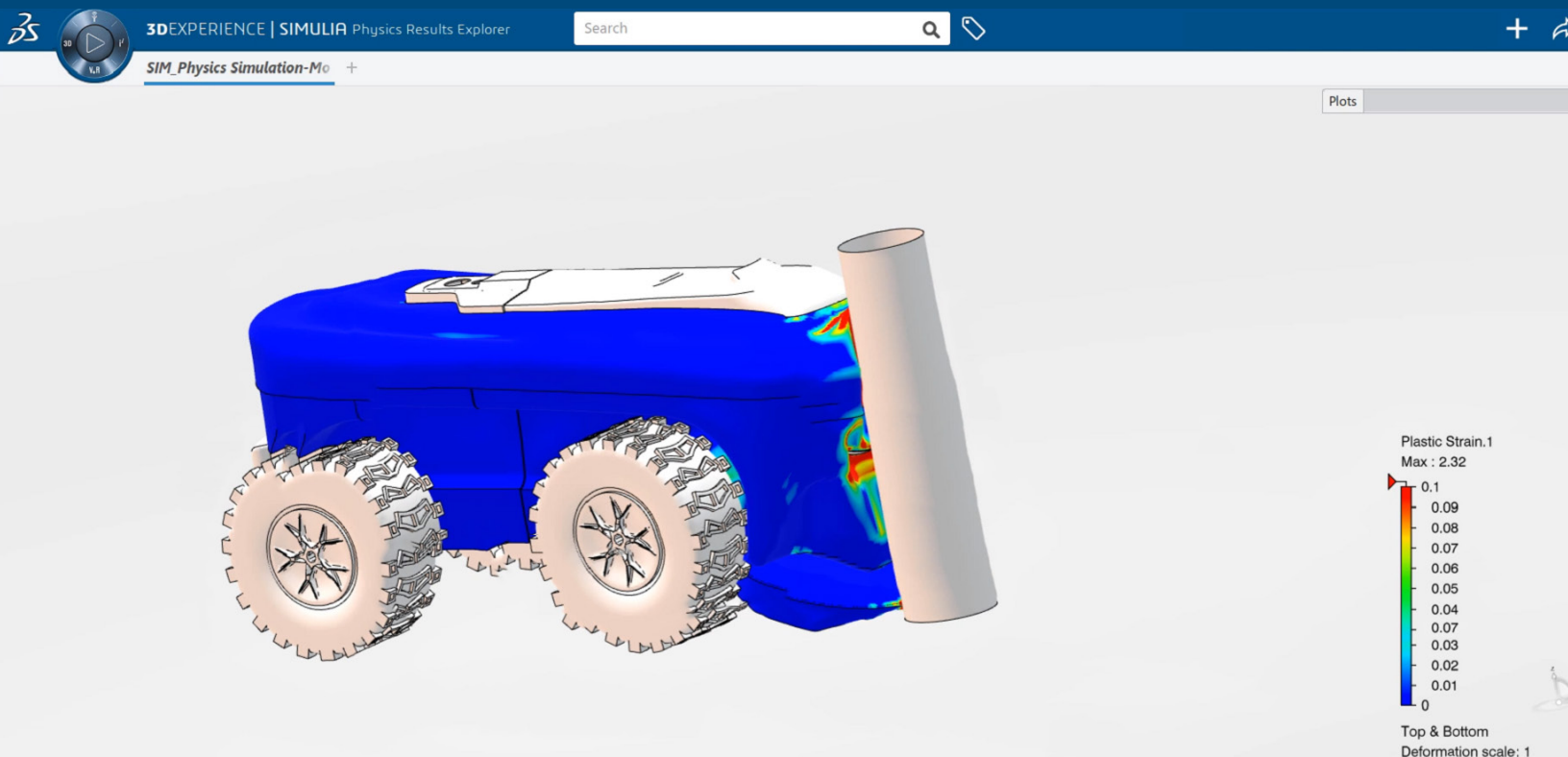


# SIMULIA DURABILITY AND MECHANICS ENGINEER 3DEXPERIENCE USER ROLE



**ASSESS THE STRUCTURAL INTEGRITY OF ANY TYPE OF PRODUCT WITH COMPREHENSIVE STRUCTURAL SIMULATIONS COVERING STATICS, IMPLICIT AND EXPLICIT DYNAMICS, DURABILITY AND FATIGUE**

## OVERVIEW

SIMULIA Durability and Mechanics Engineer enables design engineers to perform structural integrity assessment of any type of product for strength and durability scenarios early during the design process and intuitively guide decisions. It offers powerful and intuitive tools needed to perform sophisticated multistep structural simulations, powered by market leader Abaqus technology, as well as fatigue simulation to predict accurate fatigue lives.

## KEY CAPABILITIES

SIMULIA Durability and Mechanics Engineer offers powerful and intuitive tools needed to perform sophisticated multistep structural simulations as well as fatigue simulation to predict accurate fatigue lives and understand how the product will perform in the real life.

### Simulation Driven Design

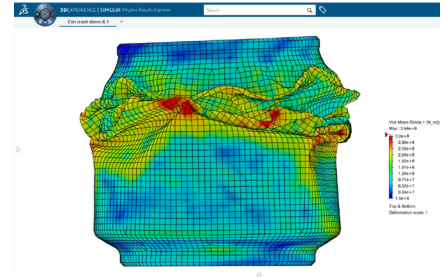
- Assess the product structural performance under Multistep structural scenarios, powered by market leader Abaqus technology, for comprehensive product performance assessment including: Static, Frequency, Thermal, Buckling, Implicit/Explicit Dynamics
- Predict accurate fatigue lives and ensure complex engineering products are designed for durability.
- Avoid late re-design, minimize physical tests, reduce warranty costs, extend life in service
- Estimate the lifecycle of components subjected to cyclic loads with stress and strain methods with robust durability simulation during the design cycle.
- Use and calibrate a wide range of material models with Material calibration capabilities
- Perform strength and durability assessment with a guided workflow, customizable, for fast adoption and reduced learning curve
- Investigate simulation results with robust and intuitive 3D post-processing and XY plotting capabilities enabling design insight and decision making from results
- Share simulation results and collaborate on any design projects from anywhere
- Run simulation computations on multiple cores either on a local computer or remotely on the cloud to free up local machines for other work.
- Perform seamless collaboration workflows with **3DEXPERIENCE®** platform

### Solve Complex Engineering Problems faster than ever

- Accelerate structural performance simulation with unique automated model creation for large assemblies



High performance artificial foot/leg fatigue analysis



Beverage can crushing analysis

- Accelerate design innovation by solving engineering challenges for your 3D design with full data associativity
- Enable high-performance results visualization, particularly for very large models including realistic rendering

## BENEFITS

- Empowers product engineers with the ability to perform sophisticated structural simulations during the design process powered by the market-leading Abaqus technology
- Offers fatigue simulation to predict accurate fatigue lives and ensure complex engineering products are designed for durability, helping avoid late re-design, minimize physical tests, reduce warranty costs, and extend life in service
- Enables users to efficiently work with what-if-scenarios through seamless associativity with geometry
- Standardize and democratize your simulation workflows enabling experts to easily customize the user interface and guide non-experts or first-time users through the simulation workflow
- Accelerates structural performance simulation with automated model creation for large assemblies
- Use test data to calibrate model behavior for material model fidelity
- Automatically remove undesired geometry (holes, fillets, logos), extract mid-surface, and partition geometry for hex meshing in a single user interface

## 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](http://www.3ds.com).



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