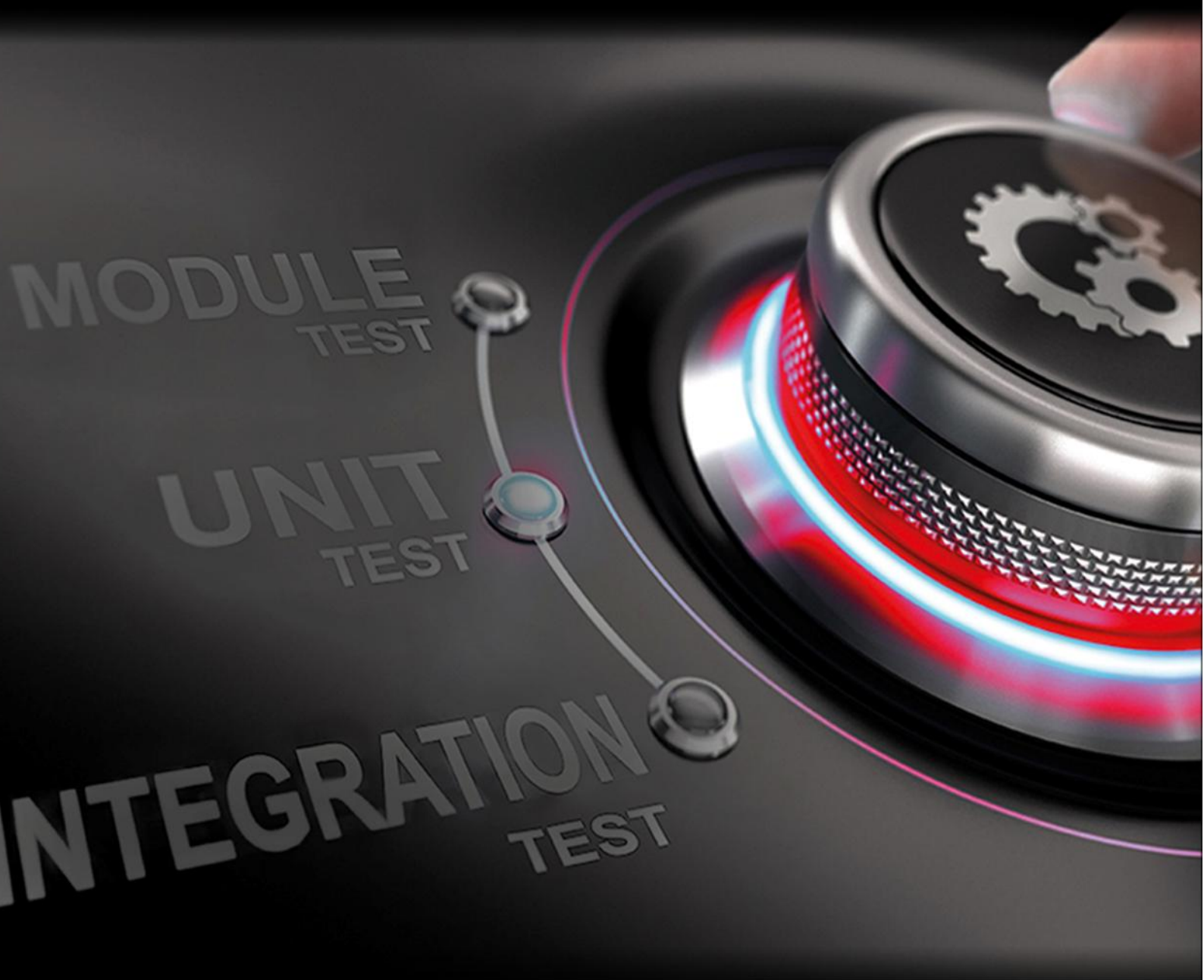




## TESSY v6.0: New Features

**>>** An overview over all the new features coming with v6.0

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# Tessy v6.0 – New Features

## Unit testing with TESSY

TESSY performs automated dynamic module / unit and integration testing of embedded software in C/C++ and determines the code coverage along the way. This kind of test is required for certifications according to standards such as DO-178, IEC 61508, or ISO 26262.

For programs written in the C programming language, a unit or a module is a function in the sense of C; for programs in C++, a unit or a module is a method. To start unit/module testing with TESSY, you simply browse for the source module containing the unit to be tested.

### How TESSY works

TESSY automatically determines the interface of the unit under test. The interface essentially consists of the set of input variables and the set of output variables of this unit. TESSY automatically generates the software for a test driver that allows the unit under test to be called in isolation from the rest of the application. The user supplies the test input data to the unit under test and the expected results.

## New Features in TESSY Version 6

This document provides an overview of the new features and functions in TESSY Version 6.

Hitex distributes TESSY and offers comprehensive training and services related to TESSY and dynamic software testing. If you have any questions about TESSY, please contact our TESSY team directly or visit [www.hitex.com/tessy](http://www.hitex.com/tessy).

This compilation of new functionalities and features was kindly provided by the TESSY developer, Razorcat Development GmbH in Berlin.

## 1 Enhanced Support for C++

Stubbing of external C++ classes and methods was a tough challenge until now. The new built-in link stubber of TESSY allows easy automatic stubbing of all necessary C++ classes and methods to be able to link the test driver successfully.

## 2 Optimized Test Cockpit view

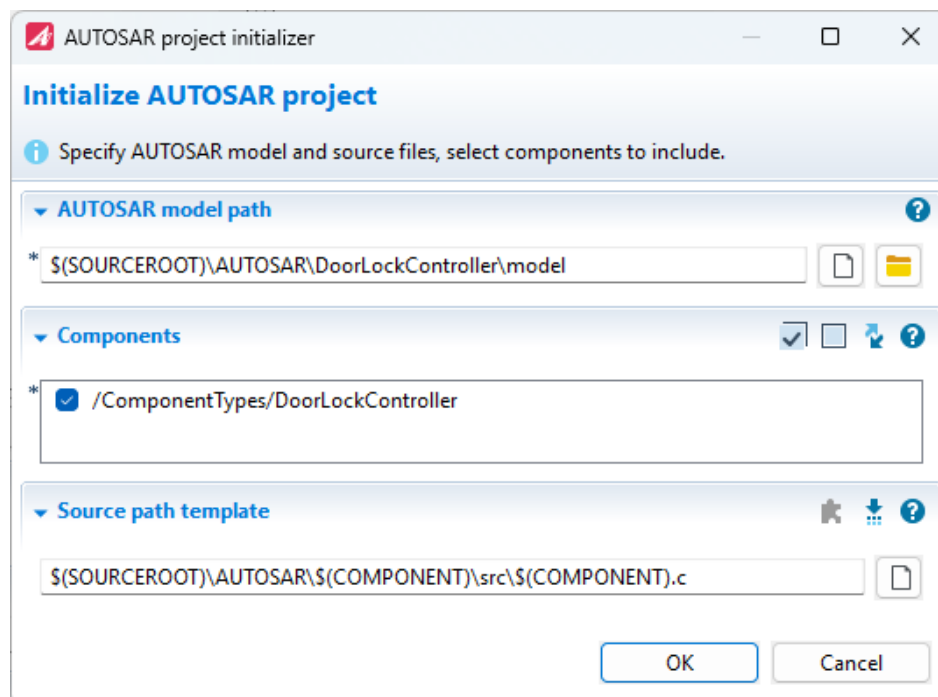
The Test Cockpit view and the underlying model have been optimized to provide overall faster updates and less calculation load when refreshing the test cockpit on source file changes or test execution result changes.

## 3 AUTOSAR software component testing

TESSY supports seamless testing and integration of software components (SWC) by combining C code level analysis and information about the AUTOSAR model description.

The AUTOSAR components will be mapped to TESSY modules automatically based on the model files and respective source file name templates:

**Automatic  
Component Mapping**

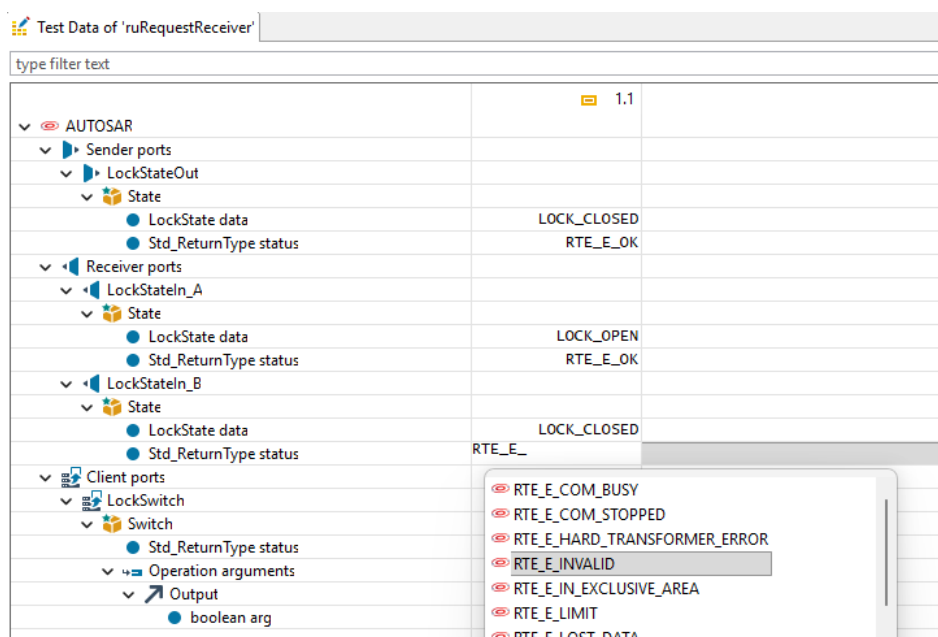


The AUTOSAR runtime environment (RTE) will be provided for an SWC automatically based on the ARXML model description file. This enables TESSY to analyze the implementation source files and retrieve a mapping from the source code to the ports and interfaces of the AUTOSAR model.

Ports and interfaces of the SWC will be available at the testing interface of TESSY as well as within the test data editor. This enables users to provide test data for ports and their data elements seamlessly within the graphical user interface of TESSY.

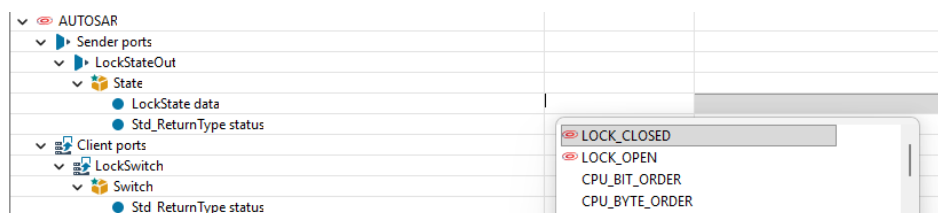
## RTE Generation

## Integrated Test Interface



For all AUTOSAR data elements and operation arguments, the applicable AUTOSAR constants will be provided as potential input data or expected results within the auto-completion menu. The conversion between physical and internal values is done automatically based on the available Computational Methods.

## Smart auto-completion



When generating the RTE, the applicable modeling rules are checked and any violations are reported. Furthermore, compiling the SWC against a separately generated Test RTE ensures that the implementation conforms to its AUTOSAR model. Other aspects, including Runnable access permissions and proper Exclusive Area handling, are validated dynamically during test execution.

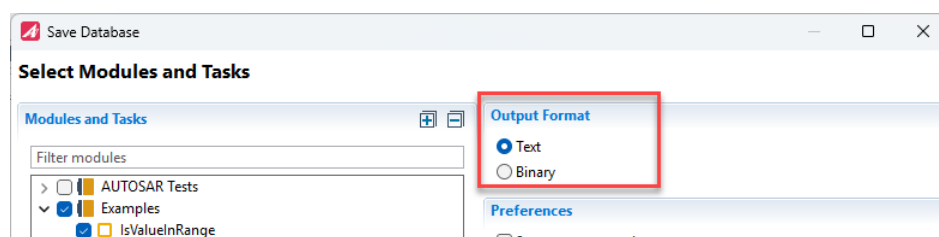
TESSY presents the C interface together with the AUTOSAR interface, allowing testers to easily understand the relationship between the implementation and the AUTOSAR model. Further useful information about individual AUTOSAR elements is provided in the Properties view.

**Consistency  
Checking**

**Side-by-Side View**

## 4 ASCII based database backup files

The new YAML based database backup format facilitates version control of tests. All information is now available in ASCII files which allows easy comparison and merging of different development branches.

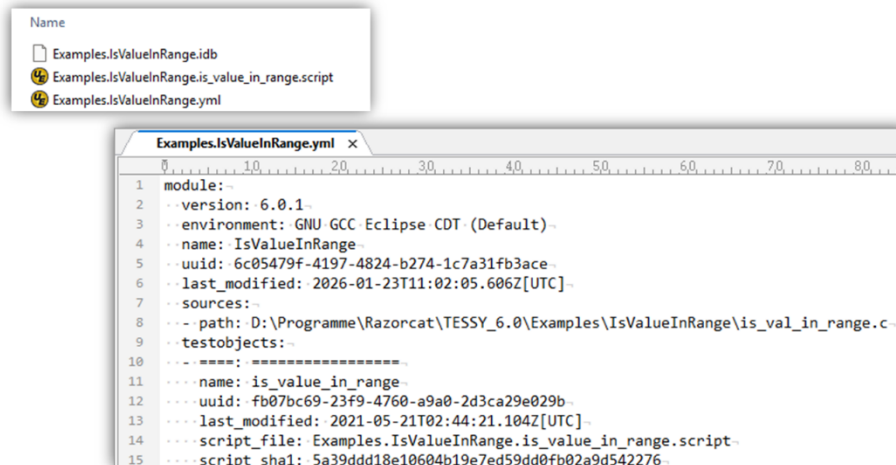


For each module, the following files will be stored:

**TESSY script files** containing test data and user code for each test object

**YML file** containing meta information about the module

Additionally, an **IDB file** will be stored that contains specific settings of the test interface that are essential for restoring all necessary interface settings from the backup.



## 5 Hyper Coverage for system and integration testing

The Hyper Coverage feature within TESSY integrates with Accemic Technologies' hardware trace port analysis tool to provide source code coverage information from system and integration testing. This method is based on FPGA-based online trace data processing and high-level language supported event processing. Branch and MC/DC coverage data can be acquired directly during system and integration testing.

By importing the coverage results into TESSY, coverage will be shown at the source file level within the Test Cockpit view. Missing coverage can easily be achieved by creating additional unit test cases for special corner cases in the source code or error handling functionality that may not have been triggered during normal operation test cases.

TESSY shows the reached branches for each system test case within the Coverage Viewer (CV) perspective. This mapping of system test cases to the achieved coverage greatly supports requirements-based testing and helps to reveal untested code.

**FPGA-based  
coverage  
acquisition**

**Gap analysis &  
targeted testing**

**Test case  
traceability**

## **Hitex: Your TESSY partner for embedded systems**

Since 2001, Hitex is an official Razorcat distributor for TESSY. With our maintenance contract, you will receive worthwhile benefits such as technical support, the newest updates, licensing models, and access to our exclusive customer area.

We offer unit testing services for software development projects, where we support you in performing dynamic tests professionally and safely.

Furthermore, we offer hands-on TESSY trainings on the beginner and intermediate level – online or inhouse. You can find more information on dynamic unit and integration testing on our website.

## About Hitex

Hitex is a leading provider of solutions and services to ensure the highest software quality for embedded systems. With our comprehensive expertise in development, testing, production, and certification, we support our customers in every project phase to implement their systems reliably, in compliance with standards, and future-proof. Our focus areas are functional safety, embedded security, IoT, energy efficiency, compliance with standards, and e-mobility. Our goal is to drive technological innovation and offer our partners maximum safety and efficiency.

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## Document Versions

| Version         | Annotation      |
|-----------------|-----------------|
| 06 / 2026 – 001 | Revised version |