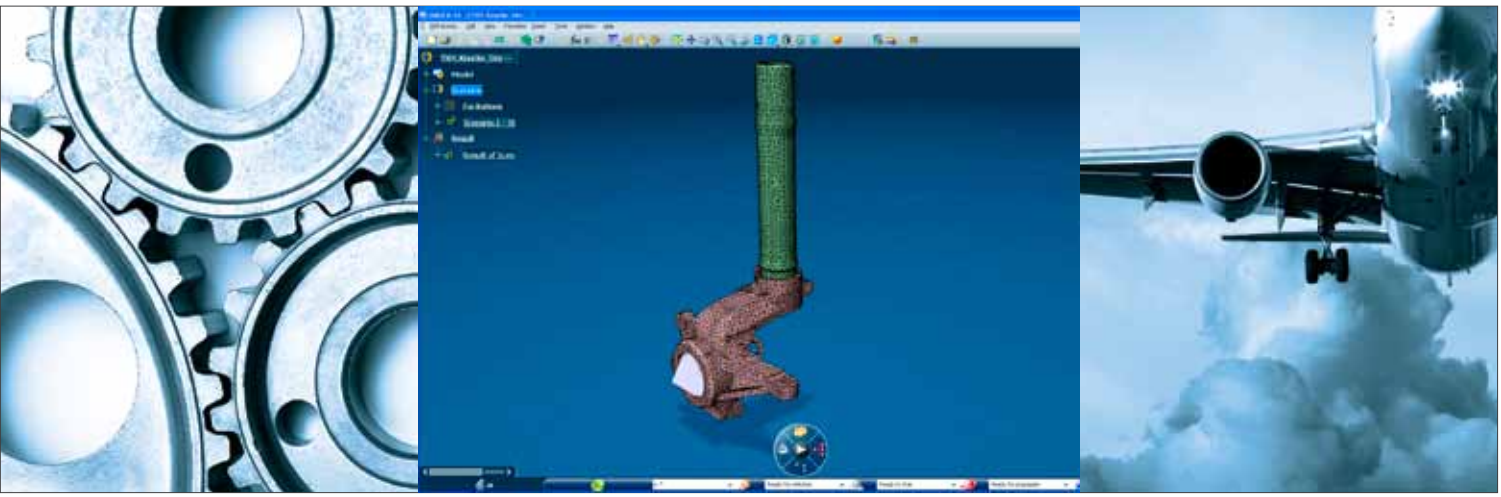
DASSAULT SYSTEMES

SIMULIA

# CATIA V6 Structural Analysis (STA)

Assess mechanical behavior early in the design process with CAD-integrated analysis.



*CATIA V6 Structural Analysis*

## Make CAD-Integrated Analysis Work for You

Global competition requires the creation of better products faster and at lower costs without sacrificing quality. Many companies have adopted Computer-Aided Engineering (CAE), but it has often been used by a limited number of highly-qualified specialists towards the end of the development cycle. This practice ends up restricting CAE's effectiveness in the design phase.

Performing simulation earlier in the design phase with industry-proved design-integrated analysis technology can provide significant time and cost savings.

## About CATIA V6 Structural Analysis

The tight integration of the CATIA Structural Analysis solution within the CAD environment allows design-analysis iterations to be performed rapidly by designers working within the CATIA design environment. It enables linear stress and modal analysis on parts and hybrid assemblies, including surfaces, solids, and wireframe geometries.

## Features & Benefits

- Linear stress and modal analysis on parts and hybrid assemblies enables designers and design engineers to simulate and validate assemblies that include surfaces, solids, and wireframe geometries.
- Associativity between design and analysis specifications allows the analysis model to remain consistent with the design, no matter how often and substantial the design changes.
- Easy-to-use pre- and postprocessing capabilities enable CATIA designers to transition easily to using CATIA analysis products in the same environment.
- Automatic mesh generation for 1D, 2D, and 3D geometries generates reliable finite element meshes without user input. Tools are available to modify and make improvements wherever necessary, as well.
- Robust and automatic generation of connection elements lets users reuse connections defined as part of the assembly design or create new connections to perform structural analysis.

# CATIA V6 STA Highlights

## 60% improvement in the product design-analysis cycle time compared to non-integrated solutions.

- Analysis tools are readily available within the same user environment as the design tools.
- No need to export and clean up design models before being able to perform analysis and obtain useful results.

## User-friendly and comprehensive analysis environment enables designers and engineers to study product quality.

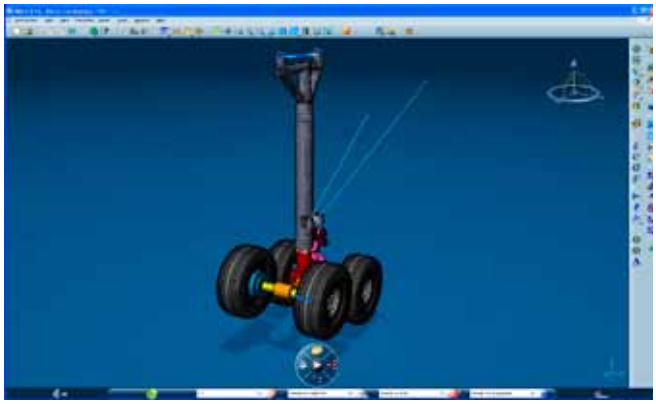
- User interface both easy to use and consistent with the rest of CATIA makes analysis possible for designers and engineers alike.

## Reduce costs by detecting problems early in the design process.

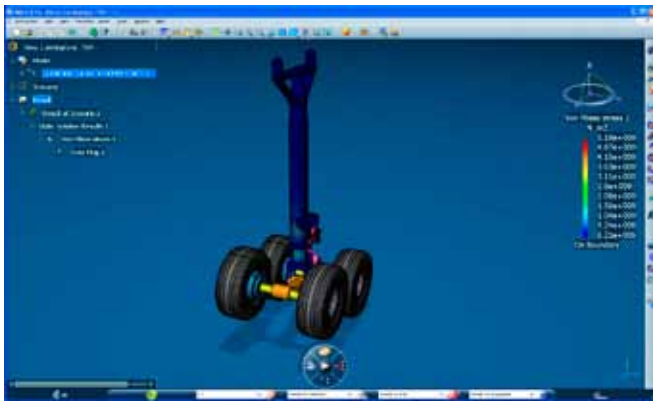
- With up-front analysis, design problems are found and fixed before they cause great expense and rework.
- Finding problems early in the design cycle keeps projects on time and on budget.

## Increase productivity using a common design environment enabling seamless design-analyze-improve iterations.

- Shortens the time required to obtain analysis results.
- Encourages more analysis than otherwise possible.
- Enables full exploration of design alternatives, and, ultimately, improves designs.



*Powerful stress and vibration analysis can be performed on a complex landing gear assembly that includes surfaces, solids, and wireframe geometries.*



*Easy-to-use postprocessing capabilities allow to visualize the stress in the damping assembly in the context of the landing gear model.*