

# New RTA Basic Software

## AUTHOR

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## Solid basis for next-generation software

With its RTA Basic Software (RTA-BSW), ETAS introduces a new software product for developing AUTOSAR-based electronic control units. ETAS RTA-BSW facilitates the configuration, integration, and testing of modern embedded software applications.

Currently, RTA-BSW is a solution that can be fully applied in control units with the highest safety requirements. The basic software's quality and reliability rest on complying with the strictest software development processes in the market. Development based on the ISO standard 26262, which is consistent with ASIL D, enables the usage for applications that are both sophisticated and relevant to safety.

## Ready-for-use solution for control unit development thanks to comprehensive AUTOSAR 4.x support

RTA-BSW offers a broad range of AUTOSAR basic software modules and, in combination with the operating system ETAS RTA-OS as well as the Runtime Environment ETAS RTA-RTE products, a holistic platform software for developing control unit applications. AUTOSAR 4.x is a key technology for managing ever-expanding and more complex electronics; RTA-BSW aims to reduce the complexity and offer to the user a complete environment supporting AUTOSAR 4. In addition, the new ETAS product facilitates automatic configuration and code generation, by which the effort for establishing an AUTOSAR application is reduced. ETAS' comprehensive support for the AUTOSAR basic software include training, engineering, and consulting as well as standard extensions:

- RTA-BSW Customer Release Package – a service for configuration,

integration, and testing of RTA-BSW for customer-specific hardware platforms

- Functional Safety Qualification Package – helps users of RTA-BSW to ensure ISO 26262 conformity (safety manuals, proof for the development process, consulting)

## Groundwork for developing safety-relevant systems

RTA-BSW combines the highest standards in vehicle safety with first-class performance. This arises from a range of basic software optimizations preserving system integrity. However, in our experience, project-specific functional safety requirements have to be addressed and a standard, AUTOSAR-based solution does not always satisfy these needs. To cover this gap, ETAS offers the functional safety qualification package, with the goal of making a gap analysis, providing a revised set of project-specific safety manuals, and defining a remediation plan for achieving full compliance.

## Safety- and non-safety-relevant software under one umbrella

All RTA-BSW modules are application-independent safety elements that have been developed according to ISO 26262/ASIL D. The concept of freedom from interference enables users to implement architectures containing both safety- and non-safety-relevant software modules in the same control unit. RTA-

OS fully implements all scalability classes defined in AUTOSAR (1 to 4), providing all the required features for isolating safety-relevant software from any other component. Furthermore, RTA-BSW supports the early validation of a complete stack in a virtual platform such as ETAS ISOLAR-EVE.

## Quick start with the ETAS Starter Kit

The ETAS Starter Kit provides an out-of-the-box example of a completely configured RTA-BSW stack that can be ready to run within only a couple of minutes. Users can generate control unit code that runs on either a virtual control unit platform or a development board. In addition to training, the ETAS Starter Kit contains the complete set of ETAS tools such as ISOLAR-A, ISOLAR-EVE, RTA-RTE, RTA-OS, RTA-BSW, example applications, and an MCAL (microcontroller abstraction layer) relevant to the specific variant of the starter kit.

## Automotive Open System Architecture (AUTOSAR)

AUTOSAR is a worldwide development partnership between car manufacturers and suppliers as well as electronics, semiconductor, and software manufacturers. The partnership's aim is to team up and develop innovative electronics systems that improve performance, safety, and eco-friendliness.