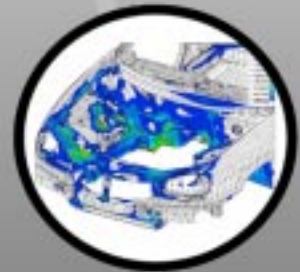
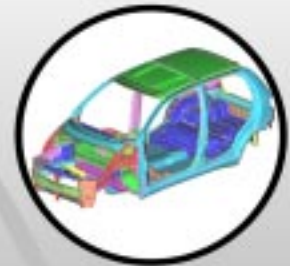


eta/VPG

VIRTUAL PROVING GROUND

CAE TOOLS FOR VEHICLE SYSTEM APPLICATIONS





Industry's Most Advanced Modeling Tools

Building finite element models can be a tedious, demanding task. VPG/PrePost provides users an advanced toolset to create complex models, and review the results of the analysis.

Automeshing

VPG/PrePost includes best-of-class automeshing tools that produce high quality meshes that meet the demands of today's fast-paced product development schedules.

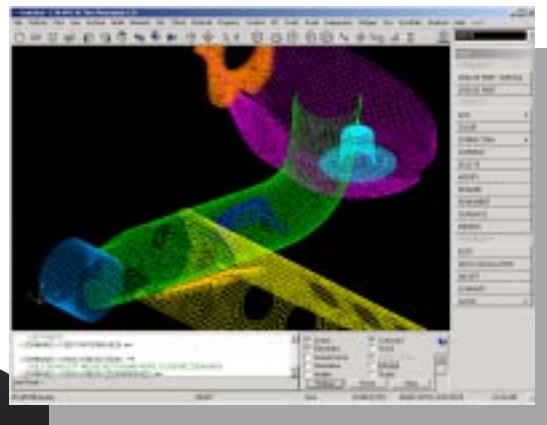


Automated Weld Generation

By automating much of the tedious modeling work, VPG can increase productivity while improving the quality of models. Automated generation of spotwelds accelerates the model creation process by allowing users to select from a variety of spotweld methods for their model.

Zero Text Editing Environment

All model parameters can be defined inside VPG, eliminating the need for external text editing operations. VPG/PrePost allows users to define every possible material, contact or element type available in NASTRAN or LS-DYNA.



The meshing tools in VPG/PrePost deliver a high quality mesh without spending valuable time on CAD surface repair.



The Dynamic Durability Environment

VPG/Structure has provided engineers with the ability to study the dynamic behavior of their mechanical systems like no other analysis tool. Including component flexibility within the simulation is a natural extension of the VPG analysis and provides a unique insight for the engineer.

Suspension System Templates

VPG/Structure includes templates which allow the creation of typical automotive suspensions. Creation of a complex suspension model is as easy as following the "process guidance" tools.

VPG also includes an interface which allows the engineer to import legacy ADAMS models for an easy upgrade to a high fidelity VPG simulation.

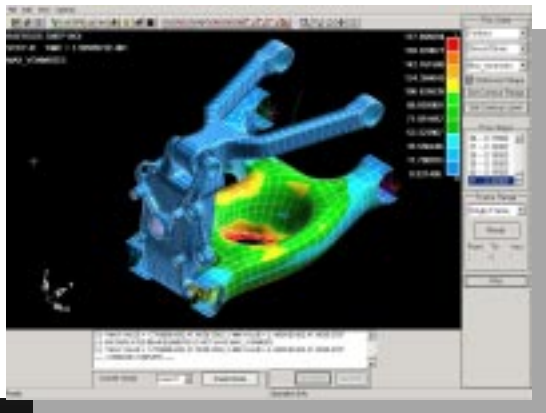


Tire Modeling

Tire models are the key to a successful, accurate vehicle simulation. VPG's tire models provide an accurate way to simulate the vehicle and roadway interaction. Tire models may be generated using several different modeling options within VPG.

Signal Processing and Fatigue Calculation

eta/VPG includes signal processing tools that can be used to study the dynamic behavior in detail. Using these tools, mode shapes may be reconstructed and displayed. eta/VPG also includes a fatigue analysis program which can evaluate the dynamic stress history of the model, and determine the potential of durability concerns.



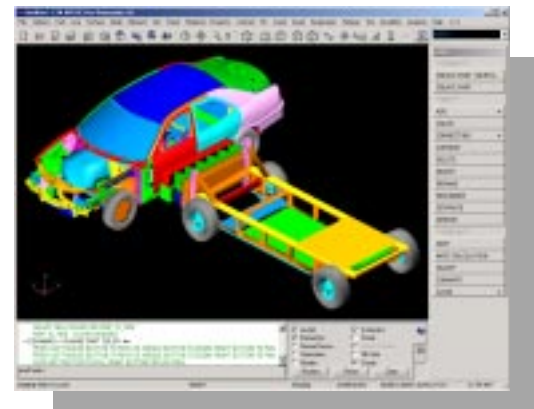
VPG gives engineers a new way to evaluate designs, using a system analysis to study durability.



Simplifying Impact and Safety Analyses

VPG/Safety delivers a complete set of automotive impact and safety tools for FMVSS and ECE requirements. These tools allow engineers to quickly set-up and execute complex vehicle simulations.

VPG/Safety automates much of the model set-up process, but provides the engineer the flexibility needed to address a variety of analysis needs.



Process Guidance Tools

Parameterization of the process used to create impact analysis models can result in productivity and quality improvements for common impact analyses as well as creating a consistent process for a department or company.

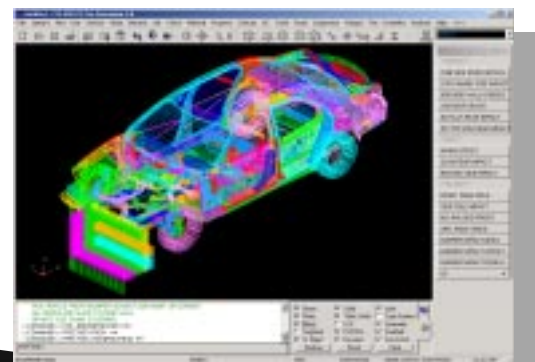
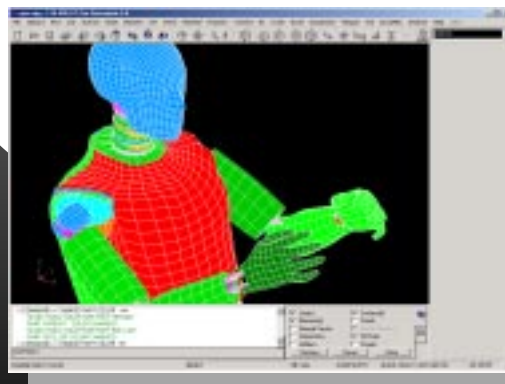
VPG/Safety's Process Guidance approach provides a way to easily specify the position and boundary conditions for impact analysis tools such as barriers and dummies.

Crash Tool Library

VPG's Crash Tool Library provides the user the tools necessary to perform the FMVSS or ECE analyses used for vehicle development.

Users may customize the library with their own crash tools or use VPG's barriers and dummies to create simulations such as US or ECE Side Impact, Head Impact or seat mounting integrity.

VPG/Safety increases accuracy while saving time for the full spectrum of vehicle impact analyses.



eta/VPG

VIRTUAL PROVING GROUND

CAE TOOLS FOR VEHICLE SYSTEM APPLICATIONS



VPG/PrePost

Advanced meshing and model creation tools for popular MCAE solvers.



VPG/Structure

Create the dynamic durability and nonlinear NVH models that simulate the performance of any mechanical system. VPG includes tools to create suspension systems, tires and NVH signal processing tools.



VPG/Safety

Process guidance tools for impact and safety simulations. Includes a customizable Crash Tool Library to support VPG's step-by-step modeling approach.

eta/VPG utilizes LS-DYNA, the industry's most powerful solver for engineering simulation



Engineering Technology Associates, Inc.

1133 E. Maple Rd.
Troy, Michigan USA
PH: 248.729.3010
www.eta.com

eta/VPG

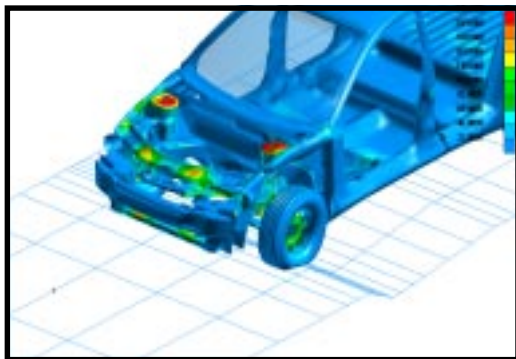
VIRTUAL PROVING GROUND

REVOLUTIONARY

The eta/VPG software application is revolutionary. Integrated at an earlier stage of the design process, eta/VPG reduces time, reduces costs and improves quality. eta/VPG's unique analysis approach, not available with any other CAE product, now allows the automotive industry to achieve its quest of reducing time-to-market and prototype costs.

This streamlined CAE software package provides an event-based simulation solution of non-linear dynamic problems. eta/VPG's single software package overcomes the limitations of existing CAE analysis methods. It is design to analyze the behavior of mechanical and structural systems, as simple as linkages, and as complex as full vehicles for vehicle impact, durability and vibration analysis.

Delivered in 3 independent modules, eta/VPG can be tailored to the needs of the user, providing a set of tools which improve productivity, increase quality and yet are affordable.



eta/VPG Benefits:

Reduces Costs:

- Less physical testing and prototyping needed
- Reduction of overall simulation cost

Reduces Time:

- Streamlined analysis process
- Accelerated vehicle development support

Improves Quality:

- Improved analysis provides greater confidence in product design