

# LiveLink™ for SOLIDWORKS®

## Product Features

A LiveLink™ interface that synchronizes between the SOLIDWORKS® 2015 or 2016 versions of the CAD software and COMSOL Multiphysics when both are running simultaneously Works with an embedded COMSOL Desktop® within the SOLIDWORKS® GUI, or as two separately run programs running simultaneously

Synchronize 3D geometric objects (solids, surfaces, curves and points) between SOLIDWORKS® geometries and COMSOL Multiphysics®

The synchronized geometry is associative, i.e., the CAD model can be modified in SOLIDWORKS® without the need to re-apply model settings in COMSOL Multiphysics® after re-synchronization

For faster synchronization of large assemblies, the associativity feature for faces, edges, or vertices can be turned off, if not needed

Synchronize material selections and other user-defined selections between the SOLIDWORKS® design and the COMSOL® model

Synchronize parameters between the SOLIDWORKS® design and COMSOL Multiphysics® model to modify the COMSOL Multiphysics® geometry, either manually or as controlled by a parametric or optimization solver

File import of the most popular CAD file formats, see table below

Encapsulate geometries to model phenomena in the surrounding domains

Export geometry files to the Parasolid® and ACIS® file formats

Geometry repair through identification of geometric inconsistencies and knitting surfaces to create solids

Defeaturing through the finding and deletion of fillets, short edges, sliver faces, small faces, and spikes

Manually deleting faces and healing the resulting gaps through filling (creating a new face) or patching (shrinking or expanding adjacent faces)

Detaching faces from a solid object to create a new solid object

Cap holes or empty spaces to fill the space and create modeling domains

Patch removed faces by growing or shrinking the surrounding surfaces to cover the removed face

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## Supported File Formats

Note that not all file formats are supported on all operative systems, for details see [System Requirements](#)

File Format	Extension	Version	Import	Export
ACIS®	.sat, .sab, .asat, .asab	up to R25	Yes	Yes
AutoCAD®	.dwg	2.5-2014	Yes	No
AutoCAD® DXF	.dxf	2.5-2014	Yes	No
IGES	.igs, .iges	up to 5.3	Yes	No
Inventor® assemblies	.iam	11, 2008-2015	Yes	No
Inventor® parts	.ipt	6-11, 2008-2015	Yes	No
NX®	.prt	up to 10	Yes	No
Parasolid®	.x_t, .xmt_txt, .x_b, .xmt_bin	up to V28	Yes	Yes
PTC® Creo® Parametric™	.prt, .asm	1.0-3.0	Yes	No
PTC® Pro/ENGINEER®	.prt, .asm	16 to Wildfire 5.0	Yes	No
SOLIDWORKS®	.sldprt, .sldasm	98-2015	Yes	No
STEP	.step	AP203, AP214	Yes	No

[View all COMSOL supported file formats](#)