

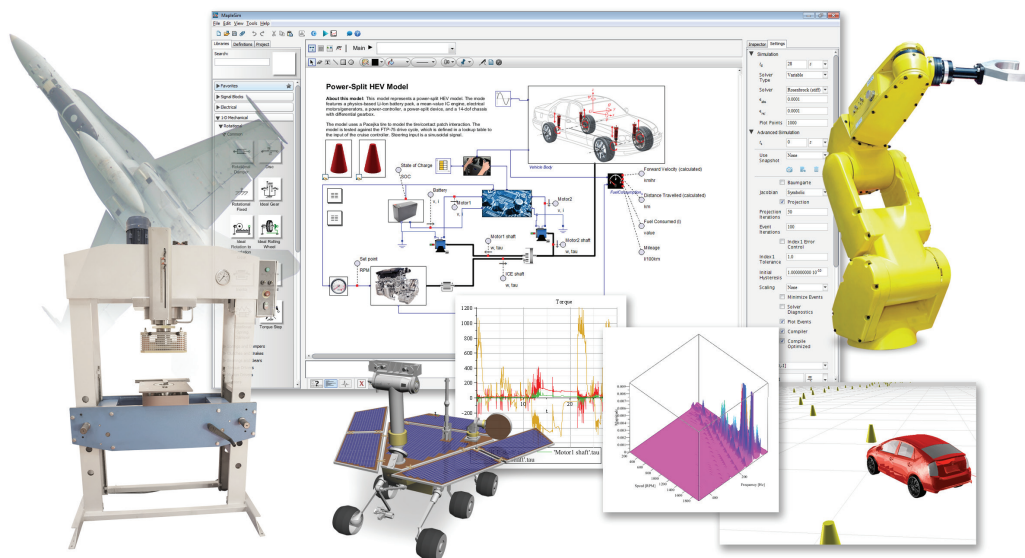
# What's New in MapleSim™ 2015

The MapleSim™ 2015 family of products includes important updates to MapleSim, the MapleSim Connector for FMI, and the MapleSim Battery Library, as well as a new product, MapleSim Server, which supports web-based simulation and analysis of MapleSim models.

## MapleSim 2015

MapleSim 2015 includes powerful new tools for managing large models more efficiently, as well as new and updated components, more connectivity with Maple™, and a variety of interface enhancements requested by customers.

- **Easily search your model for components, parameter references, and much more**, making it easier than ever to work with large models.
  - **Search for all references to a specific parameter**, and see the full list of all components in your model that rely on this parameter.
  - **Keep track of how To/From blocks are used** by searching for both the source and the targets.
  - **Find components by name or by component type**, and the results will show you every subsystem where that component, or type of component, appears in your model.
  - **See exactly where attached files are used** in your model, including CAD geometries and lookup tables.
- **Update common properties shared by multiple components** by simply selecting the components you are interested in and then modifying a single list of shared properties.
- **Instantly compare models** to find differences in parameters, initial conditions, component definitions, and model topology.
- **Provide help pages for custom components in your user libraries** with a new option that automatically generates MapleSim help pages from the component definition documents.
- **Leverage the Modelica® Standard Library 3.2.1**, the latest official release of this standard, which provides improved definitions of many components.
- **Take advantage of new and improved components**, including new quasi-stationary motors for electrical analysis and more convenient signal blocks that can directly handle multiple inputs and outputs.



- **Launch the Results Manager directly from Maple**, so you can see all your results while doing analysis and simulations inside Maple, without ever having to launch MapleSim.
- **Easily watch the updates in the 3-D visualization of your model** while working in 2-D construction mode by anchoring the Results Manager to always be “on top.”
- **Create larger, more efficient models on 64-bit Windows®** with enhanced memory management that makes large computations more efficient.
- **Quickly find important simulation details**, with messages in the console window now organized into collapsible sections so it is very easy to find the information you need.
- **Watch new training videos** that can be accessed from directly within MapleSim so you can quickly learn how to create your first model, make custom components, extract and manipulate equations, and more.
- **Take advantage of Maple 2015** in your simulations, analysis, and documentation, leveraging all the performance improvements, computational power, and interface enhancements of the latest Maple release.

## MapleSim Connector for FMI

The MapleSim Connector for FMI makes it easy to share your MapleSim simulation models with modeling tools that support the FMI industry standard for model exchange and co-simulation. For MapleSim 2015, this connector was updated to ensure an even smoother transfer of models between tools.

- **New customization options**, such as specifying prefixes for parameter names and adding author information and model descriptions, mean you can ensure your exported model matches any additional expectations of the importing product, without the need to modify your model or the exported code.
- **Improvements to initialization** provide faster, more efficient initialization when parameters are present.

## MapleSim Battery Library

The MapleSim Battery Library allows you to incorporate physics-based predictive models of battery cells into your multidomain system-level models. For MapleSim 2015, this library was enhanced to provide increased modeling abilities.

- **State of Health (SOH) effects** are now even easier to model with a new option to use a pre-defined SOH model in your simulations, in addition to existing support for custom definitions.
- **New cathode and anode chemistries** for  $\text{LiNi}_{0.7}\text{Co}_{0.3}\text{O}_2$ ,  $\text{Li}_{1.156}\text{Mn}_{1.844}\text{O}_4$ , and  $\text{TiO}_2$  are now supported.
- **New and updated examples** are provided, including demonstrations of using parameter ID with both electrochemical and equivalent-circuit models.

## MapleSim Server

The MapleSim Server provides an easy web deployment option for your MapleSim-based solutions. The MapleSim Server allows engineers throughout your organization to explore MapleSim simulation models from a web browser, even if they do not have MapleSim.

- **Explore MapleSim simulation models from a web browser.** Access your models from computers and mobile devices using a standard web browser, no plug-ins required.
- **Access, explore, and analyze models.** Change parameters, manipulate model equations, run new simulations, see updated results, generate simulation code for export, and more.
- **Combine compiled code speed with interactive explorations.** In your application, your model is represented by parameterized, compiled functions, so you get results fast.
- **Eliminate versioning problems.** The application lives in a single, central location so updates can be deployed quickly throughout your organization.
- **Fully control access to your solution.** Leverage your proven web access security methods to specify who is allowed to access your models.
- **Reduce licensing fees.** MapleSim and Maple licenses are not required by the users of your MapleSim Server applications.

