

# AUTOSAR Builder™

# Welcome to AUTOSAR Builder 2022xRefresh1

## **3D**EXPERIENCE





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# **General Presentation**

AUTOSAR Builder is a complete ©AUTOSAR toolchain, starting from authoring to ECU configuration via ECU extract, RTE generation, simulation, and more features. It is a comprehensive tool for system and ECU design. It also enables you to import Model Based Design legacy descriptions and generate AUTOSAR compliant C code, ready to be embedded in target ECUs.

The AUTOSAR Builder tool suite includes:

- Authoring Environment The AUTOSAR Authoring Tool for software modeling and network design
- ECU Extractor
- **ECU Environment** The Generic ECU Configuration Editor for ECU configuration and BSW code generation
- Rte Generator
- **ASim** AUTOSAR Simulation, covering the VFB level, and soon the ECU and Network levels
  - Adaptive Environment The AUTOSAR Adaptive environment for adaptive design

AUTOSAR Builder is based on Eclipse and uses ©Artop. Artop is an open AUTOSAR tool environment that is available for free. It enables you to build your own tools and integrate from other tool vendors.

For more details, see the AUTOSAR Builder Overview document.

### **1. System Requirements**

AUTOSAR Builder is supported on Microsoft Windows 10, 8, 7, VISTA, XP (64 bit platforms).

The required minimum memory is:

- Approximately 600MByte hard-disk space
- 4 GB RAM\*

(\*)When working with large models in AUTOSAR Builder, it is recommended that at least 8GB of physical memory is allocated to enhance the performance.

### 2. Installation and Licensing

For more information related to the licensing of AUTOSAR Builder, see AB\_Installation\_Procedure.pdf.



# **New Features and Enhancements**

# 1. Versions and AUTOSAR Builder

AUTOSAR Builder is based on:

- Eclipse Neon 4.6.3
- ARTOP 4.6.1
- ARA Generators **19-11**
- CDT 9.2.1

AUTOSAR Builder supports AUTOSAR Release **R20-11**. Adaptive code generators are updated to support AUTOSAR Adaptive **R20-11**.

This release note summarizes updated features and new functionalities offered by AUTOSAR Builder 2022x Refresh1.

Important: AUTOSAR Builder 2022X Refresh1 has been updated to get rid of log4j 1.x vulnerability issue. Older versions are also fixed. Please contact your support about how to get an access to the fixed versions.

# 2. AUTOSAR Builder Fundamentals

2.1. ISignal Generation from a System Signal Group:

The **Generate from System Signal Group** ic command is now available to generate ISignals when creating an ISignal group. You can automatically generate ISignals from the system signals of the given system signal group.

### 2.2. Classic to Adaptive Mapping:

The composition diagrams and the machine diagrams are enhanced to display the classic to adaptive software mapping and signal mapping, respectively. With the mappings displayed in the diagrams, you can easily design and review your model that involves both classic and adaptive elements.





# **3. AUTOSAR Builder Adaptive**

### 3.1. Generating Software Component Code Using CLI:

You can now generate the code for each adaptive software component in your model by running commands in the command-line interface (CLI). AUTOSAR Builder now lets you generate and validate the following from the CLI:

- Adaptive code
- eFMU production and binary code

### 3.2. Process Role Support for Diagrams and Editors:

The role of a process in service instance to port prototype mapping is now supported in diagrams and editors. The following diagrams and editors are enhanced to support this role:

- Service Instance to Port Prototype Mapping Editor
- Processes Diagram
- Machine Diagram
- Process Diagram
- System Mapping Diagram

You can now reference processes when creating service instance to port prototype mappings. A new column in the Service Instance to Port Prototype Mapping Editor allows you to select the processes or the process designs.

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### 3.3. Enhanced Machine Diagram:

The machine diagram is enhanced to support the display and management of communication elements and processors of the machine. The diagram now shows:

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- The communication of the machine or machine design on the network, like, Ethernet buses, • physical channels, and connectors.
- The processors and processor cores of the machine •
- The process-core links •

You can now create and edit the communication elements, processors, cores, and process-core links from the machine diagram.

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#### 3.4. Generating AUTOSAR Production Code for eFMU:

The AUTOSAR Adaptive Production Code Generator (Application only) command is now available on a project for eFMU code generation. You can now generate AUTOSAR production code for an eFMU that involves only the application part of the AUTOSAR model.

#### 3.5. Filtering and Highlighting of Logs for Adaptive Validation:

You can now filter the adaptive validation logs and monitor messages in highlighted colors. You can easily debug by filtering errors, warnings, debug, and info messages in the log. Also, the colored highlighting lets you quickly find log messages related to the component or the tester. You can generate the associated adaptive software component code and integrate the eFMU behavior.

<ul> <li>ASim Simulation Configurations</li> <li>Create, manage, and run configurati</li> <li>[Main]: SUT Project does not exist</li> </ul>
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2022/01/03 14.20.12.044/	75 255750 047 ECOT EACE ENT- TOR THEO A 2 [FIOCESS LESCAPPED Was scalled]
2022/01/05 14:28:12.0707	60 256018 068 ECU1 EXEC SCPR log info V 2 [Starting executable /opt/ProductionCodeESP64/bin/ProductionCodeESP64]
2022/01/05 14:28:12.1098	28 256408 069 ECU1 EXEC SCPR log info V 8 [Process ProductionCodeESP64 with ID 190 changed its state from kIdle to kSta
2022/01/05 14:28:12.2629	36 257944 000 ECU1 SWC- INTM log info V 1 [Enabled console output.]
2022/01/05 14:28:12.3030	258341 001 ECU1 SWC- INTM log info V 2 [Init DLT back-end done, all known contexts set to default log level: Verbos
2022/01/05 14:28:12.3513	47 258824 000 ECU1 SWC- PPOP log debug V 4 [Wrote 1 bytes to fd 10]
2022/01/05 14:28:12.3869	259179 002 ECU1 SWC- INTM log debug V 2 [Requested an already registered context ID - returning: ProductionCodeESP6
2022/01/05 14:28:12.4319	259630 000 ECU1 SWC- Prod log info V 2 [Port In Executable Ref: ProductionCodeESP64_Exe/root_ProductionCodeESP64_Exe
2022/01/05 14:28:12.4955	48 260266 003 ECU1 SWC- INTM log debug V 2 [Requested an already registered context ID - returning: ProductionCodeESP6
2022/01/05 14:28:12.5333	35 260643 001 ECU1 SWC- Prod log info V 2 [Service Instance offered: SOME/IP:19]
2022/01/05 14:28:12.5598	79 260909 002 ECU1 SWC- Prod log info V 2 [Port In Executable Ref: ProductionCodeESP64_Exe/root_ProductionCodeESP64_Exe
2022/01/05 14:28:12.6070	261381 003 ECU1 SWC- Prod log info V 2 [Searching for Service Instance: SOME/IP:20]
2022-00-05 14:28:12.6684	54 [info] Application/Client dd72 is registering.
2022-00-05 14:28:12.9466	21 [info] Client [1] is connecting to [dd72] at /tmp/vsomeip-dd72
2022-00-05 14:28:12.2763	14 [info] REGISTERED_ACK(dd72)
2022-00-05 14:28:12.7212	66 [info] OFFER(dd72): [0063.0013:1.0] (true)
2022/01/05 14:28:12.9054	61 264365 004 ECHI SWC- Prod log info V 2 [ProductionCodeESP64 init]



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