

PRODUCT BRIEF – MECEL PICEA SUITE



FOR EFFICIENT AUTOSAR DEVELOPMENT

Mecel Picea provides you with a comprehensive solution for efficient development of AUTOSAR compliant ECUs.

The Mecel Picea suite supports you throughout the complete development process with a seamless, integrated tool chain and high quality software that

allows you to focus your resources on integration and application development rather than spending time developing standard software. ■■■



FOR EFFICIENT AUTOSAR DEVELOPMENT



AUTOSAR is an initiative supported by the world's leading automotive OEMs and suppliers. The objective for AUTOSAR is to specify an open standard for the software architecture and software interfaces for the most common functionality in ECUs. This will increase the software quality and exchangeability and make it possible to reuse applications between ECUs. AUTOSAR will make it possible to sell software as a product.

Mecel has supported the AUTOSAR initiative from the beginning and Mecel Picea is the result of adding the AUTOSAR idea to 25 years of experience in automotive software development and software products.

MECEL PICEA SUITE

Mecel Picea suite contains the AUTOSAR basic software, the run time environment and an AUTOSAR configuration tool and Picea Workbench, for ECU configuration and authoring.

Mecel Picea basic software contains modules for all hardware independent software, effectively modules for systems services, memory stack, diagnostics, communication on CAN, Lin and Flexray but also an Mecel Picea operating system. Mecel Picea is ICC3 compliant and is easily integrated with micro controller abstraction layer provided by the chip suppliers.

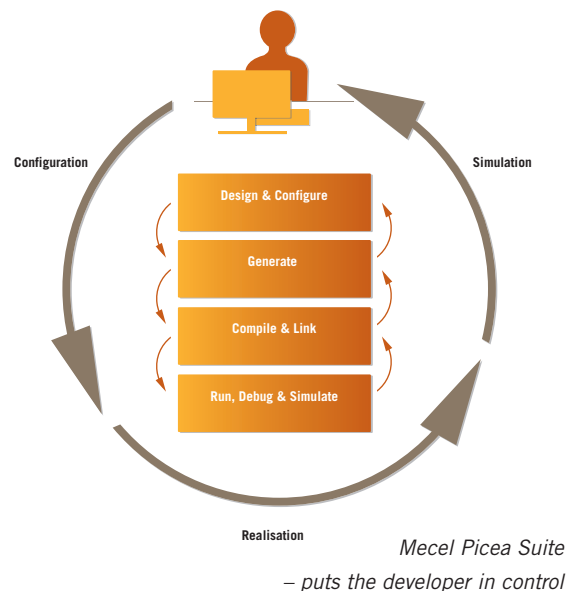
The Mecel Picea Suite provides you with:

- Run time environment (RTE) and basic software (BSW).
- Tool for configuration of RTE and BSW.
- Tool for editing and integrating software components (SW-C).

Mecel Picea Suite supports integration of external third party tools, effectively code generators, compilers and other tools needed in the development process. The embedded software is always delivered as a package integrated and tested for your specific platform. The package content can be customised depending on your project's specific needs.

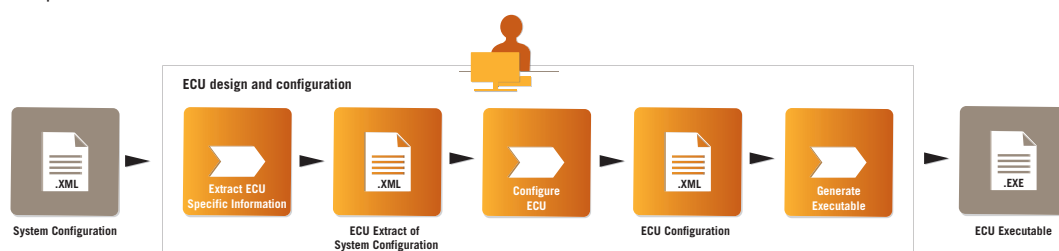
Mecel Picea is mainly developed for ECU suppliers. Your competitiveness and unique domain knowledge as an ECU supplier is located in the application layer.

When you choose Mecel Picea you get an AUTOSAR software platform and a tool chain that will strengthen your ability to compete.



Features:

- Follows AUTOSAR configuration methodology.
- Eclipse-based tool chain.
- ICC3 compliant basic software.
- Low memory footprint.
- Minimal OS resource overhead.
- Robust.
- PC simulation of software components.
- Import of dbc files supported.
- Import of Idf files supported.



Mecel Picea Workbench – brings the pieces together



PICEA WORKBENCH

A complete AUTOSAR solution

The Picea Workbench is a tool made for ECU suppliers. It was originally developed to meet our own internal requirements of a versatile, efficient tool that is capable of handling AUTOSAR ECUs in production programs where there can be several thousand ports and signals.

The Picea Workbench supports configuration of the basic software and the RTE. In addition to that, you can use the tool's authoring functionality to edit your software components and build the ECU application layer. When you use the Picea Workbench you have one single tool that completes the configuration.

The Picea Workbench supports import and export of AUTOSAR configuration files. The tool also supports import of one AUTOSAR version and export to another AUTOSAR version. Comparing and merging of AUTOSAR configurations is another powerful feature in the Picea Workbench.

Migration from old systems to AUTOSAR is supported by the conversion functionality. With this functionality you can convert your dbc and Idf files to AUTOSAR configurations.

The Picea Workbench utilizes the plug-in feature of Eclipse and configurations are handled as true Eclipse projects. This means you have access to the Eclipse standard support for projects as well as a continuously increasing number of free Eclipse plug-ins for smooth integration with other tools and different configuration and change management systems.

The Picea Workbench is decoupled from Picea BSW and Picea RTE and can be used to configure your own specific software as well as AUTOSAR software from other software suppliers.

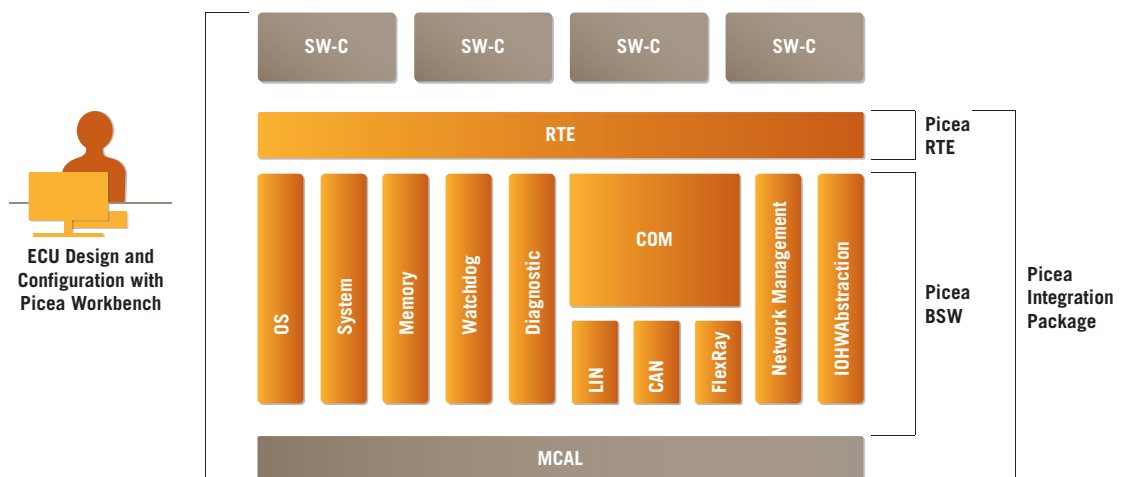
PICEA RUN TIME ENVIRONMENT

Supports the wide range of powerful AUTOSAR features

The Picea RTE is the interface between your application software and the basic software. Although Picea RTE is optimised for a low memory footprint and minimal OS resource overhead, it supports the wide range of powerful AUTOSAR features like compositions of software components and mode mapping.



The Picea RTE is generated by a command line tool that reads AUTOSAR configuration files, validates them according to the AUTOSAR schema and generates C code. It can be used together with the Picea Workbench or integrated with third party AUTOSAR tools or makefile systems.



Mecel Picea RTE and BSW – makes application development easy



PICEA BASIC SOFTWARE

The Picea BSW is the software layer below the RTE. It provides services like bus communication, memory management and operating system. The basic software is only accessible through the RTE.

The Picea BSW is completely AUTOSAR ICC3 compliant and can easily be integrated with ICC3 compliant modules from other software suppliers.

Each Picea BSW module comes with a standard software core and a code generator. The code generator is a command line tool that reads an AUTOSAR configuration, validates it according to the AUTOSAR schema and generates C code.

Picea BSW contains the following standard basic software bundles and bundle options:

- OS
- COM
 - CAN
 - LIN
 - FlexRay
- Network Management
- Memory
- Diagnostic
- Watchdog
- IOHWAbstraction (project specific)
- System

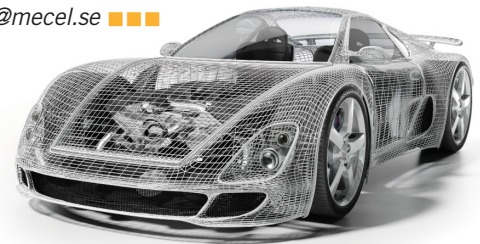
A Picea microcontroller abstraction layer (MCAL) can be provided in those cases when the microcontroller supplier does not provide the MCAL.

The Picea BSW delivery package is pre-integrated and tested with your platforms specific MCAL.

Options

- Picea VFB Simulator – With the Picea VFB Simulator you can increase your application development efficiency by integrating and testing your SW-Cs in a PC-environment. The Picea VFB Simulator makes it possible to develop SW-Cs without ECU hardware and BSW.
- Picea COM Wrapper – With the Picea COM Wrapper you can migrate step by step from non-AUTOSAR software architectures to the AUTOSAR architecture. The Picea COM Wrapper makes it possible to use an AUTOSAR RTE together with a proprietary communication stack and enables you to develop ICC1 solutions based on existing non-AUTOSAR software.

For more information, please contact
Mecel at picea@mecel.se ■■■■



AT THE FOREFRONT OF AUTOMOTIVE TECHNOLOGY

Mecel is a systems and software development company with more than 25 years of experience in developing solutions for the automotive industry. We specialize in in-car communication technologies, user interface development and consumer device interaction. As engineering consultants, we are pioneering state-of-the-art technology to produce innovative and efficient solutions that provide our clients with a definite competitive edge. We are skilled in taking on the entire procedure from initial R&D work to development and testing of the final products.

Our state-of-the-art software products:



Mecel Populus
for efficient user
interface development



Mecel Betula
for efficient Bluetooth
connectivity



Mecel Picea
for efficient AUTOSAR
development

CONTACT US

Mecel AB
Box 14044
SE-400 20 Göteborg
Sweden

Visiting address
Mölnödalavägen 36, Göteborg

Phone +46 31 720 44 00

www.mecel.se

