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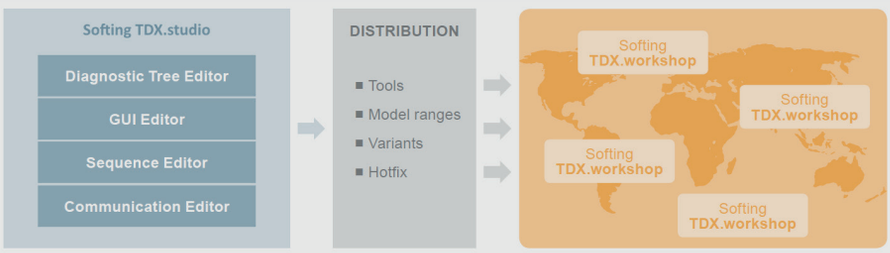
softing

# Softing TDX

## ODX and OTX based Diagnostic System Framework

Softing TDX is a diagnostic framework for the creation of repair shop applications intended to be used by vehicle and component manufacturers. It supports the creation of all necessary diagnostic functions needed in troubleshooting, repair and in the setup of entire vehicles or individual components.




### Areas of Application

- Service repair shops of vehicle manufacturers
- Service repair shops of system or component manufacturers, e.g. retrofit market
- Mobile diagnostic systems for service technicians
- R&D departments, e.g. vehicle validation and road tests
- Creators of diagnostic sequences after-sales vehicle tests

### Functions

- Creation of complete workshop tester applications
- Content protection and user rights management
- Automated or selectable interactive diagnostic task execution with reporting in the workshop

### Benefits

- Lean diagnostic solution based on laptop/tablet, VCI and state-of-the-art software
- Flexible with regard to diagnostic methodology
- Unlimited diagnostic functionality
- Comprehensive report functionalities
- Fully adaptable to individual requirements (processes, corporate design, localization)

### Flexible Diagnostic Framework

**Softing TDX** (**T**ester for **D**iagnostic**X**) is a modular and flexible diagnostic framework for the creation of advanced workshop tester applications in only a few steps.

First, by using the **Softing TDX.studio**, the diagnostic tasks are created, either as simple diagnostic services based on ODX, or as complex OTX based diagnostic tasks. In the next steps, documents and drawings are added, graphics and colors are changed to match the corporate image, localization takes place, authorities and access credentials are defined, and finally, a distribution package is created.

The distribution package is typically installed on a “ruggedized” laptop with an – ideally wireless – VCI (Vehicle Communication Interface) for connection with the vehicle and executed with **Softing TDX.workshop**.

An advanced workshop tester can now be used by repair shops or in the field (in/next to/under the vehicle) as well as in almost all climatic conditions. It is virtually impossible to have more diagnostic freedom, creation simplicity and reusable modularity.

### Re-use and Individualization

The Softing TDX user interface does not depend on the diagnostic methodology used. Regardless of whether traditional ECU-based diagnostics is used, whether work is based on symptoms or guided functions, TDX presents no obstacles.

The diagnostic sequences are generated in the **Softing TDX.studio** authoring system and linked to appropriate displays and repair aids (instructions, circuit diagrams, PDF files, images, videos). The user interface can be fully adapted to suit the particular corporate design and individual area of application.

The core of the **Softing TDX.workshop** solution is the OTX technology (ISO13209) which stimulates the re-use of the diagnostic sequences (OTX scripts) that have been designed and implemented for use in different phases of the vehicle’s life cycle.

Re-use saves time and costs, especially during the vehicle validation and development phases as well as later in the post-production and after-sales phases.

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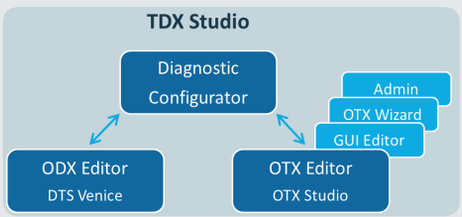
# TOOLBOX



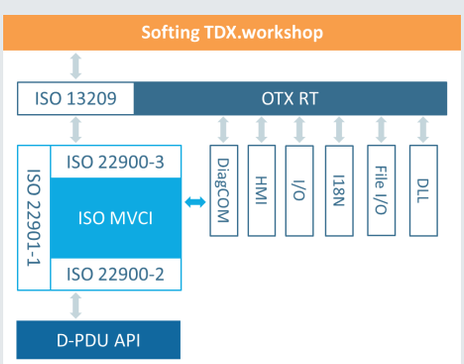

## TDX Toolbox

The Softing TDX toolbox contains several tools which are required for the creation of symbolic communication data (ODX), diagnostic sequences (OTX) and diagnostic system configuration. For the creation, consistency checking and maintenance of communication data Softing's industry-approved software DTS Venice is used. For the creation and testing of diagnostic scripts Softing's OTX Studio is used, extended by the administration package, GUI Editor and OTX Wizard. The GUI Editor can be used for simple user interface design. It provides configurable graphical components (Widgets), e.g. buttons, charts, checkboxes, gauges, indicators, labels, picture placeholders, tables, etc.

### Benefits

- Communication data creation and handling are covered by the industry-approved tool DTS Venice
- Creation and debugging of diagnostic scripts are covered by the industry-approved tool OTX Studio
- Easy creation of HMI interfaces with a GUI editor with various preprogrammed widgets

# STANDARDS



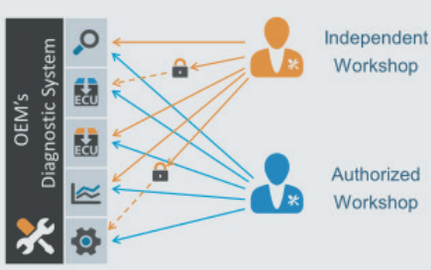

## Based on Standards to Protect Your Investment

For diagnostic sequences, Softing TDX is based on the OTX standard ISO13209. For ECU communication and data interpretation, the ODX standard ISO22901 is used. Both OTX and ODX standards provide maximum exchangeability of the diagnostic data, services and sequences through the entire vehicle life cycle: from development, vehicle validation, through production, end-of-line tests to aftersales services. The diagnostic sequences developed for use in vehicle validation or parametrization during production or end-of-line tests can be re-used for after-sales services. Using industry standards is guarantee for long-time investment protection and maximum reuse of existing diagnostic methods.

### Benefits

- Based on ODX standard ISO22901 and OTX standard ISO13209 to ensure long-term investment protection

# PROTECTION




## Integrated Application and Content Protection

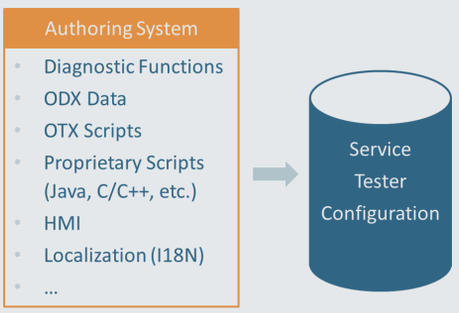
The Softing TDX diagnostic framework helps you to protect your service application from being illegally copied, and provides security for your distributed content – diagnostic services, algorithms, parameters, coding and other intellectual property. The user management facility means you always have an overview of all licensed and authenticated users. Furthermore, data can be encrypted securely and reliably. With the roles (user rights management) concept, you can control access to specific vehicle functions or information for specific user groups or markets.

A typical use case for user rights management is application and content use in independent and authorized workshops. For example vehicle flashing and parametrization can be permitted in the authorized workshop but not in the free one.

### Benefits

- Integrated security prevents unauthorized copying
- OEM specific encryption of the distribution package
- User rights management

# CREATION




## Simple Creation of a Workshop Tester

A workshop tester is created with the Softing TDX.studio authoring system with which diagnostic trees, sequences and the graphical representation are generated. The input of communication data also takes place using Softing TDX.studio. Various templates and wizards ensure that standard tasks can be carried out effectively. The diagnostic tree allows the creating and grouping of diagnostic tasks into logical groups, e.g.: control unit oriented, symptom based, error code based or guided diagnostics. Furthermore, within the diagnostic tree, documents, pictures or schemes and user rights for specific diagnostic tasks can be added. The diagnostic tasks created are compiled with Softing TDX.studio to form a distribution package – either as a whole or in modules. The compiled distribution package is made available to service technicians and/or test engineers by various means, online or on data carriers.

### Benefits

- Easy to use authoring system
- Templates and wizards for easy creation of the diagnostic tasks
- ECU oriented diagnostics
- Symptom based diagnostics
- Error code based diagnostics
- Guided diagnostics
- Function tests
- Handling of variants
- Parametrization and coding
- ECU replacement
- Actuator and sensor tests

# WORKSHOP TESTER

## Workshop Tester

Softing TDX.workshop is designed for use in the field. It is used as an execution environment for the diagnostic sequences created beforehand with Softing TDX.studio. These can be updated and/or modified at any time later on with the update mechanism. Diagnostic results can be saved in customizable reports so that all activities always remain transparent. Furthermore, all data is available for additional analyses. Softing TDX.workshop can be completely rebranded and customized to match the customer's corporate graphics and color identity. Furthermore the navigation menu language in the application can be selected from more than 20 world languages regardless of the localizations of the distributed content. Besides that, users can set up their default localization and switch between various languages variants provided in the distribution package.

### Benefits

- Designed for field use
- Integrated application and content update
- Reports and appearance can be completely adjusted to match the corporate graphics and color identity
- Application navigation in more than 20 major world languages
- User can switch between content language variants or set preferred language variant
- Individualization (re-branding) to match the customer's corporate identity

## Overview

| | |
|---|---|
| **Softing TDX.studio** | Creation of diagnostic tasks (diagnostic trees)<br>Creation and debugging of complex diagnostic sequences with an OTX editor (ISO13209 compliant)<br>Creation of graphical user interfaces for guided diagnostics (ISO13209-3): HMI, I18N<br>Creation and editing of ODX data based diagnostic services with an ODX editor (ISO22901-1 compliant)<br>Provision of workshop tester content (documents, pictures, schemes, videos, guides, references to website in intranet or Internet), user rights management, distribution package encryption and bundling |
| **Softing TDX.workshop** | Lean and flexible workshop solution<br>Manual or automated execution of diagnostic functions<br>Localized navigation and content language selection<br>Simple re-branding and adjustment to match the customer's corporate graphics and colors<br>Suitable for use in development during vehicle validation, in production for end-of-line tests and in aftersales services<br>Online or media application and content update, application and content protection |

## Technical Data

| | |
|---|---|
| **Based on DTS Diagnostic System** | See separate data sheet: Diagnostic Tool Set 8 – System Overview |
| **Compliance with Standards** | ISO 13209 (OTX) – Open Test sequence eXchange,<br>ISO 22901-1/ASAM MCD-2D, ODX V2.2.0 – Open Diagnostic Data eXchange,<br>ISO 22900-3/ASAM MCD-3D Application Programming Interface V3.0.0,<br>ISO 22900-2 (D-PDU API) via CAN, K-line and Ethernet (DoIP Collection/Entity/Group/Vehicle),<br>ISO 14229 (UDS) |
| **Compatible VCI Interfaces** | Softing EDIC Interfaces : EDICusb, EDICblue, EDICpci, EDICwlan;<br>Softing VIN\|ING Interfaces : Series 1000;<br>Softing CAN Interfaces : CANpro USB, CAN-PRO2-PCIE, CAN-AC2;<br>Kvaser CAN Interfaces : Leaf Professional HS, Leaf Light HS, Leaf Light HS v2, Leaf Light HS v2 OBD |
| **System Requirements** | PC or notebook with at least 2 GHz and 2GB RAM, screen resolution ≥ 1280x1024 (XGA) recommended<br>Supported operating systems: Windows 7, other Windows versions on request |

## Order Numbers

| | |
|---|---|
| **STDXL+STUDIO** | Softing TDX.studio development environment |
| **STDXL+WS** | Softing TDX.workshop workshop tester runtime environment |
| **STDXL+WS-LEAFV2** | Softing TDX.workshop bundled with Kvaser Leaf Light HS v2 interface |
| **STDXL+WS-LEAFV2-OBD** | Softing TDX.workshop bundled with Kvaser Leaf Light HS v2 / OBD interface |
| **STDXL+WS-VIN1000** | Softing TDX.workshop bundled with Softing VIN\|ING 1000 interface |
| **STDXL+WS-VIN1010** | Softing TDX.workshop bundled with Softing VIN\|ING 1010 interface |
| **STDXL+WS-HSC** | Softing TDX.workshop bundled with Samtec HSC interface |
| **STDXL+ST-MSP** | Maintenance and support package for TDX.studio |
| **STDXL+WS-MSP** | Maintenance and support package for TDX.workshop |
| **STDXL+ST-UPG** | Softing TDX.studio upgrade for customers without maintenance and support package |
| **STDXL+WS-UPG** | Softing TDX.workshop upgrade for customers without maintenance and support package |
| **STDXS+START** | Introduction, 3-day hands-on user training |
| **S-DONGLE** | Replacement micro USB license dongle for PC |
| **OTX1L-API-RT** | Optional API access to OTX runtime for third-party user applications |
| **DTS8L-COS** | Optional API access to the ISO MVCI server for third-party user applications |
| **DTS8L-CRYPT-[OEM]** | Single license for reading and writing OEM-specific encrypted, ultra-compact runtime data |
| **DTS8L-CRYPT-SETUP** | Initial setup for OEM-specific encryption and compression of runtime data |



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