

# MICROSAR CAN

## AUTOSAR Basic Software Modules for CAN Communication

CAN (Controller Area Network) is a production-proven communication protocol in the automotive field. In addition to the CANbedded Communication Stack, Vector also offers the AUTOSAR-conformant product MICROSAR CAN.

### Properties and Advantages

The Basic Software Modules of MICROSAR CAN are intended for production use. Together with the additional products MICROSAR CAL, MICROSAR COM and MICROSAR EXT, they form a complete CAN stack. Each of these MICROSAR products contains a number of Basic Software Modules that you can integrate – either individually or as a full package – into your CAN stack.

In anticipation of AUTOSAR 4.0, Vector is already offering MICROSAR J1939TP for J1939 with CDMT and BAM transport layers.

All MICROSAR Basic Software Modules conform to AUTOSAR Release 3.0. The CAN-specific modules also support other functions such as:

- > Calling customer-specific callback functions
- > Measuring and calibrating via XCP-on-CAN
- > Mixed operation of standard and extended CAN IDs
- > Code-optimized implementation of AUTOSAR functions

When they were implemented, special emphasis was placed on efficient memory utilization and short execution times, so they are an ideal foundation for your AUTOSAR CAN stack. The configuration time of all MICROSAR Basic Software Modules is user selectable, because the Vector Basic Software Modules are pre-compile, link-

time and post-build capable (in accordance with AUTOSAR Configuration Conformance Classes CCC1 through CCC3).

You can combine the MICROSAR CAN Basic Software Modules with the rest of the MICROSAR Basic Software Modules of the seamless Vector AUTOSAR solution. This provides a reliable foundation for your ECU software so that you can focus on developing your application.

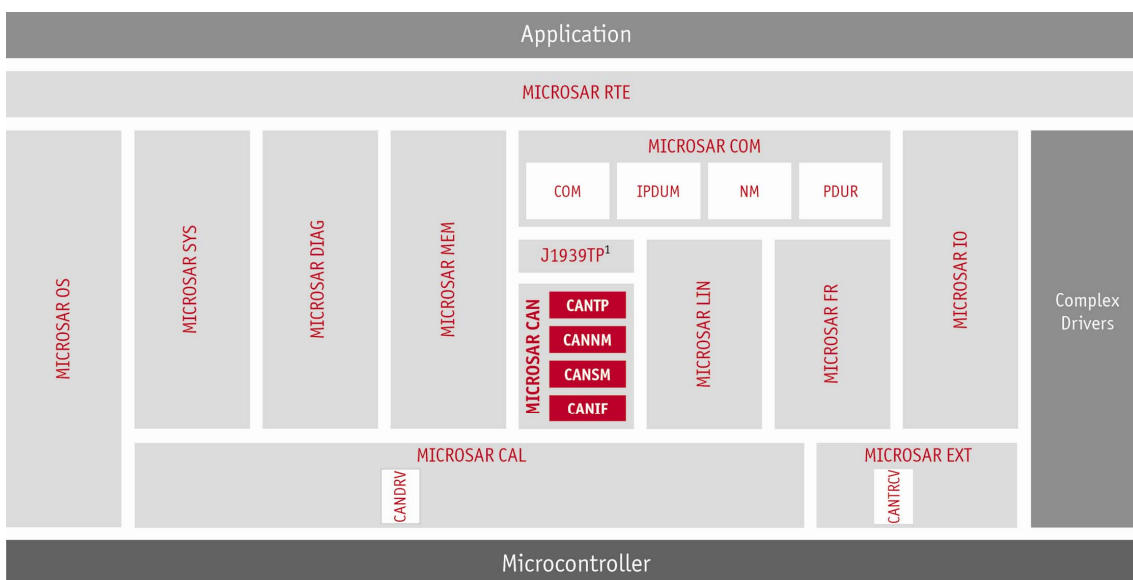
### Application Areas

MICROSAR CAN includes all of the Basic Software Modules that a CAN stack needs for basic CAN communication. You also can use this stack to measure and calibrate AUTOSAR ECUs with XCP-on-CAN.

### Functions

#### MICROSAR CAN

- > CANIF - The CAN Interface abstracts the CAN driver to higher layers.
- > CANNM - The CAN Network Management Module controls the wake-up and sleep readiness of ECUs participating in bus communication.
- > CANSM - The CAN State Manager handles bus-specific errors and activates and deactivates PDU groups.
- > CANTP - The CAN Transport Protocol is used to send out larger quantities of data over the CAN bus.



**MICROSAR CAN  
modules**

<sup>1</sup> Available extensions for AUTOSAR 3.0

### Training Courses

We offer various training courses and workshops for AUTOSAR and CAN in our classrooms or at your business site.

For further information on individual training events and dates on the Internet go to: [www.vector-academy.com](http://www.vector-academy.com).

### Contact and Availability

Our CAN Basic Software Modules for automotive ECUs are available for a wide variety of currently used microcontrollers. You can obtain additional information at [www.micosar.com](http://www.micosar.com) or by inquiry

E-mail: [embedded@vector-informatik.com](mailto:embedded@vector-informatik.com)

Telephone: +49 711 80670 400

To fully integrate a CAN stack into your application, you will need other modules from the following MICROSAR products: MICROSAR DIAG (DCM, DEM), MICROSAR SYS (DET, ECUM, COMM) and MICROSAR RTE.

### MICROSAR J1939TP

This BSW module is compatible with MICROSAR CAN. It handles transport of large data packets via the BAM and/or CDMT transport protocol, making it possible to operate an AUTOSAR ECU on a J1939 network.

### Other relevant MICROSAR Products

- > MICROSAR CAL (CANDRV) - The controller-specific CAN driver is a hardware-independent interface to the CAN controller to be used by the CAN interface CANIF.
- > MICROSAR COM - This product supports signal-based communication between different ECUs.
- > MICROSAR EXT (CANTRCV) - The CAN Transceiver driver controls the ECU's external CAN transceiver.

### Configuration

The MICROSAR CAN modules are configured with the familiar configuration tool GENy (included in the DaVinci Configurator Pro delivery) and the AUTOSAR ECU Configuration Description that is based on the AUTOSAR System Description. Network descriptions in DBC format are also supported. The network description is created using DaVinci Network Designer from Vector.

### Scope of Delivery

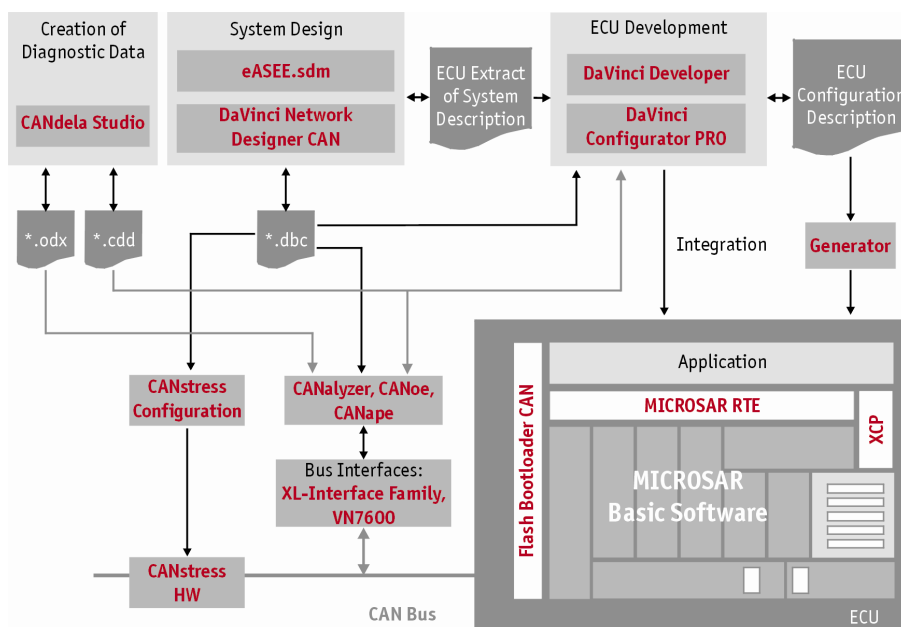
- > DaVinci Configurator Base as a Generic ECU Configuration Editor (GCE) as well as a command line based generator
- > Libraries, C header files, optionally with source code
- > BSW Module Description, makefiles and sample programs
- > Documentation/operating instructions/Readme file

### License

Vector offers flexible licensing customized to your individual requirements.

### Optional Services

- > Consultation in system design
- > Integrating the Basic Software into existing ECUs
- > Extending standard modules according to your needs
- > Developing customer-specific AUTOSAR Software Components (SWC)
- > Hotline, special workshops and training courses on the topic of embedded software and AUTOSAR



**Vector offers you a comprehensive product lineup for your CAN projects**