AUTOSAR

3.2 4.0

Production Code for the Toughest Demands

TargetLink 3.3

dSPACE TargetLink 3.3 is leading the way for new trends in production code generation, covering conventional, safety-critical and AUTOSAR 4.0 and 3.2-compliant development projects. The new version contains comprehensive enhancements in AUTOSAR-compliant development, data management in the Data Dictionary, and component-based work methods. TargetLink 3.3 is available as a 64-bit and a 32-bit variant.

Support for AUTOSAR 4.0 and AUTOSAR 3.2

When designing TargetLink® 3.3, we particularly focused on expanding AUTOSAR support to cover the definitive AUTOSAR versions of the future, AUTOSAR 4.0 and AUTOSAR 3.2. This opens up new doors for TargetLink users and their future AUTOSAR projects, enabling them to use the single source principle to generate software components for different AUTOSAR versions from the same TargetLink model. In addition, dSPACE also extended the AUTOSAR language range supported by TargetLink, especially in the areas of mode management and structure handling. TargetLink's flexibility in data and package partitioning and its usability were enhanced, and the software container

concept was optimized further to streamline using TargetLink and SystemDesk® in combination. Developers can perform AUTOSAR round trips between SystemDesk and TargetLink reliably and transparently, and with a minimum of user intervention.

Easier Handling for Large Models

With TargetLink 3.3, developers can decide whether they want to work with the 64-bit or the 32-bit software variant. The 64-bit variant of TargetLink 3.3 has decisive advantages wherever there are large models that would lead to storage problems on 32-bit systems. The more powerful incremental code generation for subsystems and referenced models with TargetLink 3.3 also makes it much easier to handle large models

and use a modular component-based work method. And last but not least, TargetLink's own mechanism for reusing generated code has been extended substantially.

Data Management for Process-Reliable Engineering Round Trips

TargetLink 3.3 contains considerable improvements in the Data Dictionary's data management. In the new version, multiple Data Dictionary workspaces can be handled and attached to various project files. This makes applications much easier, especially the scenarios for engineering round trips in which project-global data is exchanged between the dSPACE Data Dictionary and other tools in the development process. The data can be in AUTOSAR files, XML files or SWC containers.
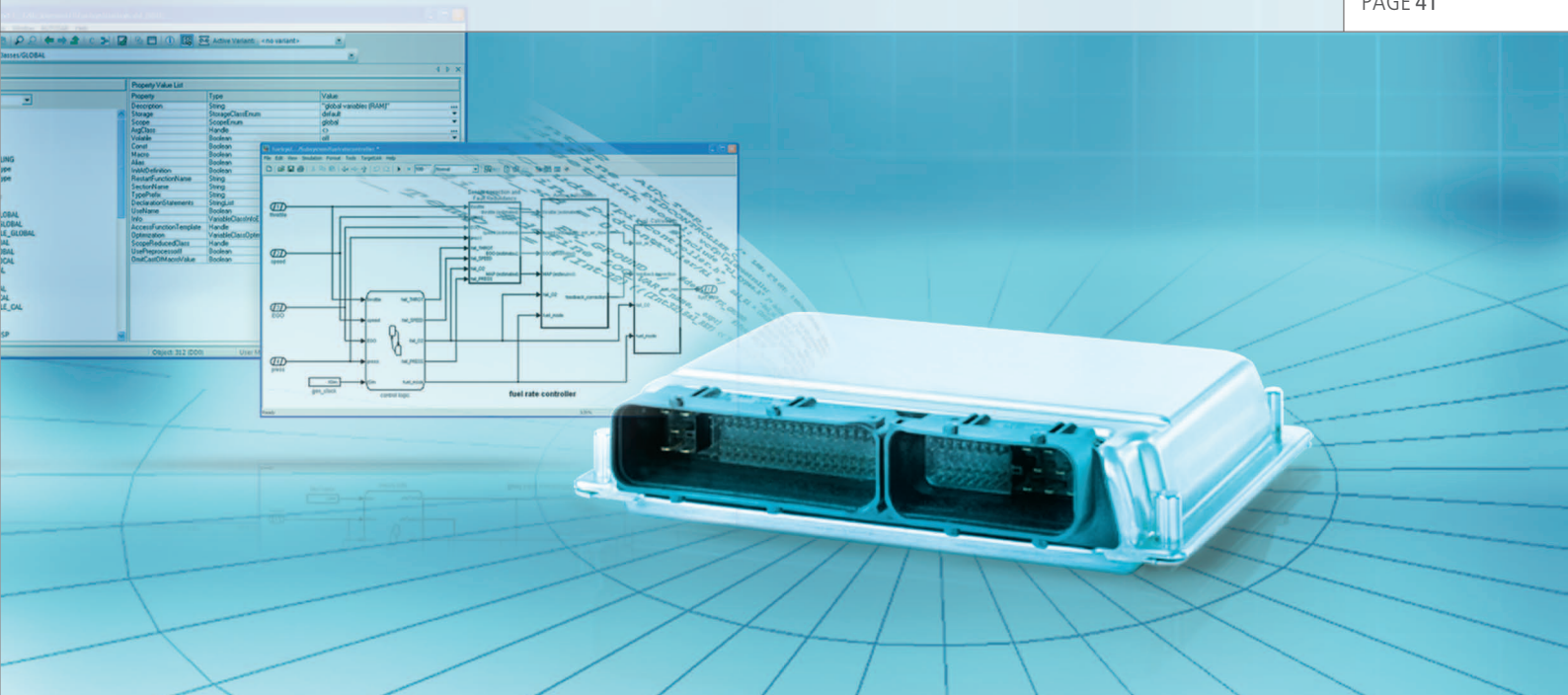
TargetLink 3.3 is certified for use in ISO 26262- and IEC 61508-compliant projects.

For change management, TargetLink users just have to load the current data into an additional workspace and then carry out a Diff&Merge operation with the old data to transfer the changes and/or updates into the Data Dictionary reliably and inspect their effects on the TargetLink model (figure 1). In addition, the Data Dictionary now provides easier loading of partial Data Dictionary files, so that their contents can be inspected and so that they can be inserted into an existing Data Dictionary project.

Continuous Further Development of Modeling, Usability and Code Efficiency
TargetLink 3.3 includes many new modeling features and usability enhancements such as:
- Multi-rate modeling styles for conventional or AUTOSAR-compliant models
- API functions for visualization of and access to simulation data
- Convenient dialogs for editing Stateflow® chart function properties

- Easier connections between Data Dictionary variable objects and models

The efficiency of the generated code was also further improved by introducing lifetime analyses of variables.

Simple Migration, High Flexibility
Thanks to the new installation methods, migrating from TargetLink 3.1 and 3.2 to TargetLink 3.3 is

especially easy because TargetLink 3.3 can be installed and operated in parallel to older TargetLink versions. The 64-bit and the 32-bit variants of TargetLink 3.3 are both used with a MATLAB® version that has the same bit width. With its support of six different MATLAB versions from R2009a to R2011b, TargetLink 3.3 gives users the highest flexibility possible. ◾

Figure 1: Multiple Data Dictionary workspaces, with Diff&Merge, improve the support of engineering round trips.