



# SIMULIAWORKS PRODUCT MATRIX

ROLE/CAPABILITY		STRUCTURAL DESIGNER	STRUCTURAL ENGINEER	STRUCTURAL PERFORMANCE ENGINEER	STRUCTURAL MECHANICS ENGINEER
Integration Workflow	<b>SOLIDWORKS® Connector</b> Save SOLIDWORKS data on the cloud-based 3DEXPERIENCE® platform directly from SOLIDWORKS	+	+	+	+
	<b>Full Design Associativity</b> Enable efficient what-if scenarios that update your simulation model for any change made with a CAD application connected to the platform	✓	✓	✓	✓
User Interface	<b>User Assistant</b> Follow an interactive wizard to set up, run and review results of simulation	✓	✓	✓	✓
	<b>Physics Methods Reuse</b> Customize the User Assistant to streamline the setup and solving of complex simulations			✓	✓
Platform	<b>Data Access and Management</b> Access the latest product design information from a single, centralized, secure location on the cloud	✓	✓	✓	✓
	<b>Engineering Collaboration</b> Collaborate in real time, exchange ideas and manage tasks across disciplines on the cloud	✓	✓	✓	✓
	<b>Lightweight Results Review</b> Review and share simulation results in real time on the cloud	✓	✓	✓	✓
Solver	<b>Abaqus Implicit Solver</b> Solve static problems such as gasket compression and pre-loaded bolts	✓	✓	✓	✓
	<b>Abaqus Implicit Dynamic Solver</b> Solve quasi-static problems such as snap fits			✓	✓
	<b>Abaqus Explicit Solver</b> Solve nonlinear dynamic problems such as drop test and impact				✓



# SIMULIAWORKS **PRODUCT MATRIX**

ROLE/CAPABILITY		STRUCTURAL DESIGNER	STRUCTURAL ENGINEER	STRUCTURAL PERFORMANCE ENGINEER	STRUCTURAL MECHANICS ENGINEER
Scenario	<b>Linear Static Analysis</b> Run linear static, thermal (steady-state), frequency, and linear buckling studies	✓	✓	✓	✓
	<b>Linear Dynamic Analysis</b> Run modal transient, and model harmonic studies		✓	✓	✓
	<b>Nonlinear Static Analysis</b> Run nonlinear static, thermal (transient) and visco/creep studies			✓	✓
	<b>Nonlinear Dynamic Analysis</b> Run nonlinear dynamic, nonlinear buckling, random vibrations, complex frequency, and sub-modeling studies				✓
	<b>Sequential Multi-Step Simulations</b> Set-up automatic sequential loading in one simulation			✓	✓
	<b>Abaqus General Contact</b> Automatically set up component contact			✓	✓
Model	<b>Connections</b> Set up modeling of multiple components in an assembly	✓	✓	✓	✓
	<b>Adaptive Solid Meshing</b> Automatically refine meshes for higher accuracy where needed	✓			
	<b>Comprehensive Meshing Capabilities</b> Create high-quality meshes for solids, shells, and beams		✓	✓	✓
	<b>Rule-Based Meshing</b> Set meshing size and specifications (holes, fillets) for automatic high-quality mesh creation		✓	✓	✓
	<b>Geometry Preparation &amp; Simplification</b> Automatically remove undesired geometry (holes, fillets, logos), extract mid-surface, and partition geometry for hex meshing				✓



# SIMULIAWORKS **PRODUCT MATRIX**

ROLE/CAPABILITY		STRUCTURAL DESIGNER	STRUCTURAL ENGINEER	STRUCTURAL PERFORMANCE ENGINEER	STRUCTURAL MECHANICS ENGINEER
Materials	<b>Nonlinear Materials</b> Explore a wide range of materials with the following properties: hyper-elasticity, plastic or permanent deformation, creep deformation, viscoelasticity			✓	✓
	<b>Material Calibration</b> Use test data to calibrate model behavior				✓
Results	<b>Basic Post-Processing Tools</b> Generate report, contour/ vector/iso-surface plots	✓	✓	✓	✓
	<b>Advanced Post-Processing Tools</b> Create XY plots (field, history), path plots, view cuts		✓	✓	✓
	<b>Material Rendering</b> Create stunning visuals coupling material rendering with simulation results		✓	✓	✓
	<b>High-Performance Visualization</b> Accelerate the visualization of results even on large models		✓	✓	✓
Computation	<b>Local Computing</b> Run simulations on user's local computer	✓	✓	✓	✓
	<b>Cloud Computing</b> Run simulations remotely on the cloud	+	+	+	+

✓ Included

+ Requires an additional role