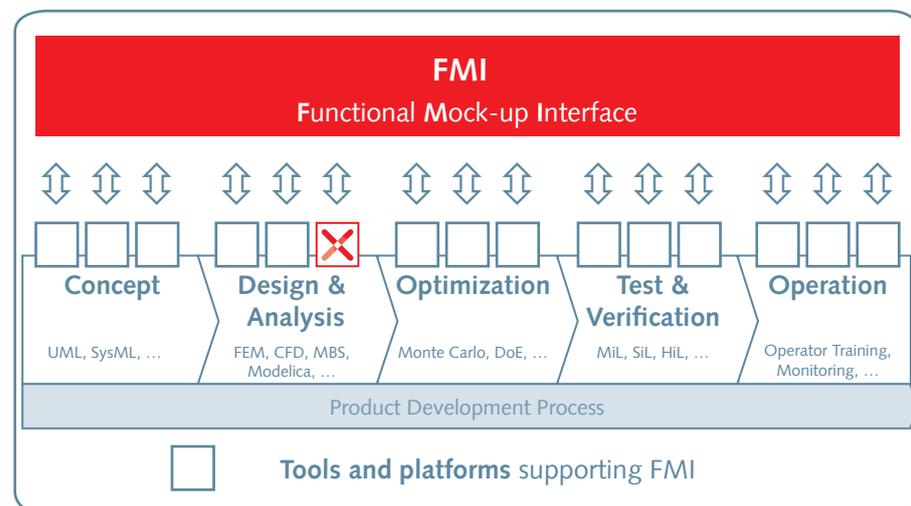# SIMULATION X®

Powered by ITI

Flexible Exchange of Simulation Models
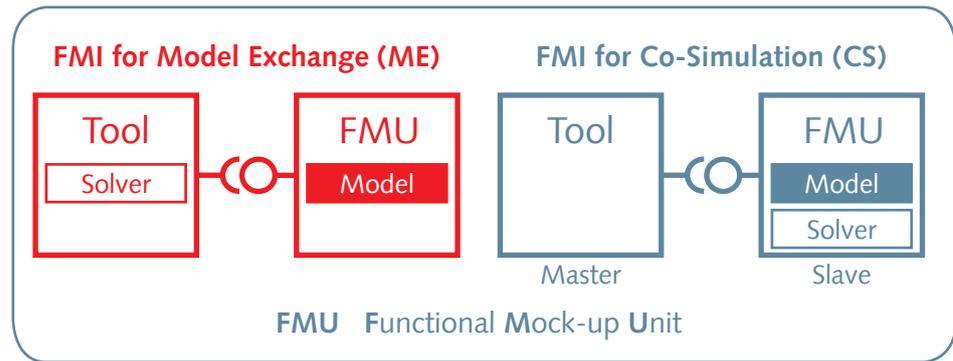
Using FMI (Functional Mock-up Interface) and SimulationX for a continuous workflow in product development

FMI
Functional **M**ock-up **I**nterface

Concept	Design & Analysis	Optimization	Test & Verification	Operation
UML, SysML, …	FEM, CFD, MBS, Modelica, …	Monte Carlo, DoE, …	MiL, SiL, HiL, …	Operator Training, Monitoring, …

Product Development Process

Tools and platforms supporting FMI

For more information, see also **www.fmi-standard.org**.

Exchanging simulation models between OEMs and suppliers, for example, becomes easier with an open, standardized interface. Leading manufacturers, such as Bosch, Daimler and Siemens, work together with software companies and research institutes to ensure an uninterrupted workflow at different stages of product development with specialized tools for specific tasks. ITI is one of the main contributors in the development of FMI and takes care that SimulationX always supports FMI to its full potential.

FMI for Model Exchange (ME)

Tool
Solver

FMU
Model

FMI for Co-Simulation (CS)

Tool

FMU
Model
Solver

Master

Slave

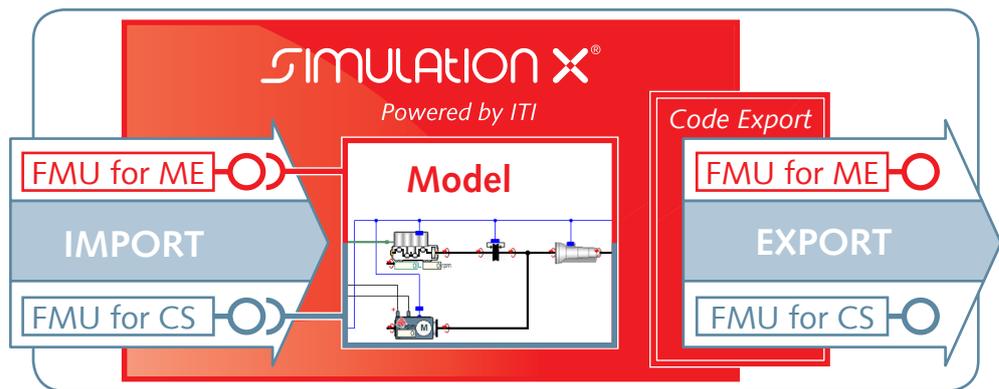**FMU   F**unctional **M**ock-up **U**nit

Why using FMI?

- **Tool-independent:** Developed through the close cooperation of leading CAE companies, FMI is supported by a significant number of tools and platforms.

- **Platform-independent:** With the model functionality provided as source code, the FMU can be run on any platform (Windows, Linux, …).

- **Protection of intellectual property:** With the model functionality provided as binary, the model structure and internal parameters inside the FMU cannot be read by third parties.

- **State-of-the-art model features are supported:** Efficient and robust simulation ensured.

Full support of FMI in SimulationX

- Import and export of FMUs are supported for Model Exchange and Co-Simulation (validated through FMI CrossChecks).

- No runtime license is required for exported FMUs.

- Easy import and seamless integration into SimulationX models through a simple import dialog. No further programming is needed.

- FMU import is included in the SimulationX basic configuration.

SIMULATION X®
Powered by ITI

FMU for ME

IMPORT

FMU for CS

Model

Code Export

FMU for ME

EXPORT

FMU for CS

FMI Co-Simulation Target for Simulink Coder

ITI provides an add-on for the export of FMUs for Co-Simulation from MATLAB®/Simulink®.

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