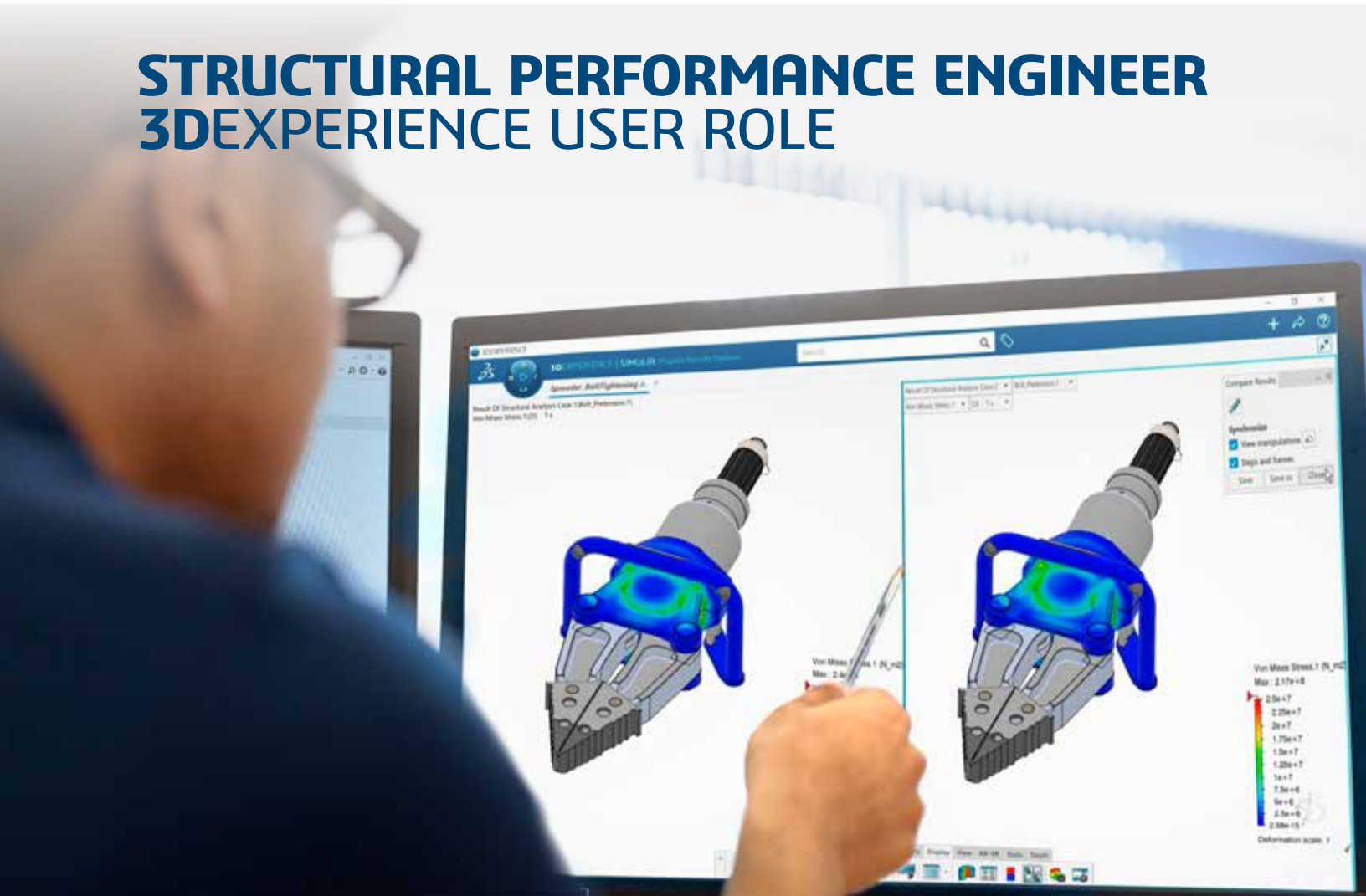


STRUCTURAL PERFORMANCE ENGINEER 3DEXPERIENCE USER ROLE



ASSESS STRUCTURAL INTEGRITY WITH THE POWERFUL ABAQUS SIMULATION TECHNOLOGY TO GUIDE DESIGN DECISIONS

Boost innovation in product engineering and foster collaboration through fast, realistic and accurate simulation with Abaqus technology, leader in the structural analysis industry.

OVERVIEW

Structural Performance Engineer enables you to conduct structural static, frequency, buckling, modal dynamic response, and structural thermal simulation of parts and assemblies on the cloud-based 3DEXPERIENCE® platform.

Simulation Driven Design approach for all users

Structural Performance Engineer empowers you in assessing product performance during the design process. Design data are used as single source of truth for structural simulations with full traceability and relations. Associativity is ensured between your CATIA or SOLIDWORKS models enabling efficient what if scenario between design alternatives.

Structural Performance Engineer provides access to leading simulation technology with an intuitive interface so you can get the technical insights you need for informed design decisions.

Simulation management and collaboration on the 3DEXPERIENCE platform

Simulation is managed as a core value of the 3DEXPERIENCE platform through the capture, management, and re-use of your simulation intellectual property allowing it to become a true corporate asset. The 3DEXPERIENCE platform offers simplified and secure management of data and content for all users. . Design and simulation data can be easily reviewed in a Web dashboard, from anywhere and on any device, by all project stakeholders for a unique engineering collaboration experience.

Cloud Computing and High-performance results visualization

With Structural Performance Engineer, you can solve your simulations on your local computer or remotely on the cloud for large models (requires additional compute licensing), removing hardware barriers freeing up local resources.

High-performance visualization tools support efficient post processing of large-scale simulation data including an option to use remote machines for rendering and visualization computation.

Structural Performance Engineer enables interrogation of realistic simulation results with speed and clarity for enhanced decision making. Extensive tools and controls for results display can be used for advanced and collaborative post-processing while utilizing High Performance Computing (HPC) resources to perform results visualization. The Simulation Review application offers web-based visualization of the geometry and simulation results for a unique collaborative experience around simulation assets without requiring a local client application install.



Backhoe arm mechanism arm actuation model analyzed with Structural Performance Engineer to optimize product design

Key Functionality

Structural Performance Engineer delivers industry-leading Abaqus technology in a guided user interface on the 3DEXPERIENCE platform so that design engineers can get the benefits of virtual testing for informed technical decision making. It offers:

- Linear, nonlinear structural static and quasi-static, as well as thermal analysis with Abaqus
- Dynamic response analysis including frequency, modal transient, modal harmonic analysis, and complex eigenvalue extraction with Abaqus
- Advanced and wide nonlinear material models including engineering plasticity for metals and hyperelasticity for rubber
- Robust meshing tools and wide library of elements, including rule-based and automatic batch meshing, with beam, shell trias and quad solid tetrahedron and hexahedron (brick) elements
- Advanced Abaqus contact capabilities for deformable, intermittent contact (surface pairs, automatic detection, general contact and initialization) between parts and assemblies
- Analysis of sequential loading events in a single simulation (multi-step analysis)
- Automated modeling on large Assemblies with the Model Assembly Design application for a faster simulation model creation

Our 3DEXPERIENCE® platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our 3DEXPERIENCE platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 270,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit www.3ds.com.



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