Modelon is a global expert in solutions for model-based systems and control engineering.

Model-based methods provide with a unified picture of subsystem interaction and performance from early in the design cycle all the way to optimal system operation.

Open and flexible tools and model libraries for simulation and optimization accelerate virtual product creation and allow you to focus on core business objectives.

With an open standards based platform centered around Modelica and the Functional Mockup Interface (FMI), we can rapidly integrate, customize, and deploy into your CAE tool chain.

EXPERT PARTNER IN MODEL-BASED DESIGN

www.modelon.com     |    info@modelon.com
Modelon provides expertise in multi-domain system simulations – from product concept to operation. Our solutions portfolio for modeling, simulation and optimization is centered around Modelica and FMI open standard technologies.

SOFTWARE PRODUCTS
We work with products from carefully selected partners, in combination with products that we have developed in-house, including:
- Dymola® – multi engineering modeling and simulation
- FMI Toolbox for MATLAB/Simulink®
- FMI Add-In for Excel®
- Modelica Libraries – for rapid and reliable system modeling

Visit www.modelon.com for more information about open and commercial software for virtual testing, system integration, and optimization.

ENGINEERING SERVICES
Engineering services from Modelon deliver proven methodologies for model-based engineering. We help customers shorten development time and decrease costs while delivering innovative, increasingly-complex products.

TRAINING
We provide both standard and customized training to meet individual customer needs for Modelica, Dymola, FMI, and our libraries.

AUTOMOTIVE: Real-time and Simulators
Dymola and the Vehicle Dynamics Library is used to develop detailed and accurate models that can be run in real-time by race teams and car OEMs.

Vehicle models with more than 150 degrees of freedom are deployed in driver-in-the-loop simulators. The subsystems contain multiple physical domains – such as suspensions, shock absorbers, brakes and steering.

RAPID DESIGN ITERATIONS
- Earlier validation in the design process
- Reduced physical testing with virtual prototypes and MIL/SIL/HIL/OIL testing
- One model and one type of data ensure consistency across the team

ENERGY: Carbon Capture and Sequestration
Absorption-based separation processes and CO2 transport pipelines are simulated and optimized with Modelica based methods. The models predict the impact of different design and operational options on the plant economy and safety.

IMPROVED PLANT ECONOMY
- “What-if” simulations for optimizing design and operations save time and improve safety
- System-level optimization improves plant economy
- Flexibility to adapt operation simulations to changing regulatory conditions

AEROSPACE: FMI BASED TOOLCHAIN
Aerospace systems are highly complex with coupled interactions from multiple physical domains. This software and integration complexity combined with challenging requirements drive the aerospace industry to ever more efficient development processes. The FMI standard is a key enabling technology for efficient model-based engineering.

GREATER FLEXIBILITY
- Streamlined workflows – tools connect together
- Efficient deployment within the organization
- Safe deployment to customers and suppliers (IP protection possible)

FUNCTIONAL MOCK-UP INTERFACE (FMI) is a vendor neutral standard for model exchange and co-simulation of dynamic models on the system and component level. It addresses a critical pain point in model-based engineering, namely the ability to share models between tools and to deploy models across the enterprise. It is currently supported by more than 60 CAE tools.

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OPEN STANDARDS
Open standards for model-based engineering provide transparent toolchains and processes which are predictable and cost-effective to maintain over time.

MODELICA® is an open, object-oriented, equation-based language designed to conveniently model complex physical systems containing, e.g., mechanical, electrical, electronic, hydraulic, thermal, control, electric power or process-oriented subcomponents. Components and system models are available in open and commercial model libraries.

FUNCTIONAL MOCK-UP INTERFACE (FMI) FOR MODEL EXCHANGE AND TOOL COUPLING

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