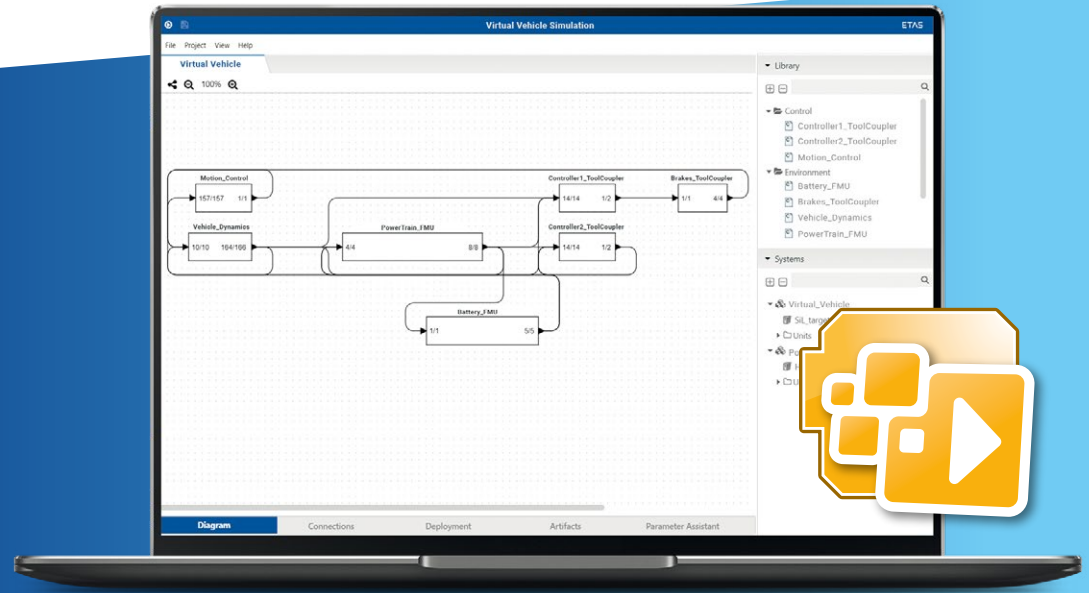


# Powerful Simulation and Integration Platform COSYM

Continuous and efficient testing and validation in MiL and SiL environments



## Areas of application

- Simulation and test of virtual ECU networks
- Integration of physical model and ECU functions (VECUs e.g. from VECU-BUILDER, FMU, ASCET or Simulink® models)
- Simulation in real and virtual time
- Execution at the workplace computer one by one, or in parallel in the ETAS Cloud Services with ETAS MODEL-SIMULATOR

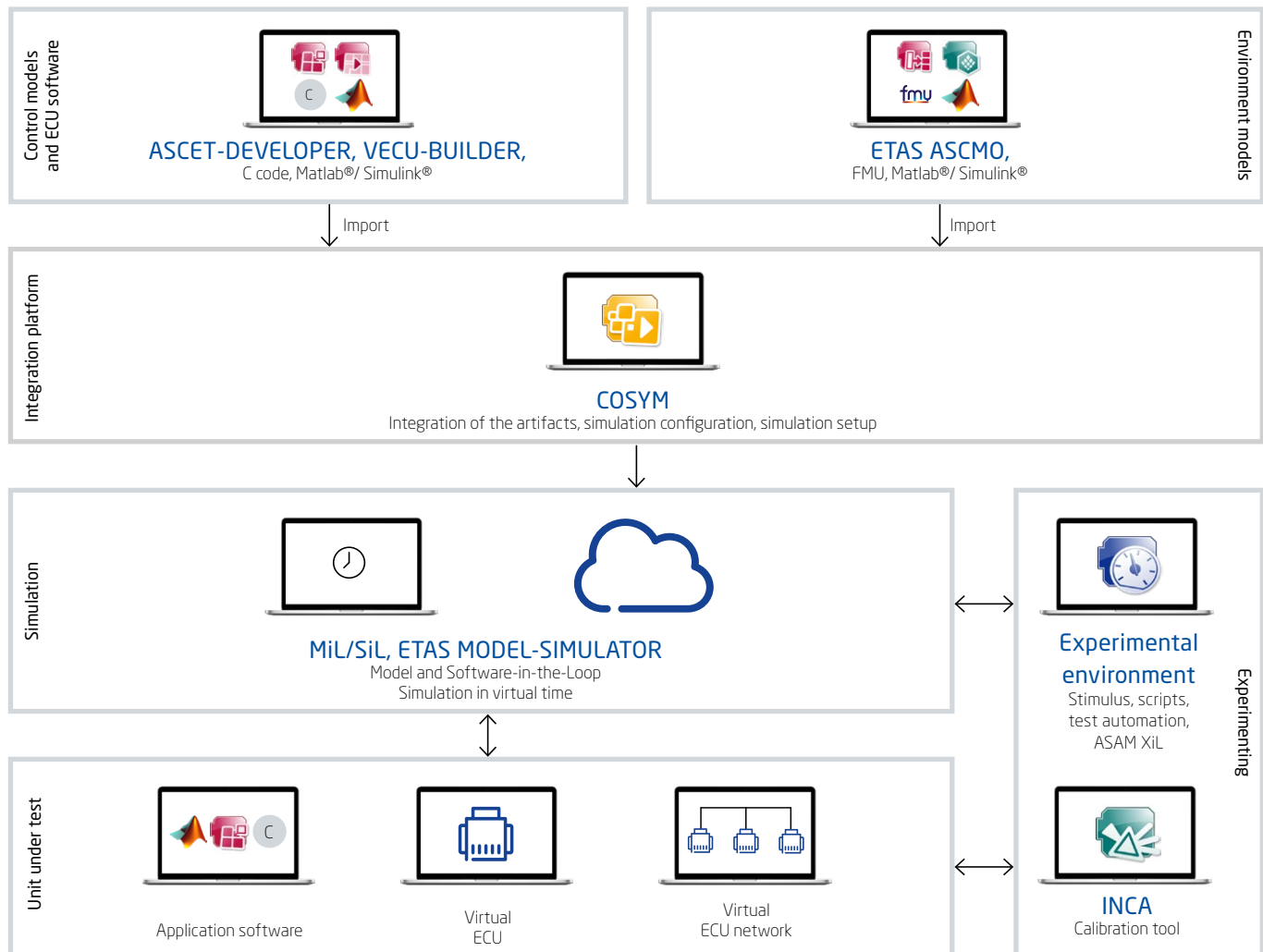
## Characteristics

- Powerful, open platform for integration of function models and plant models
- Support of open standards (e.g. FMI, ASAM-XiL, CDF)
- Simulation of automotive bus systems on frame level, e.g. CAN, CAN FD, Automotive Ethernet, FlexRay, LIN
- Interfaces to established simulation tools (e.g. Simulink®)
- Possibility of full workflow-automation, including integration of artifacts via API

## Benefits

- Software testing and validation already in early development phases
- Reduced costs and time by moving HiL tests forward to the simulationphase (MiL/SiL)
- Seamless transition and switching from virtual systems to real-time systems and vice versa
- Simple integration into existing development environments, e.g. for use in continuous integration
- Scalable and modular architecture for use in the cloud

# Possible combinations of ETAS COSYM with other products



## MiL/SiL use case

The performance of purely virtual closed-loop tests is made possible by:

- Integration of physical models from different sources via FMI or C code for connection with ECU software
- Integration of virtual ECUs of different levels of abstraction via the COSYM user interface (from the software model right through to the close-to-production ECU software)

- Interconnections of different artifacts on signal and/or bus level

The ideal outcome is a significantly reduced computing time for real-time-capable models. When executing the simulation in parallel in the cloud with the ETAS MODEL-SIMULATOR, considerably shorter simulation times are possible