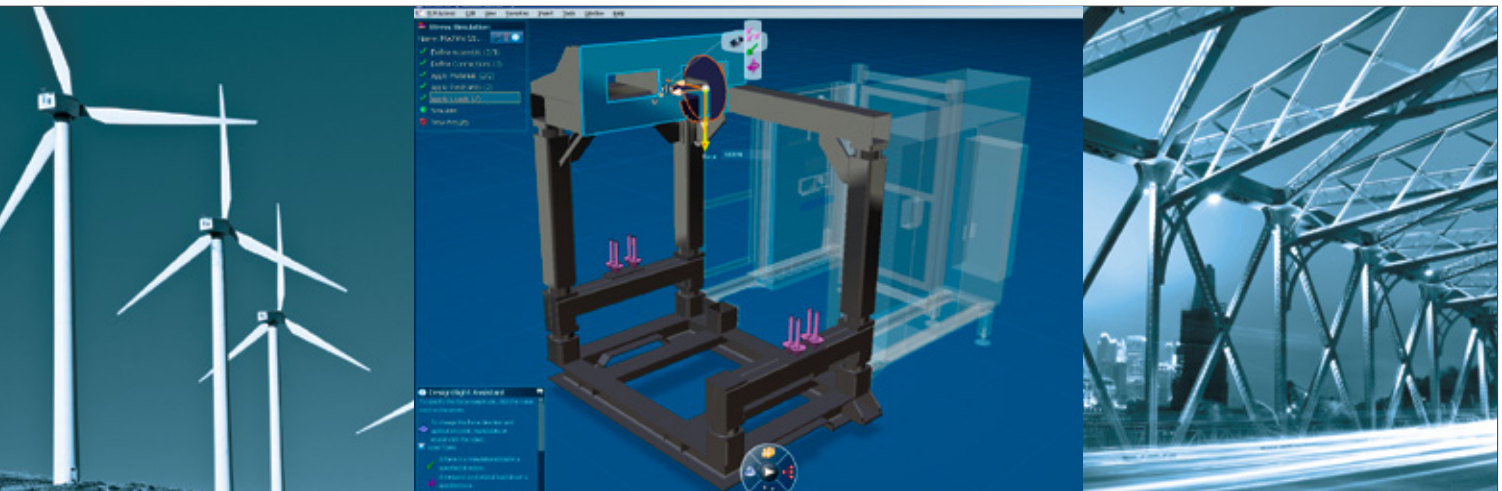


SIMULIA | DesignSight Structure Plus (DSP)

Enables up-front realistic simulation of product assemblies under structural loading conditions extending DesignSight Structure to enable additional physics and productivity tools.



DesignSight Structure Plus

Overview

Designers can now perform quick design validations as they create their designs, resulting in time and cost savings and better designs. SIMULIA DesignSight products provide powerful yet accessible simulation capabilities seamlessly integrated into a CAD environment on the 3DEXPERIENCE Platform.

DesignSight Structure Plus extends DesignSight Structure providing additional physics and productivity tools. A seamless extension of the 3DEXPERIENCE product design experience, DesignSight Structure Plus enables designers to explore aspects of their designs' behavior beyond what is possible with DesignSight Structure, such as natural frequency response and behavior considering large material strains. It incorporates proven Abaqus multiphysics technology with unprecedented ease of use.

Features & Benefits

- Extends DesignSight Structure with advanced material models
- Extends DesignSight Structure with natural frequency simulation procedure
- Simulate realistic behavior under structural loading conditions
- Interactions between parts in an assembly
- Leverages proven Abaqus multiphysics technology
- Automatically generates the right mesh with adaptive refinement
- High performance on multi-core workstations
- Runs on remote HPC clusters when Abaqus tokens are available
- High-performance results visualization
- Provides a lifelike user experience
- Provides guidance at all times to help the user understand what to do next
- Natural extension of the design experience
- Advanced simulation technology with an easy-to-use interface

DesignSight Structure Plus Highlights

Fosters creativity through up-front simulation

DesignSight is a natural extension of the product design experience, enabling designers and design engineers to study their design's behavior and to explore different design options. DesignSight is designed to be easy to use, while including the sophisticated functionality required to simulate real-world behavior, such as assembly connections and contact.

Enables occasional users of simulation to simulate their models under realistic loading conditions

The user experience greatly reduces the need to understand simulation technology. Advanced simulation technology is used automatically, while the options presented to the user are intuitive and explained in the language of product designers. For example, nonlinear simulation is performed automatically so that the user does not need to choose between linear and nonlinear analysis. Another example is that the finite element mesh is created and adaptively refined automatically to ensure high-quality results for each simulation. Users receive continuous guidance regarding where they are in the simulation process and what they need to do next, so that they are never lost.

Manages simulations automatically

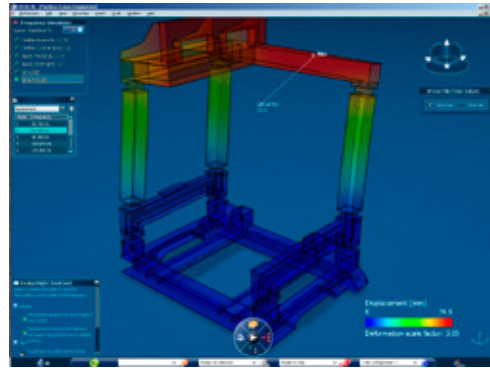
DesignSight leverages the 3DEXPERIENCE platform to manage the lifecycle and to ensure all product data, including part, product assembly, and all simulation data, are synchronized and traceable.

Provides high-quality results using Abaqus

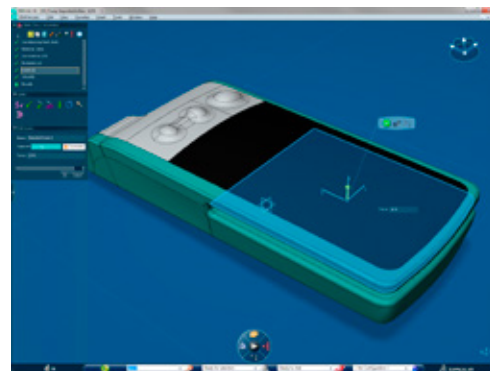
Uses proven Abaqus multiphysics capability to provide reliable results backed by more than 35 years of continuous development and industrial use. Advanced users of simulation have long considered Abaqus multiphysics a premier tool to help solve some of the most vexing design and engineering problems. DesignSight makes this state-of-the-art technology more accessible than ever before.

Enables rapid turnaround time of large models using high-performance computing resources to permit more design iterations

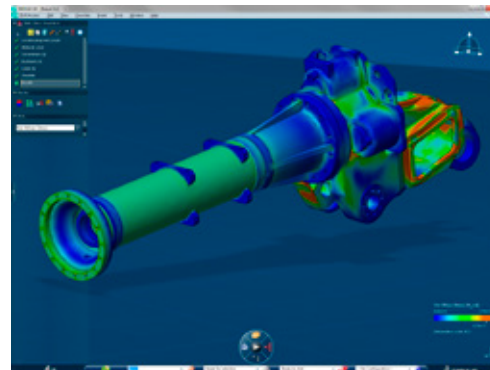
Includes cutting-edge computation technology to utilize the power of modern multi-core workstations to obtain simulation results quickly. Users with access to a compute cluster and Abaqus tokens can seamlessly run the simulation on the cluster and use 128 cores or more for extremely rapid turnaround times of large models.



DesignSight Structure Plus calculates the natural frequencies of assemblies such as this frame structure, which is composed of several individual parts joined together.



The automatic connections option quickly finds all contacting surfaces and bonds them together, treating them as one body. Automatic bonding is very effective for models such as this personal insulin pump case, which is composed of several parts bonded together.



In this robot arm design, some loading scenarios may raise the stress levels above the material yield point. DesignSight Structure Plus lets you understand the behavior of your design even after material yielding occurs.