



SIEMENS

Ingenuity for life

Simcenter Amesim Academic Bundle

Delivering industry-leading system simulation technology for premier educational programs

Benefits

- Enable universities to provide students with the skills required to enter the labor market
- Focus on teaching the principles of design and simulation
- Help educators reinforce theoretical concepts in a practical way
- Take advantage of the full Simcenter Amesim package at a reduced price

Summary

Today's job market is becoming more and more challenging. Engineers must work with high-precision projects in which designing the product right the first time is mandatory. Consequently, universities must prepare their students with world-class engineering and product design courses.

Using the Simcenter™ Amesim™ software Academic Bundle, part of the Simcenter portfolio, enables educators to focus on teaching flawless engineering and design, and not on how to use the simulation platform. By using Simcenter Amesim in their coursework, students can complete their engineering projects faster while delivering accurate simulation results for their innovative ideas.

Delivering powerful educational tools

Simcenter Amesim Academic Bundle enables universities to access an exhaustive range of Simcenter Amesim libraries at a special price. Your students

can use an intuitive and interactive graphical user interface (GUI) to build complex multi-domain system models in minutes by combining validated components from libraries covering physical domains, such as hydraulic, pneumatic, thermal, mechanical and electromechanical.

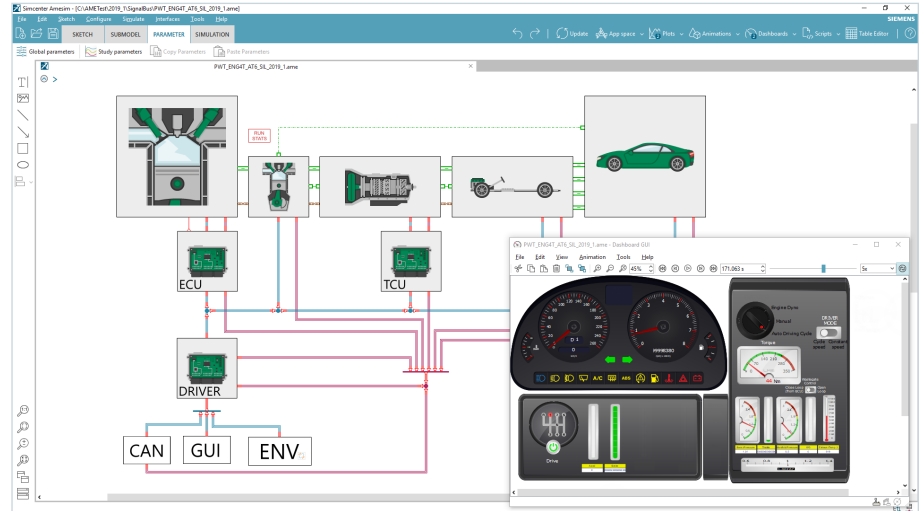
This innovative concept means students can avoid creating cumbersome numerical models and writing code. The result of this innovative concept is a straightforward system model representation that is easy to understand. Therefore, by saving time in the building of a functional model, future innovators can focus on critical tasks such as optimizing the design early in the process.



Simcenter Amesim Academic Bundle

Features

- Innovative and open platform for multi-domain system design and simulation
- Unique combination of all physical and application-oriented Simcenter Amesim validated libraries
- Complete set of analysis tools: linear analysis, activity index, performance analyzer
- Interfaces with Simulink, Python and Virtual Basic Application
- Advanced plotting and dashboard facilities
- Combination of native Simcenter Amesim and Modelica capabilities in a unique platform



A screenshot of advanced plotting and dashboard facilities.

Extending modeling capabilities

Moreover, Simcenter Amesim Academic Bundle provides a comprehensive set of tools to extend the standard Simcenter Amesim libraries of components. It is designed to assist your students in writing well-documented, standardized, re-usable and easily maintainable libraries. By following simple rules, component models become fully compatible with the existing Simcenter Amesim models and are automatically usable on each supported platform.

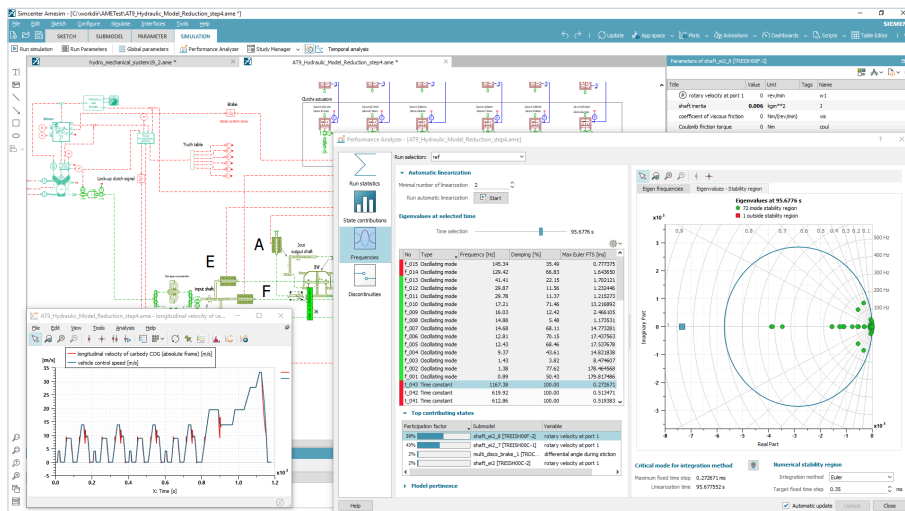
Customizing models and components

Simcenter Amesim Academic Bundle includes a customization tool that helps adapt models and components to analysis requirements by offering custom user interfaces and parameter sets. In addition, it enables you to use encryption to protect sensitive information when supplying models to third parties.

Seamlessly analyze physical systems

Simcenter Amesim Academic Bundle analysis tools help explain system behavior and highlight dynamics. As a result, your students can adapt the required level of modeling to acquire the best accuracy in time and frequency domains. Examples of system analysis tools include Fast Fourier Transform (FFT), spectral map, complete set of analysis tools, including linear analysis order tracking and activity index.

Simcenter Amesim Academic Bundle provides a comprehensive set of methods, representations or animation capabilities that help your students seamlessly analyze systems.



A screenshot of complete set of analysis tools including performance analyzer.



Screenshot of a complete set of analysis tools, including linear analysis.

Easily connect with other simulation environments

Simcenter Amesim Academic Bundle comes with a generic co-simulation interface that allows the next generation of innovators to interface Simcenter Amesim with third-party software via the co-simulation application programming interface (API), or to perform Simcenter Amesim to Simcenter Amesim co-simulation in a master-slave relationship. Depending on the coupling strength of the models and available hardware capabilities, parallelization can be used to accelerate computation time.

Simcenter Amesim Academic Bundle also supports the functional mockup interface (FMI), which refers to the

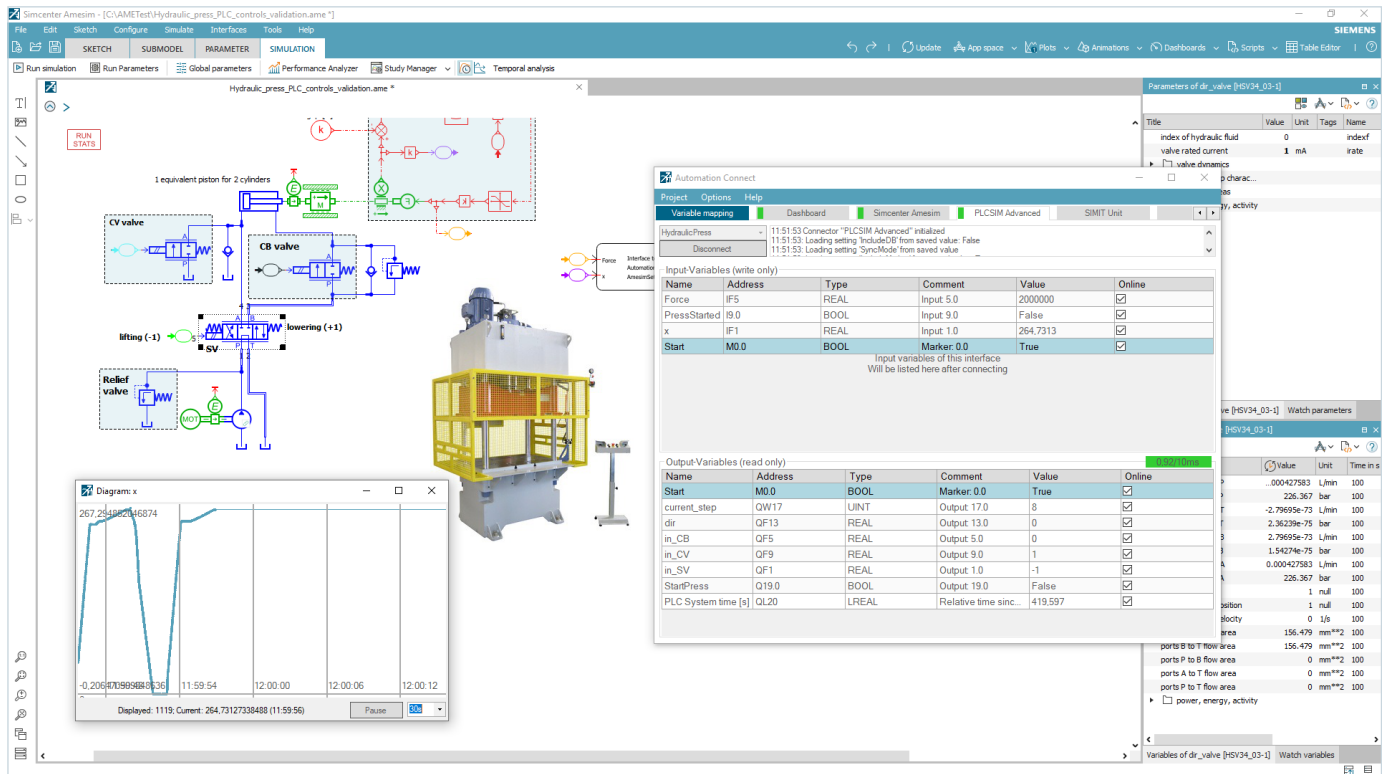
export and import of models as functional mockup units (FMUs). FMI is a tool independent standard that facilitates model communication across a variety of industrial software.

Establishing bridges between the simulation and automation worlds
Simcenter Amesim Academic Bundle comes with the Automation Connect tool that allows connecting Simcenter Amesim digital twin models with virtual (emulated) or real Programmable Logic Controllers (PLCs) to address Software-in-the-Loop (SiL) as well as Hardware-in-the-Loop (HiL) scenarios for virtual commissioning. Provided connectors mostly support Siemens

programmable logic controllers (PLCs) such as Simatic, Simotion or Sinumerik but the compatibility with the OPC Unified Architecture (UA) standard enables interfaces with a wide range of third-party PLCs.

Enhancing the value of modeling libraries

By using Simcenter Amesim Academic Bundle, universities can take full advantage of the powerful, object-oriented nature of the Modelica® modeling language. Therefore, they can develop, improve and re-use modeling libraries to describe multi-domain dynamic systems based on their libraries or other available libraries.



A screenshot of automation Connect tool represents an interface between Simcenter Amesim and other third-party tools for virtual commissioning.

Teaching support with dedicated materials

Educators are provided with ready-to-use tutorials and materials introducing the basics of engineering and physics equations, including applicative exercises to illustrate the physics and models in Simcenter Amesim. These tutorials are re-usable in Simcenter Amesim Student Edition as well, allowing students to practice at home.

In parallel, academic institutions that have active licenses under the Siemens academic program should order Learning Advantage (product TG20000E) on their sold-to (customer number) configuration. This enables them to set up a Learning Advantage account free of charge and provide their students access to the Simcenter Amesim e-learning modules to track their course progress. For more information, go directly to our website.

Minimum system requirements

- Windows® 10, Windows Vista, Windows 7 or Windows 8 (64bit); or Linux 64 bit (including 32-bit compatibility packages) minimum versions: Red Hat EL7, SUSE 10.0, Ubuntu 14.04
- This following processors are not supported: Intel® Itanium® process-based computers
- At least 4 gigabyte (GB) of random access memory (RAM) is recommended for Simcenter Amesim only
- 18 GB disk space required for installation
- GNU Compiler Collection (GCC) compiler supplied with Simcenter Amesim
- Reprise License Manager (RLM) 12.2 license manager supplied with Simcenter Amesim

- Properly functioning Transmission Control Protocol/Internet Protocol (TCP/IP) networking for floating licenses
- Adobe® Reader 8.0 or above

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