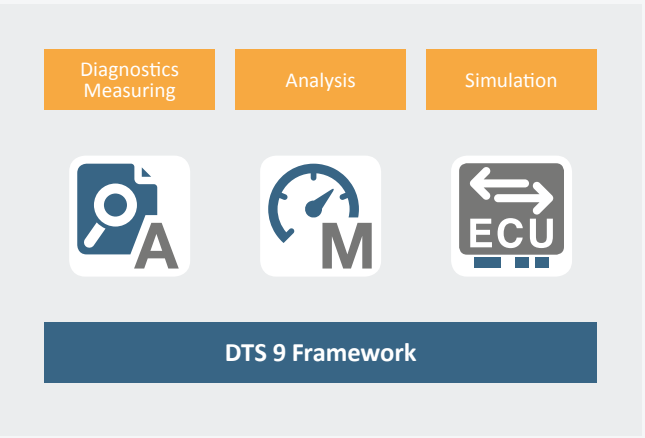
READY TO TAKE ON NEW CHALLENGES

The creation of consistent diagnostic functions and sequences and their reliable execution are a key requirement over the entire vehicle life cycle. For more than 20 years now, Softing has offered the Diagnostic Tool Set (DTS) for just such diagnostic applications, particularly in the area of vehicle and ECU development as well as vehicle manufacture. For users, it is naturally important that the software package also keeps pace with the continuous further development in the automotive industry. Today, the increasing complexity of vehicle architecture as well as system networking have to be supported, as does the mastering of totally new challenges being made of diagnosis security, both in terms of quantity and quality. The next DTS generation is now waiting in the wings for precisely this purpose: Softing DTS 9 continues the diagnostic and communication basis, and combines and extends existing diagnostic application cases with new technology and analysis requirements.

Softing DTS 9 uses new mechanisms for maintenance and extension of the software as well as for transfer and licensing. This means the software package covers the new operating system versions with their update behavior just as much as it does the extended flexibility and dynamism of customer vehicle development projects. As part of agile development processes, the international collaboration of many customers requires test objects and experts to be networked and tests to be able to be executed at any time from any place in the world.

Softing DTS.monaco will be launched first as the most important component of the Diagnostic Tool Set with more than 10,000 users worldwide. The diagnostic development tester uses the new Softing DTS 9 framework and comes with a completely revised user interface for data analysis (Softing DTS.analytics). The various tasks of analysis and diagnostics, and also later simulation, can thus be operated in parallel in one interface. With a leaner setup, an activation key and an optional server licensing mechanism, it is now easy, fast and convenient to share and use Softing DTS 9.

For executing diagnostic and analysis tasks, Softing DTS 9 provides new solutions for measuring diagnostic parameters as well as for analyzing Ethernet-based diagnostic communication (DoIP) in its very first release version. Thanks to a new architecture and intelligent interfaces (smart API), Diagnostics 4.0 and a networked test infrastructure with a basic functionality are now available for the first time. This makes users' work palpably easier.



▲ *Fig.: A Common Framework for Everything: Diagnostics, Measuring, Analysis and Simulation*

▲ *New in Softing DTS 9: Networked Data Communication and Analysis, Diagnostics 4.0*

On the launch of Softing DTS 9, workspaces already created and data gathered with DTS 8 can continue to be used. These will be conveniently transferred to the new product version.

For more information:
automotive.softing.com/en/dts-9

SOFTING TDX
SOFTING SDE

SOFTING TDX – MODULAR KIT FOR REALIZING SERVICE TESTER APPLICATIONS

Softing TDX is a modular service kit based on the ISO standards ISO 13209 (OTX), ISO22901 (ODX) and ISO22900 (MCD-3D basic diagnostic system). A modular service tester framework is available via system components. This comprises the components Softing TDX.studio and Softing TDX.workshop.

Softing TDX.studio is used for configuration and contains several tools for the creation of the communication authoring (ODX), the diagnostic sequences (OTX) and the service tester configuration. Softing DTS.venice, a tried and tested Softing tool in the industry, is used in Softing TDX.studio to create, test the consistency of and manage ODX authoring. The GUI editor and the OTX-Wizard are available for specifying the OTX sequences. The GUI editor supports the convenient creation of interactive graphical interfaces with different objects (widgets), such as buttons, graphs and measuring instruments. OTX-Wizard is an OTX code generator for the simple creation of diagnostic sequences without in-depth programming knowledge. Different components from Softing or from proprietary libraries are easy to compile into a diagnostic sequence and are configured using the OTX-Wizard. If required, the generated OTX sequence can then be adapted and extended in Expert mode. Softing TDX.workshop supports the running of diagnostic sequences or individual diagnostic services in the runtime environment OTX Runtime on the diagnostic server (ISO MVCI). The vehicle is connected to the diagnostic server via the standardized D-PDU-API interface and the VCI vehicle interface.

While the diagnostic sequences are running, the service tester application uses standardized OTX extensions to access individual interfaces, e.g. diagnostics, HMI or I/O. This ensures that the service tester always behaves in the same way even when using a different OTX runtime environment or HMI library and that it remains independent from the basic technology. Over the API interface of OTX Runtime and the diagnostic server, the implemented diagnostic sequences are also available to customized applications (user apps) if these are also required on the service diagnostic system.

▲ *Fig.: Softing TDX.workshop*

HIGHLIGHTS

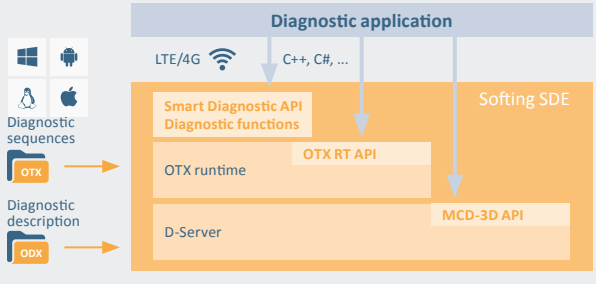
- Dynamic loading of content
- Softing TDX.admin: Central management of content access rights
- Integration of the customer CMS
- Support of Qt´s QML scripts

For more information:
automotive.softing.com/en/softing-tdx

SOFTING SDE – WITH A VIEW TO THE FUTURE: DIAGNOSTICS ONE STEP FURTHER

Today, diagnostic testers are used for diagnostic tasks in vehicles. These consist of a D-Server (for processing diagnostic commands) and an OTX runtime system (for running diagnostic sequences). The disadvantage, however, of this type of diagnostic tester is that some of the interfaces are very complex and difficult to master. Furthermore, they allow only partial coverage of some areas of implementation, such as remote diagnostics. In addition, errors in ECUs involve the modification of test sequences which have, more often than not, already been approved.

This is why Softing SDE was designed to offer an intelligent diagnostic runtime system with an interface specially designed to run diagnostic tasks. This will provide the end user with simple access to diagnostic functionality the world over. The Smart Diagnostic Engine (SDE) also supports commands tailored to the particular use case, such as „Read error data from the whole vehicle“ or „Reprogram the ECUs“ and can also be operated remotely. With the various interface versions, the link to proprietary diagnostic applications is accelerated and made as flexible as possible. Softing SDE is platform-independent and can thus be used in multiple scenarios, e.g. on small devices such as vehicle interfaces (VCIs), data loggers and vehicle gateways.



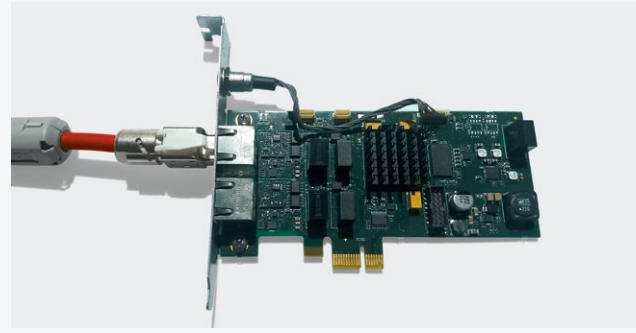
▲ *Fig.: Platform-Independent Diagnostics with Softing SDE*

For more information:
automotive.softing.com/en/softing-sde

MEASUREMENT TECHNOLOGY

HIGH-PERFORMANCE PC PLUG-IN BOARD FOR MEASUREMENT TECHNOLOGY APPLICATIONS

In vehicle and test bench measurement technology, more and more comprehensive and complex applications with ever higher performance requirements are required. But it is often the case that classic embedded PC hardware is not sufficient for running it. This is why Softing is now bringing the new RGC-PCIe plug-in board to market. It has a broadband connection of 1.25 GBit/s to the PC and makes it possible to use the tried and tested Softing measurement technology for data acquisition and protocoling tasks in test bench automation systems. This makes it possible to process the acquired measured data in real time even in applications which are computationally intensive and then transfer them back to the SMT system. Many other applications, which to date had not been possible due to the inadequate performance capacity of embedded PCs, can also be realized with the plug-in interfaces. The new RGC-PCIe plug-in board will be available **from November 2018.**



▲ *Fig.: Prototype of the New RGC-PCIe Plug-In Board*

For more information:
automotive.softing.com/en/smt

TESTING

INDIVIDUAL TESTING AND VERIFICATION SYSTEMS

The development of vehicle components and their integration into the vehicle usually requires customized solutions for diagnostic and function tests. The following examples show the Softing range.

Example: ECU Integration in HiL Systems

In the case of Hardware in the Loop (HiL) systems, Softing uses a modularly constructed platform with all the necessary components. This means that HiL simulators can be put together from standard components to suit particular ECUs. The functionality of those simulators considerably exceeds simple function testers. The adaptation of all ECUs integrated in a system into an integration HiL is also possible. This ensures a short time to market as well as improved reliability.

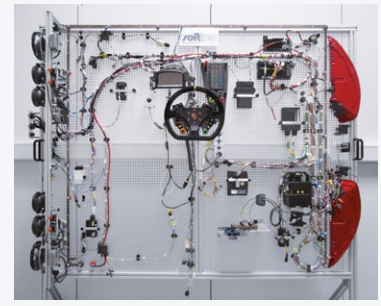
Example: High-Voltage Charging Station

It is normally the case that manufacturers need some time to develop products because the requirements of many customers have to be taken into consideration and a predefined process has to be gone through to take a product to market. In the case of a high-voltage charging station, a premium manufacturer was lacking a few months for the completion of product development and series launch. Within just a few days, Softing was able to realize a special customized solution for the charging of high-voltage batteries and thus fully demonstrate its expertise.

Example: Test Boards for CAN Mobile GT3-CUP and RSR

Here, the individual original components work together in a network as a combined and structured test board, as they do in a vehicle. In this way, extensive tests and further developments, such as the verification of current software versions, can take place outside the vehicle and be verified at an early stage. This method is extremely efficient, interoperable and constructive, particularly when resources are scarce (e.g. in a racing car).

▲ *Fig.: Sample HiL Add-On*



▲ *Fig.: Porsche Breadboard Assembly*

For more information:
automotive.softing.com/en/electric-testing

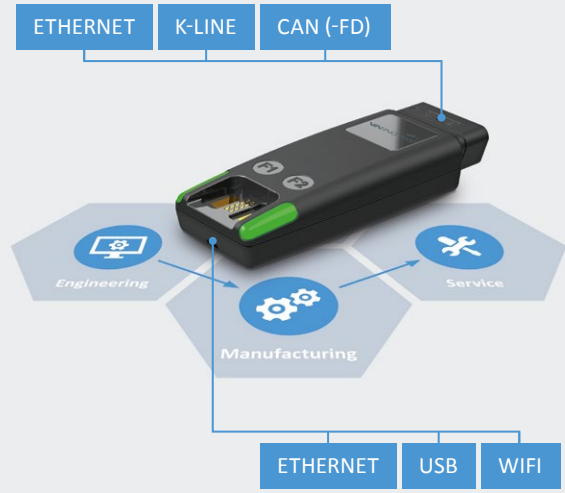
NEW VEHICLE INTERFACE VIN|ING 2000

Today's vehicles feature a wide range of ECUs. These control and monitor various electronic areas; errors which have occurred are saved permanently. For their evaluation. there are all kinds of different requirements in the various phases of the vehicle life cycle. This is why the market needs a flexible vehicle interface to cover these use cases as comprehensively as possible.

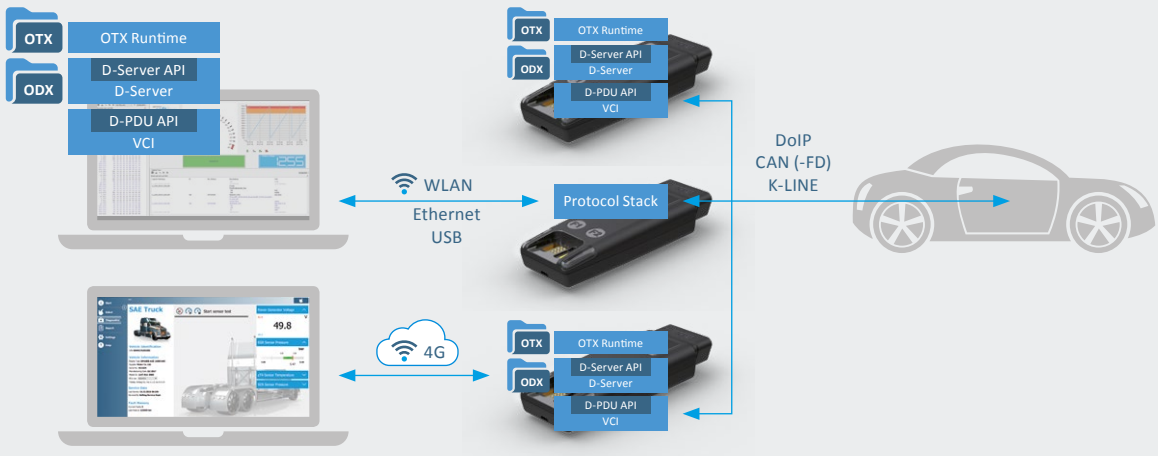
VIN|ING 2000 marks the next VCI generation. With its flexibility, it is ready for the whole range of application scenarios in the life cycle of a vehicle. In the PC environment, it can be connected to the ECU either as a wired version (for example if the WLAN connection is not sufficiently stable or the PC already has to be linked in to the network environment via WLAN) or via WLAN, as is standard in manufacturing and after-sales service. Together with a smartphone, data is exchanged with the VIN|ING 2000 via WLAN or WiFi direct.

Over and above the application scenarios to date, VIN|ING 2000 also covers future requirements. In remote use, users in manufacturing or in the repair shop can be given help from experts at head office. This means fewer specialists are required on site. In a road test, VIN|ING 2000 can act as a data logger and automatically record diagnostic and bus data. Furthermore, the vehicle interface can also be used as an independent diagnostic device. Not only the diagnostic system but also the test procedure is stored on the VCI; the test is initiated either when the ignition is switched on or via the integrated buttons. Finally, VIN|ING 2000 is also an independent flash device via which new software versions can be uploaded to the vehicles of a test fleet. The flash sequences are specified using tools such as Softing OTX.studio.

The VIN|ING 2000 development involved extensive coordination with vehicle manufacturers and Tier1 suppliers. This ensured that the new vehicle interface perfectly covers the various requirements for its use. In particular, it provides the functionality for use over the entire vehicle life cycle. It also ensures that the functionality that will be required in the future for implementing challenging Diagnostics 4.0 tasks is already available today.



For more information:
automotive.softing.com/en/vining-2000



ENGINEERING

PROJECT SOLUTIONS AND ENGINEERING – NEW SETUP

Since August 1, 2018, we have bundled our automotive portfolio into just two units: Products are developed and offered by Softing Automotive Electronics GmbH, all customer-specific project solutions realized by Softing Engineering & Solutions GmbH.

Softing Project Services, to date responsible for services in the areas engineering, consulting and software development, was merged with the test systems area of Softing Measuring and Testing and as Softing Engineering & Solutions now offers tailor-made project solutions.

By focusing on our core areas of expertise – diagnostics, testing and measuring – we can apply our extensive expertise and many years of project experience in the realization of all kinds of system solutions.

Whether automated testing, the function testing of electronic vehicle components or the development of custom-fit software solutions – we take on challenging project tasks and successfully bring them to fruition. Our portfolio is complemented by consulting and support services both for the use of our products in specialist departments on site as well as in the development of new vehicle concepts and technologies.

We look forward to being able to realize your project solutions expertly and in top quality in the future.

For more information:
automotive.softing.com/en/softing-engineering-solutions

Expertise with Training Sessions and Seminars

You want to know all about vehicle diagnostics, flash programming, OTX, ODX and ECU communication fast – without having to spend lots of time studying relatively “dry” standards about vehicle protocols?

Our training team will provide you with the necessary knowledge and bring you up to date with all the latest technological details.

We have put our knowledge and long years of experience into a compact and modular training program. The program consists of practice-oriented user workshops as well as in-depth theoretical seminars and are available in both English and German. We would be happy to tailor our training sessions to suit your individual requirements.

For more information:
automotive.softing.com/en/training

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CONTACT

Softing Automotive
Richard-Reitzner-Allee 6, 85540 Haar – Germany
Phone +49-89-45656-420
Fax +49-89-45656-499
E-mail info.automotive@softing.com
Internet www.automotive.softing.com