SIMULIAworks PORTFOLIO

	Key Capabilities	Structural Designer	Structural Engineer	Structural Performance Engineer	Structural Mechanics Engineer
Integration Workflow	**SOLIDWORKS® Connector** Save SOLIDWORKS data on the cloud-based **3DEXPERIENCE®** platform directly from SOLIDWORKS	+	+	+	+
	Full Design Associativity Enable efficient what-if scenarios that update your simulation model for any change made with a CAD application connected to the platform	•	•	•	•
User Interface	**User Assistant** Follow an interactive wizard to set up, run and review results of simulation	•	•	•	•
	Physics Methods Reuse Customize the User Assistant to streamline the setup and solving of complex simulations			•	•
Platform	**Data Access and Management** Access the latest product design information from a single, centralized, secure location on the cloud	•	•	•	•
	Engineering Collaboration Collaborate in real time, exchange ideas and manage tasks across disciplines on the cloud	•	•	•	•
	Lightweight Results Review Review and share simulation results in real time on the cloud	•	•	•	•
Solving Techniques	**Abaqus Implicit Static Analysis** Solve static problems of deformable parts and assemblies	•	•	•	•

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Solving Techniques	**Abaqus Implicit Dynamic Analysis** — Solve nonlinear transient and quasi-static problems such as snap fits			•	•
	Abaqus Explicit Dynamic Analysis — Solve nonlinear dynamic problems such as drop test and impact				•
Scenario	**Linear Analysis** — Run static, thermal (steady-state), frequency, and buckling studies	•	•	•	•
	Advanced Linear Analysis — Run modal transient and model harmonic studies		•	•	•
	Nonlinear Analysis — Run nonlinear static, thermal (transient) and visco/creep studies			•	•
	Advanced Nonlinear Analysis — Run explicit dynamic, post-buckling, random vibrations and complex frequency (with possible preloading effects) studies				•
	Sequential Multi-Step Simulations — Set up automatic sequential loading in one simulation		•	•	•
	Abaqus General Contact — Automatically set up component contact			•	•
Model	**Connections** — Set up modeling of multiple components in an assembly	•	•	•	•
	Adaptive Solid Meshing — Automatically refine meshes for higher accuracy where needed	•			
	Comprehensive Meshing Capabilities — Create high-quality meshes for solids, shells, and beams		•	•	•
	Rule-Based Meshing — Set meshing size and specifications (holes, fillets) for automatic high-quality mesh creation		•	•	•
	Geometry Preparation & Simplification — Automatically remove undesired geometry (holes, fillets, logos), extract mid-surface, and partition geometry for hex meshing				•

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

• Included

+ Requires an additional role

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