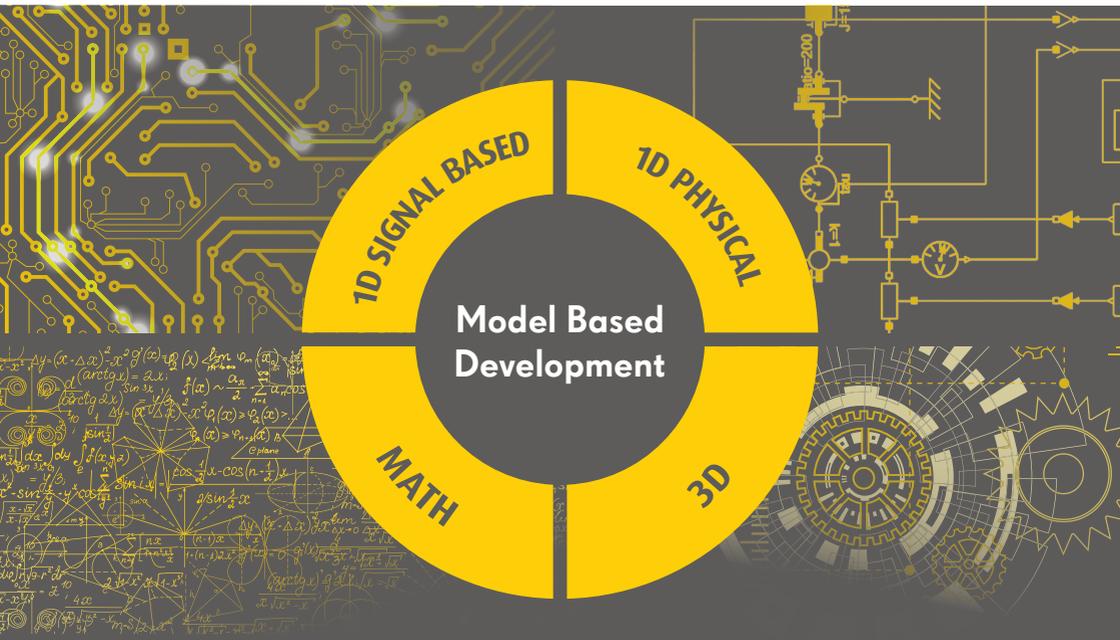


solidThinking® Model Based Development Suite

Leverage simulation-driven innovation to design and engineer products for concept studies, control design, system performance optimization, controller implementation and testing.

Simulation-driven Innovation of Smart Systems

solidThinking Compose, Activate and Embed help leverage Model Based Development technology by uniquely combining math, signal-based, physical component and 3D modeling technologies. The tools unify various user communities enabling collaboration.



Improve System Level Performance

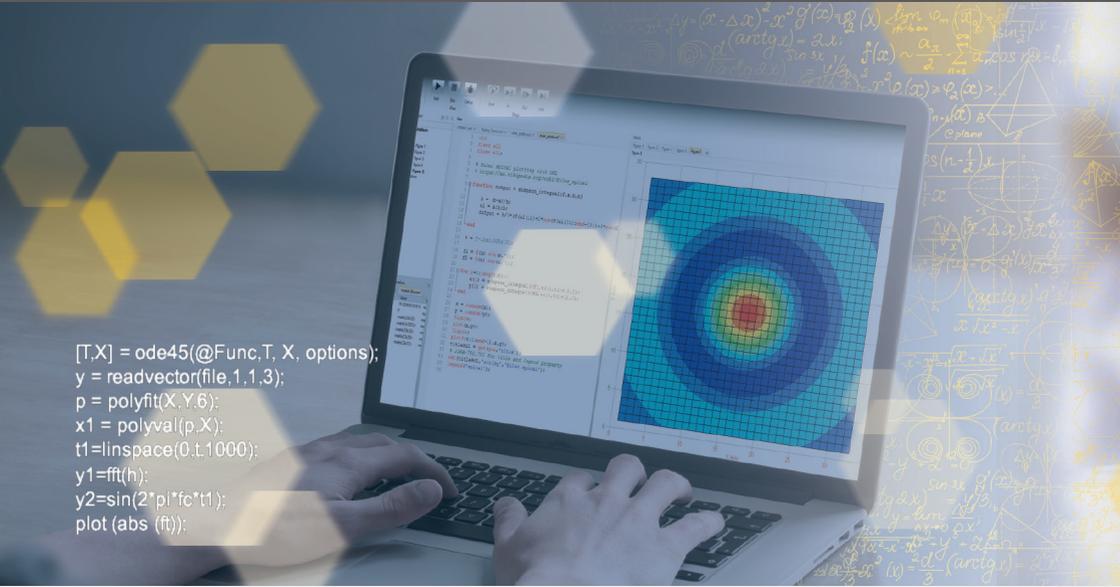
Improve the dynamic performance of any multi-disciplinary system by simulating the combination of sensors, actuators and controllers.

Design for Robustness

Perform what-if analyses at the system level to quickly test several designs and investigate the interactions of all components in a system.

Gain Functional Insight Early

Identify system level problems early in the design process while ensuring that all the design requirements are met.



```
[T,X] = ode45(@Func,T, X, options);
y = readvector(file,1,1,3);
p = polyfit(X,Y,6);
x1 = polyval(p,X);
t1=linspace(0,t,1000);
y1=fft(h);
y2=sin(2*pi*fc*t1);
plot(abs(ft));
```

A numerical computing environment for science and engineering

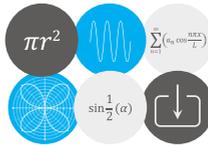
- One environment for all types of math
- Faster than spreadsheets
- Compatible with Octave™



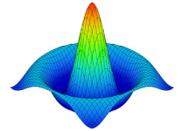
Matrix-based
Interpreted Language



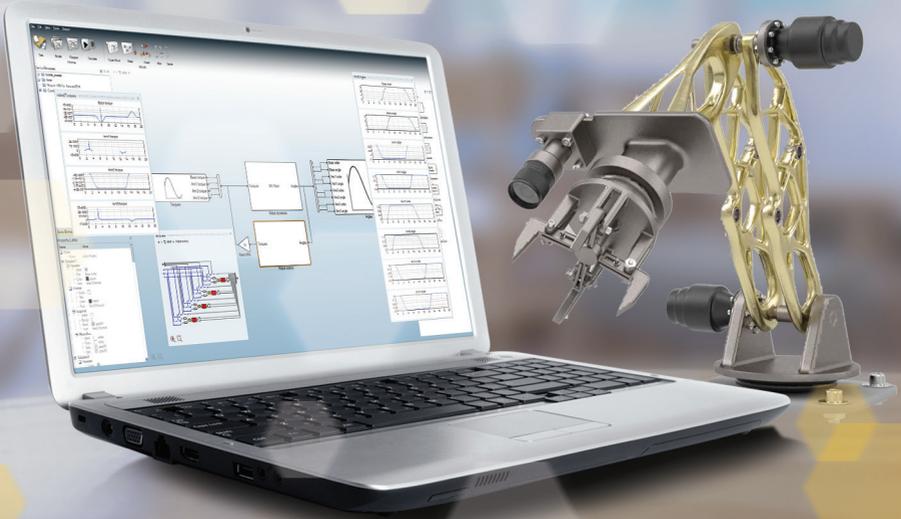
Programming
Environment



Extensive Math
Libraries

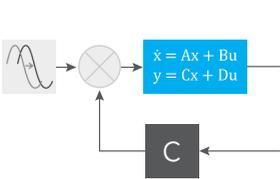


Rich 2D/3D
Plotting

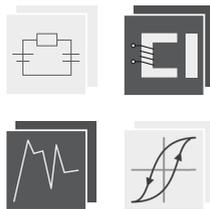


A block diagram environment for simulation and optimization of hybrid, multi-disciplinary systems

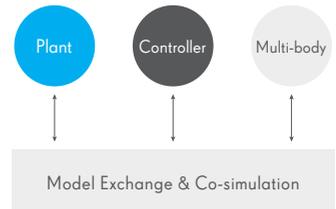
- Modern user experience
- Mixing of signal-based and physical component modeling (Modelica™)
- Functional Mock-up Interface support



Block Diagram Environment



Physical Component and Signal-based Modeling

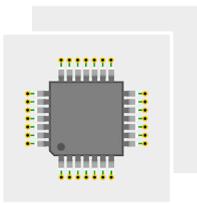


Functional Mock-up Interface

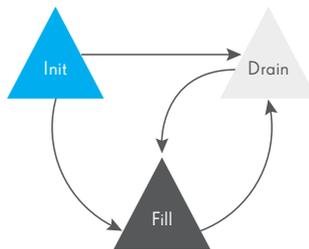


A visual environment for model based embedded development

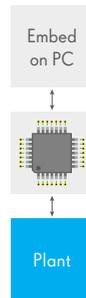
- Complete toolchain for embedded control systems development
- Easily try out algorithms on target hardware without hand-coding



Block Library for Embedded Systems



State Charts



Interactive Hardware-In-the-Loop Simulation

“One of the advantages of solidThinking Embed is that you’re not directly coding in C. You’re employing a diagram and using the automatic code generator to create the code.”

Kevin Godfrey, Principal Engineer, AMETEK Lab

Compose Features

ONE ENVIRONMENT FOR ALL TYPES OF MATH

- High-level matrix-based language
 - Integrated Development Environment (IDE) for authoring & debugging including multi-language support
 - Extensive math libraries including statistical data analysis, matrix analysis, number theory, signal processing, interactive 2D and 3D plotting, differential equations and optimization
 - Built-in connectivity to pre/post process computer-aided engineering data
-

Activate Features

SIMULATION AND MODEL BASED DEVELOPMENT

- Block diagram environment for multi-disciplinary, hybrid system simulation
 - Signal-based and physical (Modelica™) components in the same diagram
 - Comprehensive built-in block libraries including library management
 - Native support of Functional Mock-up Interface for model exchange and co-simulation
 - Co-simulation of Multi-body Dynamics
 - Compilation of models into executable code
-

Embed Features

MODEL BASED EMBEDDED DEVELOPMENT

- Extensive block library for embedded systems
- Diagram-to-code to auto generate efficient and compact ANSI C-code for discrete, continuous and hybrid systems
- State Charts for graphical editing, simulation & code generation
- Interactive Software-In-the-Loop, Processor-In-the-Loop and Hardware-In-the-Loop simulation
- Scaled and fixed-point algorithms