Product Information
DaVinci Developer
Table of Contents

1 DaVinci Developer - Designing AUTOSAR Software Components ................................................................. 3
1.1 Overview of advantages of DaVinci Developer ................................................................................................. 3
1.2 Application Areas ........................................................................................................................................ 3
1.3 Functions ..................................................................................................................................................... 3
1.4 Configuration of the MICROSA.R.RTE ....................................................................................................... 4
1.5 Workflows and AUTOSAR method ............................................................................................................... 4
1.6 Multi-User Support ..................................................................................................................................... 4
1.7 Scope of Delivery ....................................................................................................................................... 5
1.8 System Requirements ................................................................................................................................. 5
1.9 Additional Services .................................................................................................................................... 5

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1 DaVinci Developer - Designing AUTOSAR Software Components

DaVinci Developer is the professional tool for designing AUTOSAR software components (SWCs). Convenient graphical editors let you design the structure and interfaces of the functional software for your ECU quickly and clearly, and they facilitate smooth integration of the functional software with the ECU’s basic software.

Figure 1: DaVinci Developer – Design tool for AUTOSAR-conformant ECUs

1.1 Overview of advantages of DaVinci Developer

> Convenient graphical definition of software components
> Support of AUTOSAR releases 4.x and 3.x
> Clear representation of complex systems

1.2 Application Areas

DaVinci Developer assists the ECU developer in defining the application software architecture of AUTOSAR ECUs.

1.3 Functions

DaVinci Developer offers extensive functions for defining and integrating AUTOSAR SWCs:

> Graphical definition of SWCs with extensive layout functions
> Definition of port interfaces and data types
Definition of port prototypes with service needs and communication specification, e.g. initial values and timeouts
Definition of runnable entities with activation events and port access
Support for all types of AUTOSAR SWCs and application components, compositions, calibration and service components
Import and export of AUTOSAR XML formats (System Description Template, Software Component Template)
Support for various AUTOSAR XML versions in parallel.
Data mapping of port data to network signals
Consistency check of the SWC definition
Interface to model-based development tools via AUTOSAR-SWC description files

1.4 Configuration of the MICROSAR.RTE

In AUTOSAR 3 DaVinci Developer is used to configure the MICROSAR.RTE; it supports work steps such as:

- Assigning runnable entities to operating system tasks. This work is simplified by special views on the runnable entities, such as the trigger-oriented or component-oriented view.
- Configuring optimization options
- Consistency checking of the RTE configuration with detailed error reports and tips on correcting inconsistencies

DaVinci Developer works seamlessly with DaVinci Configurator Pro to create a consistent overall configuration. For example, the service components and IO hardware abstraction components generated by DaVinci Configurator Pro can be conveniently imported and linked to the application SWCs. DaVinci Developer offers special support by automatically creating suitable service port prototypes and server runnables for the application SWCs. Finally, the RTE configuration is saved AUTOSAR-conformantly in an ECU configuration file.

In AUTOSAR 4 DaVinci Configurator Pro is used to configure the MICROSAR.RTE. For this purpose, DaVinci Configurator Pro offers special editors and assistant functions, which are enabled by the DaVinci Developer license. Both tools cooperate seamlessly. The SWCs created by DaVinci Developer are displayed in DaVinci Configurator Pro. They serve as basis for configuring the RTE.

1.5 Workflows and AUTOSAR method

DaVinci Developer can be flexibly used in a distributed development process based on the AUTOSAR method. For this purpose, the tool offers extensive functionality for data exchange between OEM and ECU developer:

- Import/Update function to support an iterative development process
- Diff and Merge functions with configurable presets for individual objects. This makes it possible to extend OEM-generated SWCs by adding substructures or by adding port prototypes and runnable entities.
- Blocking changes to imported data
- Creating reports via the SWCs

1.6 Multi-User Support

DaVinci Developer simplifies joint work on the same ECU project. Working on the project in parallel is simplified by specific functions:

- Finely granulated storage of the SWCs
- Prevents changes from being made to write-protected SWCs, port interfaces or data types
- Import of SWCs from other projects via AUTOSAR XML files with display of differences to the current project
- Separate Diff tool for comparing any desired AUTOSAR files
1.7 **Scope of Delivery**

- DaVinci Developer
- Utility tools for automating work steps
- Demo data
- Documentation

1.8 **System Requirements**

<table>
<thead>
<tr>
<th>Component</th>
<th>Recommended</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Quad core</td>
<td>Dual core</td>
</tr>
<tr>
<td>Memory (RAM)</td>
<td>8 GB</td>
<td>2 GB</td>
</tr>
<tr>
<td>Screen resolution</td>
<td>1280 × 1024</td>
<td>1024 × 768</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows 7 (64-Bit)</td>
<td>Windows 7 (32- or 64-Bit)</td>
</tr>
</tbody>
</table>

1.9 **Additional Services**

Hotline, special workshops and training events on the topic of embedded software and AUTOSAR.
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