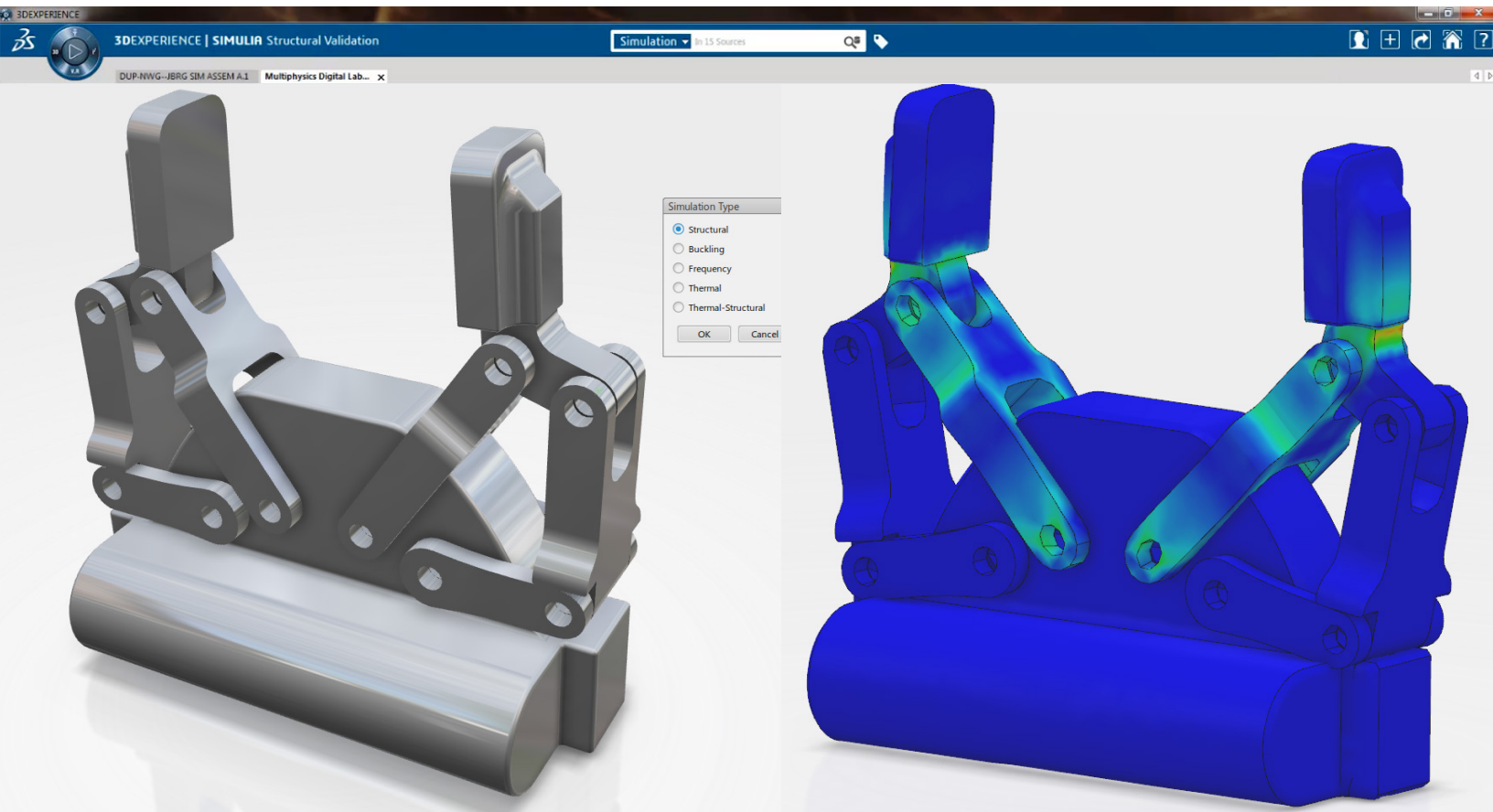




3DEXPERIENCE®

STRESS ENGINEER

3DEXPERIENCE USER ROLE



**EXPLORE AND
VALIDATE STRUCTURAL
AND THERMAL
PERFORMANCE,
AND DURABILITY OF
DESIGNS FOR PRODUCT
LIFE DURING DESIGN
PROCESS IN A GUIDED
ENVIRONMENT**

Coupling of Accuracy and Ease of Use made real for Design Simulation on the 3DEXPERIENCE®

Stress Engineer delivers static, thermal, buckling and durability simulation capabilities for product behavior assessment on the **3DEXPERIENCE** platform .

It provides simulation-based design guidance during product development to improve product performance and quality while reducing the time requirement and cost of physical prototyping. To accelerate adoption of design simulation in the product development process, Stress Engineer is intuitive for design engineers, while still including the functionality required to simulate the complexities of real-world behavior accurately. Models built using Stress Engineer can be shared for collaboration with SIMULIA analyst tools, providing a unique and smooth workflow between product engineers and analysts.

Advanced Simulation Technology Made Easy

The Stress Engineer user experience is designed to greatly accelerate simulation adoption during the design process. Sophisticated simulation technology is used automatically, while the options presented to users are meaningful and intuitive for fast product integration in the engineering process. Automation with control is the key. The finite element mesh is created automatically and can be refined easily with local mesh control on geometry. Adaptive refinement can also be used to ensure high-quality results for each simulation. With the embedded Assistant, users receive continuous guidance regarding where they stand in the simulation process and what they need to do next, reducing the learning curve and accelerating the usage of simulation in product development.

Virtual Testing of Product Performance

With Stress Engineer design engineers can experience product performance virtually so that they can make better-informed design decisions. The simulation experience fits within the familiar design environment, enabling design engineers to take the step into simulation without a disruption in user experience. The strong CAD associativity with CATIA* and SOLIDWORKS enables users to easily assess the impact of any design changes on product behavior without needing to redefine the simulation set up. Armed with knowledge of how a product will behave under various load situations, the design engineer can gain insights into innovative ideas, possible design flaws and improvements that otherwise would not even be considered.

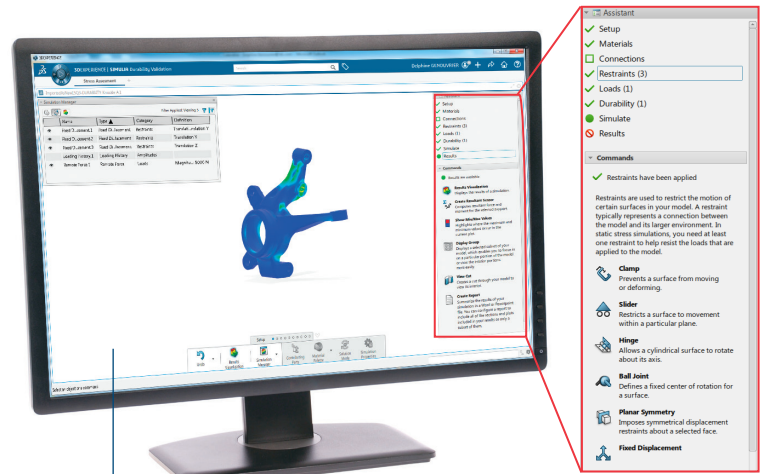
Connected on the Cloud and Built for Collaboration

Stress Engineer is part of the natural collaboration of the design process and is built on the social innovation foundation of the Dassault Systèmes' **3DEXPERIENCE** platform. All product development stakeholders, from the design team to suppliers and customers, are able to communicate seamlessly wherever they may be to review simulation results for informed business and technical decisions. The on-cloud offer reduces total cost of ownership, provides increased flexibility and enables fast deployment for enterprises of all sizes.

Key Functionality Highlights

As a natural extension of the design experience on the **3DEXPERIENCE** platform, Stress Engineer enables users to study product behavior and to explore the performance and durability of different design options, all from within their familiar design environment. It offers:

- Linear and nonlinear static, frequency, linear buckling, thermal, and combined thermal-structural simulation on parts and assemblies



The Simulation Assistant guides you through the steps.

- Fatigue life limits prediction due to repetitive loading – library of materials with fatigue properties included
- Intuitive contact detection and set up.
- The latest Abaqus simulation technology for accurate and robust solution
- A guided workflow at all times to help the user understand what to do next
- Nonlinear capabilities including material yielding, large deformations, large displacements, and contact
- Automatic generation of the right solid mesh with available adaptive refinement.
- Local mesh control for greater precision in defining mesh density.
- Intuitive post processing with contour plots of simulation results and visualization tools such as cut planes, mix/max values and animation of deformed shape
- Automated report generation in Word and PowerPoint formats
- Built on the **3DEXPERIENCE** collaborative platform

Part of a complete SIMULIA portfolio

Stress Engineer is one of the roles among the complete SIMULIA **3DEXPERIENCE** portfolio so manufacturing companies can find adequate solution to their evolving needs, always in the same user interface. From Design Simulation to Design Optimization to Multiphysics Simulation to Simulation process Management, SIMULIA delivers realistic simulation applications that enable users to explore real world product behavior.

Our **3DEXPERIENCE®** platform powers our brand applications, serving 12 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 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.



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