

Visualization Library

Advanced, Model Integrated, Offline and Real-Time Visualization

Visualization

Modelica
Library

developed by DLR
distributed by BAUSCH-GALL GmbH

The Visualization Library provides an advanced, model-integrated and vendor-unspecific visualization tool for Modelica models. It is especially useful in the mechanical, fluid and electrical area. Many components are available for off-line, online and real-time animation. Most components are attached to a Modelica model with a Frame connector of the Modelica.Mechanics.MultiBody library.

The library contains visualizers for basic shapes, CAD files (.3ds, .obj, .dxf, .stl, .vrmf and more), flexible bodies and surfaces, text, light, energy-/mass-flow visualizers, analogue instruments and weather effects. A camera system can be used to define the point of view manually or controlled by simulation.

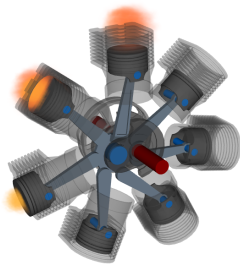
Components like Buttons, Checkboxes and Sliders are available for the creation of graphical user interfaces for the visualization software. These elements can be used to control the simulation interactively during the simulation run.

The components are visualized in an integrated system providing support for multi-camera scenes, a fullscreen mode, several monitors, replays and stereo/wireframe modes. It is based on the OpenGL framework.

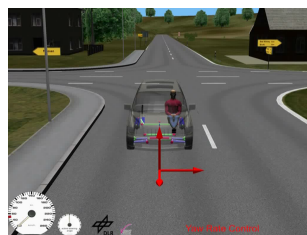
The integrated video-export function allows the export of the animation replays as MPEG4, Windows Media Video, Flash Video and Lossless HUFF video.

The standard Modelica visualization for multi-body models can be replaced by this Visualization tool, if you replace the Shape component in the Modelica Standard Library or in the ModelicaServices Library (see Modelica 3.1).

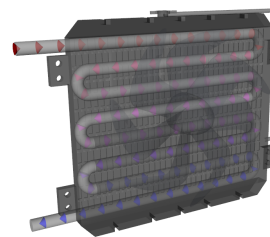
Examples



Radial Engine with visualization of combustion



Vehicle dynamics visualization with a landscape from Vires



Flow visualization of a cooling system

System Requirements

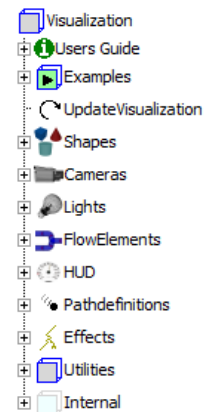
Windows or Linux, 3D graphics card and *Modelica Standard Library 3.0* or higher.

Development

DLR, German Aerospace Center, Institute of Robotics and Mechatronics, Oberpfaffenhofen, Germany (www.dlr.de/rm/en)

Availability

Visualization Library 1.1 is available for Dymola 7.1 to 7.4 (Modelica 3.0 and 3.1). We plan to make it available for SimulationX soon.



elementaryShape



box

fileShape



flexibleBody



flexibleSurface



text

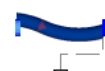


Text

attachedCamera



light



analogueInstru...

HUD



weatherEffect



Weather type...

collisionDetector

