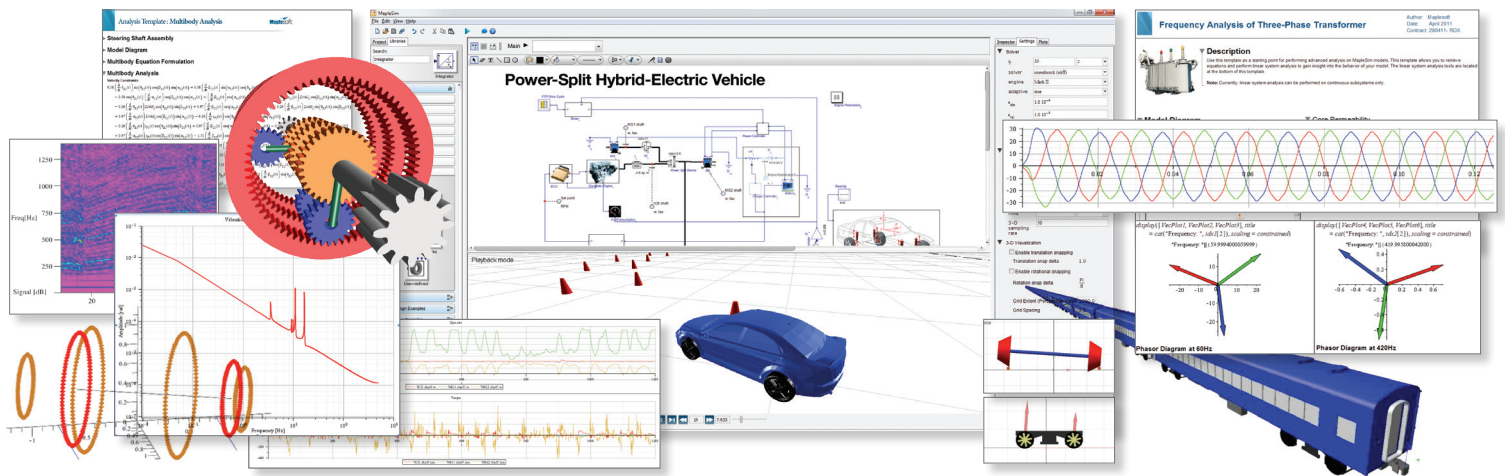


# The modern approach to physical modeling



Advanced projects require advanced tools for meeting and exceeding system-level requirements. By incorporating the most recent progress in engineering design technology, MapleSim™ offers a modern approach to physical modeling and simulation. It dramatically reduces model development and analysis time while producing fast, high-fidelity simulations. MapleSim is a “white-box” Modelica® platform, giving you complete flexibility and openness for complex multidomain models. With MapleSim, you create, analyze, and run system-level models in a fraction of the time it takes with other tools.



## What Makes MapleSim Unique?

### Maintain full control with “white-box” modeling and analysis

MapleSim, coupled with Maple™, is a completely open environment, meaning that you are never restricted to built-in components or analyses. With its complete programming and analysis environment, you can run simulations, customize analyses or script entirely new ones, perform optimizations, develop advanced symbolic control laws, and investigate models in ways not possible with other tools. You can even create custom components right from their unsimplified governing equations – our solution does all the work to incorporate them into your model.

- Create custom components directly from their equations
- Easily script custom analyses
- Take advantage of the world’s most powerful symbolic and numeric math engine
- View and manipulate system-level equations, even for multibody and multidomain systems

### Get the fastest auto-generated code for real-time and optimization

Whether you are running 100,000 simulations during an optimization or executing in real-time for hardware-and software-in-the-loop testing, your model code must be fast. MapleSim produces the fastest auto-generated model code, and the code is completely royalty-free. You can achieve real-time the first time, without sacrificing fidelity in your system-level models. MapleSim’s fast model code can be exported as S-functions, making MapleSim the best physical modeling solution for Simulink®.

- Best core symbolics generates extremely fast model code
- No more hand-coding: save time and eliminate errors with automatic code generation for custom components
- Pass your work down the toolchain: provide downstream engineers with fast and accurate exported models, including S-functions, C code, FMI, and more

### Give yourself a head-start on projects with a powerful Modelica platform

MapleSim is based on the open-standard Modelica modeling language, so you can leverage the growing collection of industry-tested Modelica components in your own projects. What’s more, with Modelica, models and components are open and object-oriented, making them easy to reuse, customize, share, and extend to suit your exact needs. But MapleSim is more than just Modelica – it’s Modelica “Plus”, consisting of an entire platform for modeling, simulation, and analysis, where Modelica provides the component and model description.

- Open, object-oriented system-level modeling language
- Custom components that automatically generate corresponding Modelica code
- Flexible Modelica multidomain framework