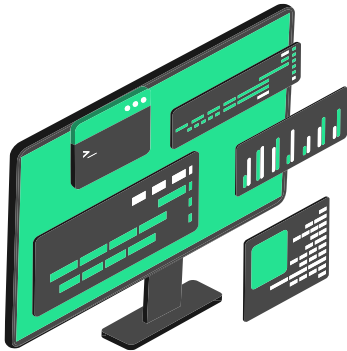


## Development and calibration framework for rapid application development



### OLEA® COMPOSER

- All stages of V design cycle: MiL, SiL and HiL
- Most popular design, simulation, debug and validation tooling
- Automatic C and HDL code generation for OLEA® FPCU
- Real-time variables/parameters debug and calibration in CPU and/or AMEC® FLU
- ISO 26262 - ASIL-D certified ready design

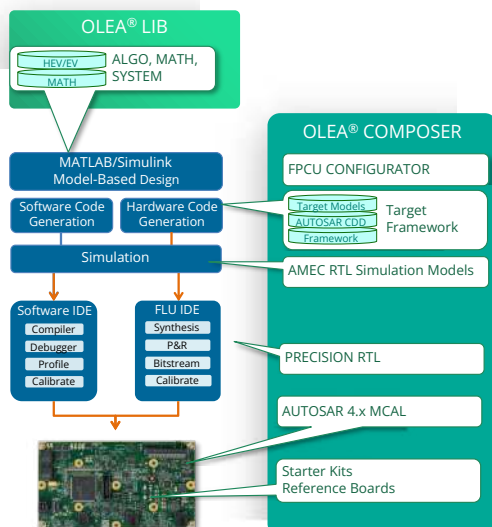
### Changing developers' life

OLEA® COMPOSER orchestrates a wide set of leading development tools all along the V-Model design cycle and accelerates development on OLEA® FPCU.

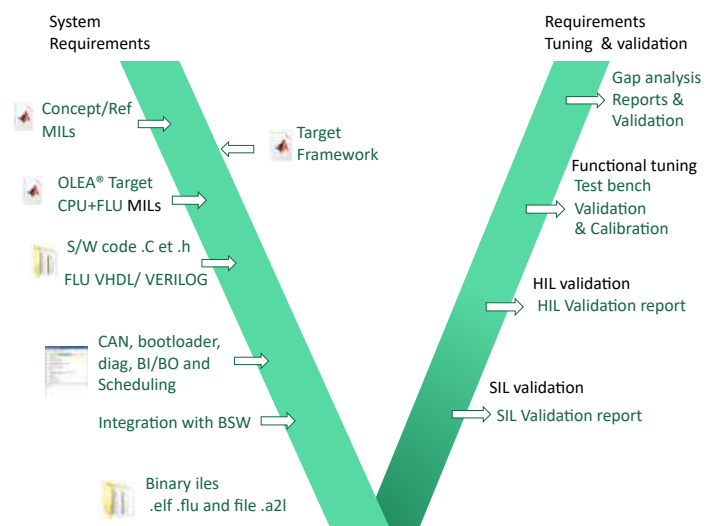
From Model-in-the-Loop (MiL), Software-in-the-Loop (SiL) down to Hardware-in-the-Loop (HiL), developers drastically reduce development, validation and calibration time while significantly improving performances using the Hardware/Software split provided in the framework.

OLEA® COMPOSER includes the following products and more:

- **OLEA® COMPOSER – FPCU Configurator:** Driven and automated FPCU configuration for pin mapping, pad, clocks & SILant® configurations.
- **OLEA® COMPOSER – T222 Target Framework:** A framework driving the model-based development steps from the theoretical model to the FPCU target porting. Comes as plugin for MATLAB Simulink and support from simulations and auto code generation down to the binary generations and equivalence checking.
- **OLEA® COMPOSER – AGILIS Precision RTL:** Mentor Graphics's based RTL synthesis tool combined with AGILIS Place & Route tool for HDL to Bitstream generation.
- **OLEA® COMPOSER – T222 MCAL:** AUTOSAR 4.3 Compliant drivers for OLEA® FPCU.



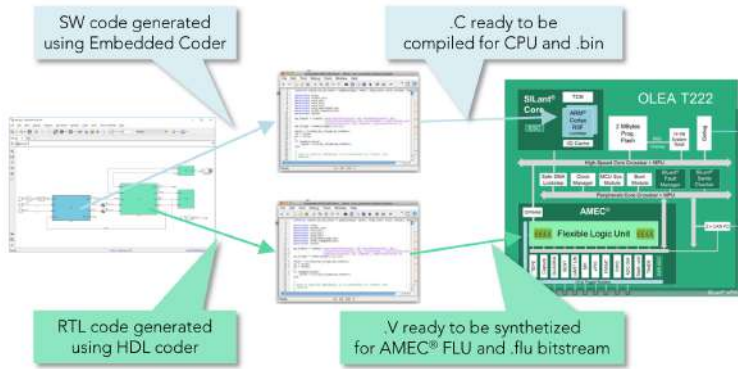
OLEA® COMPOSER in OLEA® FPCU development flow



OLEA® COMPOSER in V design cycle

# Model in the Loop

**OLEA® COMPOSER - T222 Target Framework** is a driven and instrumented framework using OLEA® LIB Target library for fast and seamless MATLAB Simulink reference model porting to OLEA® T222 FPCU with pre-defined CPU/AMEC® communication protocol. It allows simultaneous C and HDL automatic code generation from MATLAB®/Simulink. The generated code is directly usable as an AUTOSAR Complex Device Driver.



- All AMEC® FLU hardware resources available as target models (e.g ADC, PWM, Timers, CWG, PIO, QUADRA, CAPTURE)
- Automatic generation of the CPU / AMEC communication
- Automatic variables and parameters instrumentation for measurement and calibration on hardware targets

# Software in the Loop

**OLEA® COMPOSER - T222 Virtual Prototype VDK and OLEA® COMPOSER - T222 AMEC RTL Simulation Models** are simulation environments enabling fast and accurate software and hardware validations.

### Accurate Virtual Prototyping

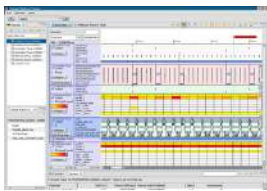
- Transaction / Memory Map
- Programming

### Software development/validation

- Boot / OS / AUTOSAR BSW
- Complex Device Driver
- Co-simulation with SIMULINK

### VDK ECU System Simulator

- Early software development
- H/W & S/W split & correlation
- Fast simulation and debug



Synopsys's VDK view

### Cycle Accurate AMEC® RTL Model

- AMEC
- FLU I/F

### RTL Simulation

- Reference tests bench
- Including CPU & DMA access
- FLU design integration validation
- Signal debugging



Mentor Graphics's ModelSIM view

# Hardware in the Loop

## OLEA® COMPOSER T222 Starter Kit

A generic board to control any power control system. Comes with a complete package that includes OLEA® T222 FPCU based development boards, software and documentation for quick application design.



## OLEA® COMPOSER T222 HVIC Starter Kit

A starter kit for 3 phase inverter e-motor control. Comes with a complete package that includes OLEA® T222 FPCU based development boards, software and documentation for quick application design.

