



# VEMAC

FACTSHEET

## VERA TC VERSION 3.1

Tool-Chain for efficient ECU development  
and testing

- Powerful hardware and engine management drivers
- Auto-generated Simulink Tool-Box
- A2L-file generation
- Integrated Flash-Tool and system monitor
- Comfortable, integrated DBC and LDF editor

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## PRODUCT DESCRIPTION

VeRa TC 3.0 is the integration software for VeRa 3.0. It provides a powerful tool-box to Matlab/Simulink, by which all sensor inputs and power outputs are accessed very comfortable. Additionally the Tool-box provides elements to configure the OSEK operating system. Very high integrated blocks for combustion engine management simplify the implementation of complex control functions for modern gasoline and diesel engines.

Organized in projects the user defines functional models, which can be edited with Matlab/Simulink. After code generation using Simulink Coder or dSPACE TargetLink the software is compiled by only one click and flashed to the VeRa device. For calibration, A2L and S19 files are generated automatically.

Hence VeRa TC connects all the tools needed for modern ECU development: ECU-Hardware, Matlab/Simulink, dSPACE TargetLink, compiler and calibration tools like ETAS INCA or dSPACE ControlDesk NG.

## MODEL BASED SOFTWARE DEVELOPMENT FOR 2021 +

The development cycles in today's markets are getting shorter, while the increased competition leads to more and more software functions. Consequently there is more development work, which has to be realized in shorter time slots.

With model based software development users are able to test control functions in early stages by using simulation techniques. VeRa TC 3.1 supports this workflow by providing dedicated simulation ports to all I/O blocks.

## FROM POWERTRAIN TO BODY ELECTRONICS

Especially for fleet tests and for small series, ECU's are needed, that have a tailored hardware at a reasonable price. VeRa 3.1 is available in these individual configurations, which is also represented in VeRa TC 3.1. With this feature the same tool-chain can be used for various hardware variants.

VeRa TC runs on a Windows-based development PC. It works as an interface for the code generators Mathworks Simulink Coder for prototyping projects and dSPACE TargetLink for series projects. For calibration tasks different tools supporting the ASAM MCD 1 and ASAM MCD 2 standards (e.g. ETAS INCA, dSPACE CDNG or Vector Canape) can be used.

## SOFTWARE

### VeRa Desk

## SPECIFICATION

Project management

Configuration and generation of Simulink libraries

Definition of parameters, to be available via A2L

Compiler call and code generation for configuration components

Flashing on hardware

Generation of A2L- and HEX files for calibration software

### VeRa embedded base software

Operation system in accordance to the OSEK standard with two available clocks (time and crank angle)

Calibration access by integrated XCP slave module

Hardware drivers in accordance to AUTOSAR MCAL standard

### Compiler (3rd Party Software)

WindRiver C-Compiler (Diab-Compiler)

New: VeRa TC version with integrated CLANG compiler

Suited for developments according to ISO 26262

### Modelling and simulation environment

Mathworks Matlab/Simulink/Stateflow

### Code generator

Mathworks Simulink Coder or dSPACE TargetLink,

dSPACE TargetLink suited for developments according to ISO 26262

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