FMI TOOLBOX
for MATLAB®/Simulink

```
P freqHz              0.2
P T2                  0.4
P                     0.9
  clutch1
  peak

P cgeo                1
P fn_max              20
P w_small             100000000
V startForward        0
V startBackward       0
V locked              0
V mode
  sin1
```

SIMULINK Enabled
MathWorks Partner
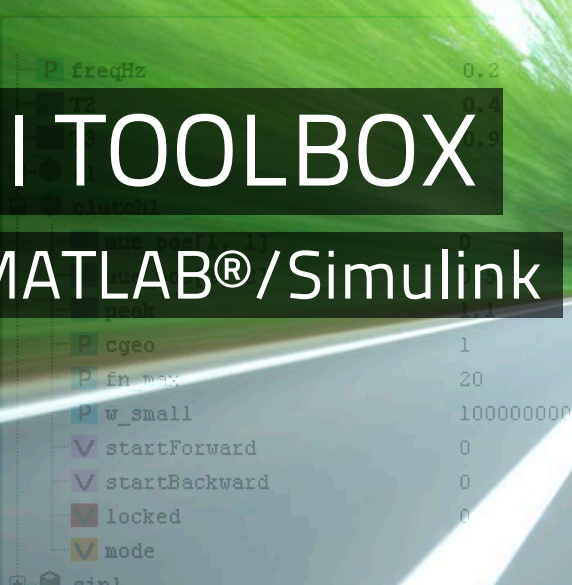
▸ SCOPE

- Integration of physical models in MATLAB®/Simulink
- Dynamic simulation
- Control system development

▸ KEY FEATURES

- Export and import of Model Exchange and Co-Simulation FMUs
- Simulink blockset and MATLAB script interface
- Design of Experiments and design space exploration
- HIL simulation on dSPACE DS1006 systems

▸ BENEFITS

- Reduced time and cost for development of control systems supported by physical models
- Leverage state of the art physical modeling tools
- Maintain flexibility with the FMI standard

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FMI Toolbox for MATLAB®/Simulink enables easy to use integration of physical models developed in state of the art modeling tools in the MATLAB®/Simulink environment. The toolbox relies on the open FMI standard and is ideal for control systems development.

High-fidelity physical models are key components in development of control systems and contribute to increased quality and shorter development cycles. Modeling languages such as Modelica are commonly used to develop accurate simulation models of systems in a wide range of domains, including mechanics, electronics, and thermodynamics.

The toolbox links state-of-the-art FMI compliant tools, including AMESim, Dymola and SimulationX to the

MATLAB®/Simulink environment. Support for the FMI standard ensures flexibility and cross-platform interoperability.

The Toolbox enables simulation of FMUs as part of Simulink models and in MATLAB scripts. In addition, Simulink models can be exported into Model Exchange or Co-simulation FMUs. Hardware In the Loop (HIL) simulation is supported on dSPACE DS1006 systems.
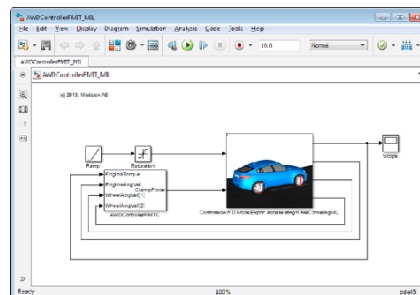
MATLAB version 2007b and later is supported.

THE FUNCTIONAL MOCK-UP INTERFACE

The Functional Mock-up Interface (FMI) is an open standard for exchange of dynamic models, targeting tool interoperability and model reuse. FMI compliant models (Functional Mock-up Units (FMUs)), are self-contained compiled models which can be integrated in a wide range of applications where dynamic models are needed. Modeling IP is protected since only compiled code and interface definitions are distributed in FMUs. FMI technology is adopted by more than 60 open source and commercial tools enabling easy exchange of compiled models.

For more information see:
www.fmi-standard.org

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Modelon