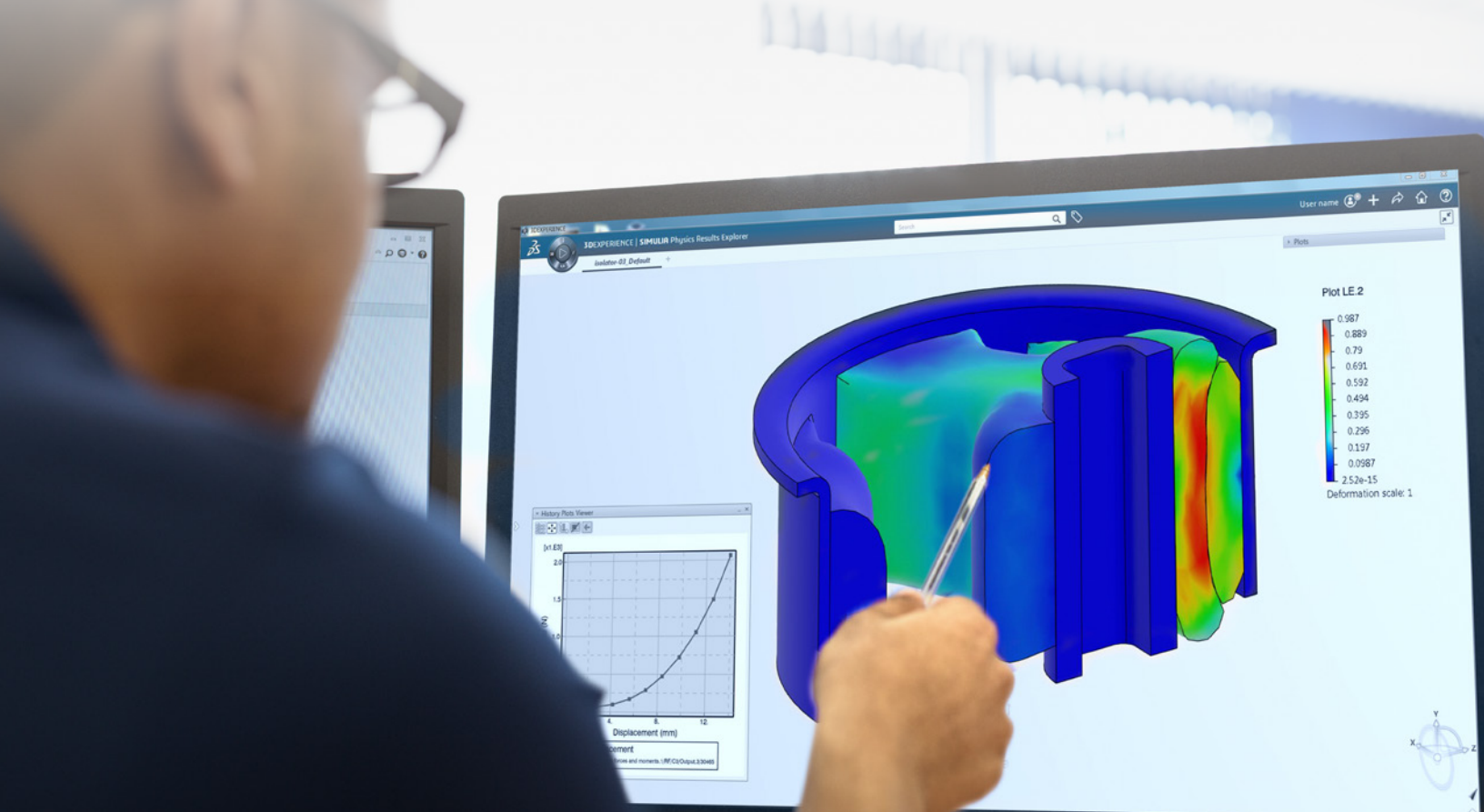


# STRUCTURAL PERFORMANCE ENGINEER 3DEXPERIENCE USER ROLE



## 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.

## Tight integration with SOLIDWORKS

Access Structural Performance Engineer directly from SOLIDWORKS® and transfer your geometry into Structural Performance Engineer with a single click. Tight integration with SOLIDWORKS means that simulation and CAD models always remain synchronized even after design changes. Structural Performance Engineer provides access to advanced simulation technology with an intuitive interface.

## 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.

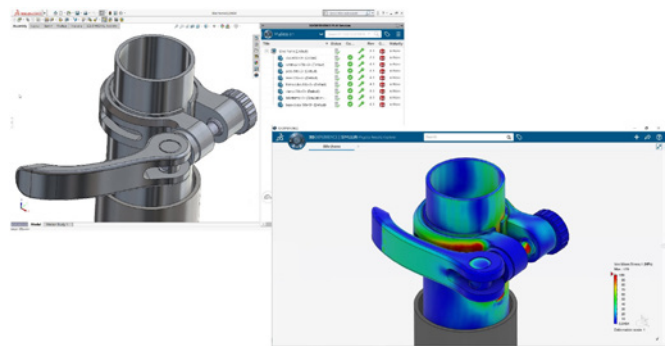
The 3DEXPERIENCE platform offers simplified and secure management of data and content for all users. The embedded 3D Search tool enables engineers to easily find data such as geometry, material and simulation models improving productivity. All project members, whether technical or not, can access the same data, from anywhere and on any device, facilitating collaboration and accelerating design decisions based on simulation insights.

## High-performance cloud computing and results visualization

Structural Performance Engineer provides you with a simple option to solve your simulations on your local computer or remotely on the cloud for longer runs (requires credits).

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.



Transfer geometry and model features from SOLIDWORKS to Structural Performance Engineer with a single click to perform advanced simulation studies.

## 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 and modal harmonic analysis, as well as 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)
- A wide selection of connection and connector options for modeling fasteners and mechanisms
- Efficient post-processing and reporting tools to analyze, review and share product behavior and validation

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

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 250,000 customers of all sizes in all industries in more than 140 countries. For more information, visit [www.3ds.com](http://www.3ds.com).

