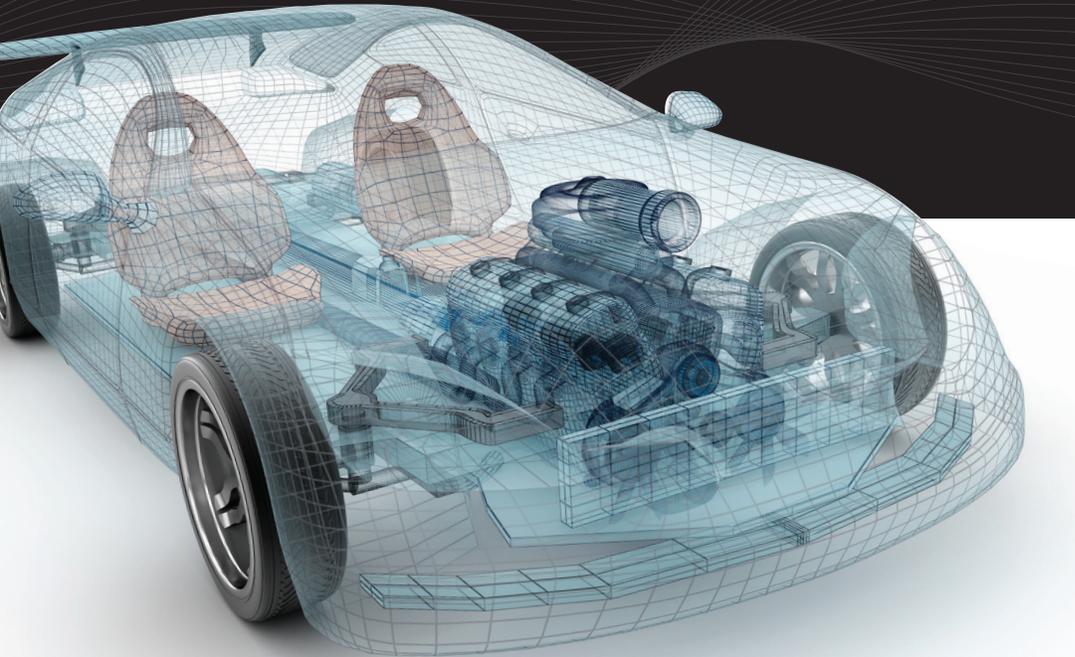


GENESIS[®]

Structural Design Optimization Software



DESIGN ENGINEERS EMPOWERED WITH OMNIQUEST™ GENESIS® CAN DRAMATICALLY IMPROVE PRODUCT PERFORMANCE AND REDUCE TOTAL PRODUCT LIFECYCLE COSTS. BY APPLYING ENGINEERING FIRST PRINCIPLES IN ITS AUTOMATED DESIGN SYNTHESIS, GENESIS® INTRODUCES ADVANCED FEATURES, INCLUDING STATE-OF-THE-ART OPTIMIZERS, FAST AND POWERFUL SOLVERS, AND BEST-IN-CLASS FABRICATION CONSTRAINTS FOR TOPOLOGY OPTIMIZATION.

USED BY AUTOMOTIVE, AEROSPACE, AND HEAVY EQUIPMENT MANUFACTURERS, GENESIS ENABLES RAPID AND EFFICIENT DESIGN ITERATIONS TO REDUCE PRODUCT SIZE AND WEIGHT WHILE INCREASING PRODUCT RELIABILITY, SAFETY, AND SERVICE.

DEVELOPED BY WORLD-LEADING INDUSTRY PIONEERS IN NUMERICAL OPTIMIZATION, GENESIS IS A FULLY INTEGRATED FINITE ELEMENT ANALYSIS AND DESIGN OPTIMIZATION PLATFORM EASILY INCORPORATED WITHIN EXISTING CAD AND FEM OFFERINGS.

ANSYS® CUSTOMERS ENJOY THE POWER OF OMNIQUEST™ DESIGN SYNTHESIS THROUGH ANSYS WORKBENCH-INTEGRATED GENESIS® TOPOLOGY OPTIMIZATION FOR ANSYS MECHANICAL (GTAM®) AND GENESIS® STRUCTURAL OPTIMIZATION FOR ANSYS MECHANICAL (GSAM®). FOR UNPARALLELED LINEAR AND NON-LINEAR ANALYSIS, GENESIS EQUIVALENT STATIC LOADING LS-DYNA (ESLDYNA®) ENABLES ANSY LS-DYNA CUSTOMERS TO ACHIEVE OPTIMIZED DESIGN CONVERGENCE IN RECORD TIMES, EXTENDING THE POWER OF LS-DYNA TO MORE PRODUCTS AND PROJECTS.



Reduced Time to Market
Reduced Manufacturing Costs
Improved Product Line
Competitive Advantage

ANALYSIS CAPABILITIES

Statics
Normal Modes
System Buckling
Heat Transfer
Direct and Modal
Frequency Analysis
Random Response
Fatigue
Acoustic Response

OPTIMIZATION CAPABILITIES

Topology
Sizing
Shape
Topometry
Topography
Freeform

Vanderplaats R&D, Inc. is now
OMNIQUEST. Entering our fifth decade,
OMNIQUEST engineers have pioneered and
invented game-changing
products from what was once merely
optimization theory.

Relentless product enhancement earned
global multi-national clients that drove
the CAE industry to
capitalize on OMNIQUEST excellence.

You and your team can immediately enjoy optimization excellence
OMNIQUEST industry-leading clients
rely on to create their best designs.

GENESIS Modules

FE Solver & Scripting

Linear Statics and Dynamics
Nonlinear GAP /
GLUE / Contact
Composite Material Support
Acoustics
Heat Transfer Loads
Fatigue
Lua Scripting

Structural Optimization

Weight & Performance
Direct Ansys Interface (GSAM)
Topology Optimization
Concept Design
GTAM for Ansys
Topography/Topometry/Size/
Shape / Freeform /
Mixed Optimization

Modal Test Correlation

Compare Test Modes and
Analytical Modes
Test Correlation and
Sizing Optimization

Additive Manufacturing

Complex topologies
Overhand Angle Constraint
Homogenized Lattice
Lattice Bar Toolkit

Equivalent Static Loading & MDO

ESL Dyna interface
ESL with Ansys and Abaqus
(Simulia)

Why GENESIS?

- Unique array of widely used solvers including Fatigue and largest span of Optimization Methods and options
- Best in class fabrication constraints for Topology Layout Creation
- Robust ANSYS Workbench interface
- Equivalent Static Loading for MDO workflows
- Additive Manufacturing and Lattice Development
- Fastest Eigen Solver (SMS)

Our Clients

OMNIQUEST is the chosen tool for Fortune 100 Companies and for Universities training the next generation engineers.

Our clients include: Ford, GM, Chrysler, Cummins, Ferrari and KOMATSU.



KOMATSU



CONTACT US

Connect with us now for complimentary webinars and evaluation software.

Our engineering team can work with you to conduct a Test Case showing how OMNIQUEST will improve your designs, processes and your overall business.

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