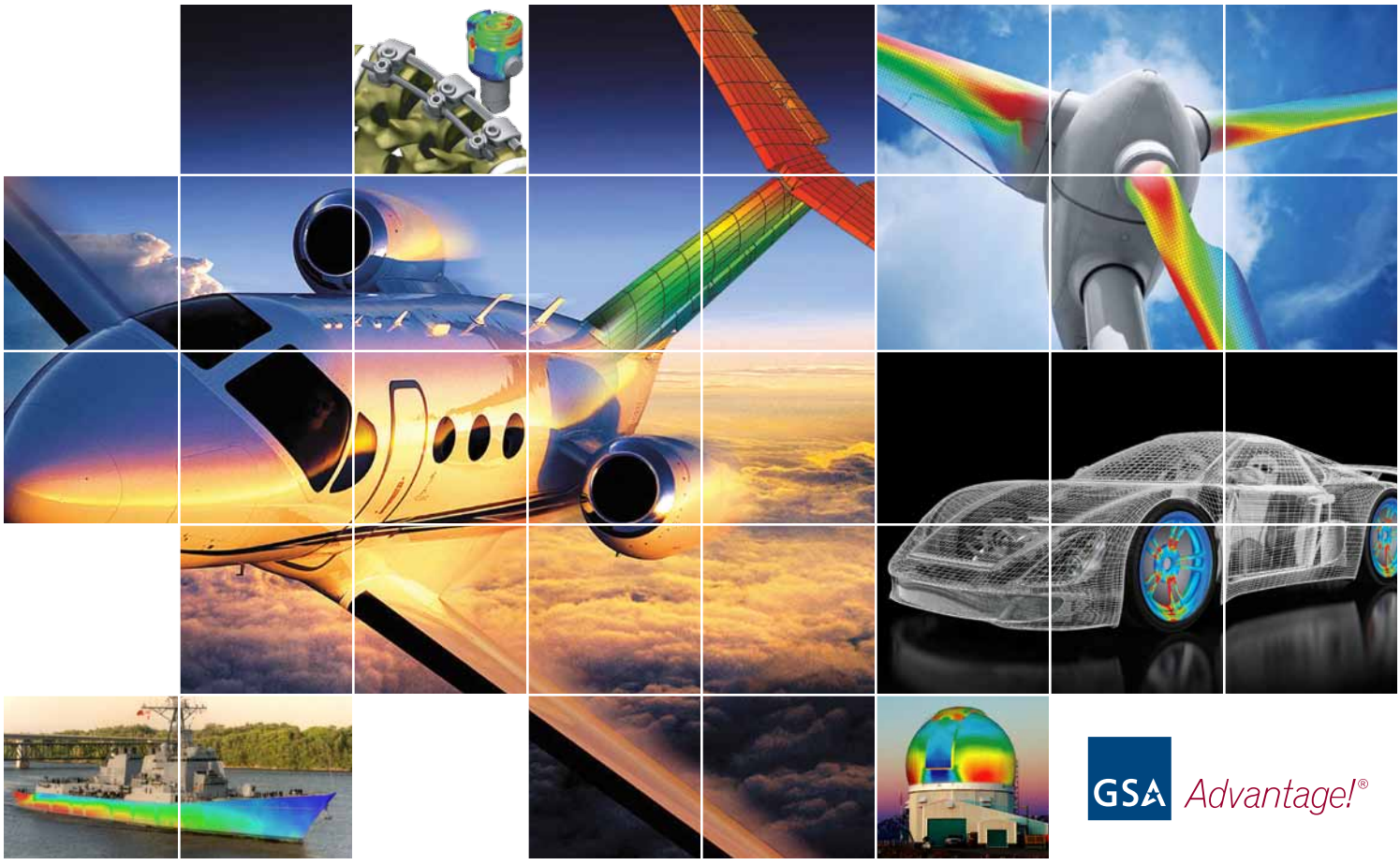
NEi Software®

Corporate Profile



GSA Advantage!®

Who Is NEi Software?

Introduction

NEi Software, Inc. develops, markets, and supports engineering simulation and analysis software that enables product development companies to meet the challenge of global competition. NEi Software's headquarters is located in Westminster, California with both company and dealer sales and technical support offices throughout North and South America, Europe, Australia, Asia and Africa.

Overview

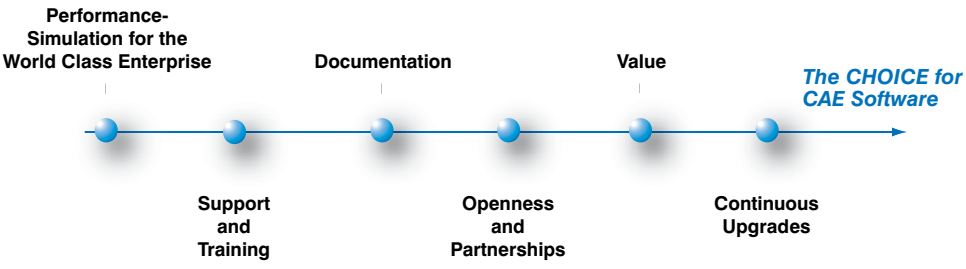
CAE software is used by progressive companies around the world to make the product development process more innovative, faster, and lower in total design and production costs. Engineers and designers can simulate, validate, test, and optimize designs, materials, and components without actual physical prototyping or testing, both early in the design cycle and throughout every stage of the development cycle. This allows forward-thinking companies to save precious time, money, and resources while improving the design process. They greatly reduce major redesigns, warranty costs, and expensive product recalls through the use of powerful analytical and visual tools that result in better solutions through improved insight and problem solving. With CAE tools that can easily validate designs at every stage of the development cycle, problems are caught, quality gets built in, manufacturability is insured, and customer satisfaction is achieved.

Background

In the mid 1980s, NEi Software (then known as Noran Engineering) was the first to develop a high level PC-based version of Nastran Finite Element Analysis (FEA) software. As the technology evolved and progressed, NEi Software's solutions have acquired a distinguished history of continuously adding leading-edge digital simulation technologies like 3D surface contact, and the unique FEA Editor. Long-term industry experience and expertise allows NEi Software to anticipate industry needs and implement new technologies ahead of the competition. In 2009 NEi Software joined the GSA procurement system. A strong presence in both government facilities across the United States and in the GSA system itself allows NEi Software to supply government facilities, prime contractors, and subcontractors with the most cost effective analysis solutions in the market. Close partnerships with a diverse clientele means that NEi Software is constantly ahead of the cutting edge of FEA technology and has the ability to provide the cost effective CAE capabilities that your company needs to survive in the ever-changing global marketplace.

Our Direction

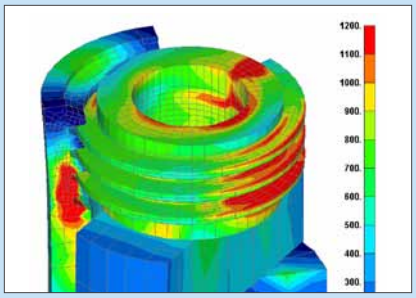
The NEi Software team of professional engineers and software developers has a unique vision to take the simulation community into the future of digital product development by making high level and powerful design technology available and affordable to an ever-widening community of engineers and companies. This vision is implemented by applying principles that focus on continuous product development, responsive technical support, comprehensive documentation, and professional training. Product development is driven by customer feedback that is used to continuously refine and enhance the features of NEi Nastran. Technical support and training is maintained as a separate corporate department to ensure responsive and high level expert assistance. NEi Software's focus on commitment to the customer makes sure your demands are satisfied.

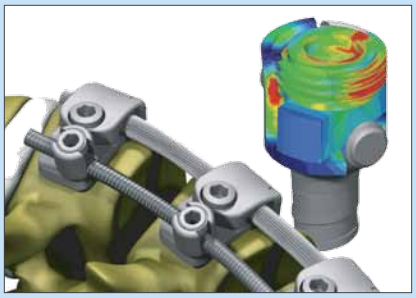


Customer Testimonial

"Finite Element Analysis has become an important tool to examine designs for their performance under load before a physical prototype exists. The two main advantages we gain through the use of FEA are: shorter time to market and optimized designs to avoid vibrations or to reduce weight and costs. After an extensive evaluation we decided to use NEi Nastran as our solver due to its high accuracy, robustness and productivity."

Thilo Trautwein
ACES Engineering





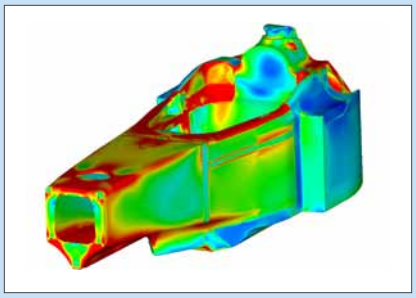
Utilizing the power of NEi Nastran, ACES was able to analyze not only the complex nonlinear material models, but the complete sliding contact between arbitrary surfaces including friction. Only three design and NEi Nastran analysis iterations were required to obtain a fail-safe screw, with adequate strength to withstand the anticipated spinal loads.

The NEi Software Advantage

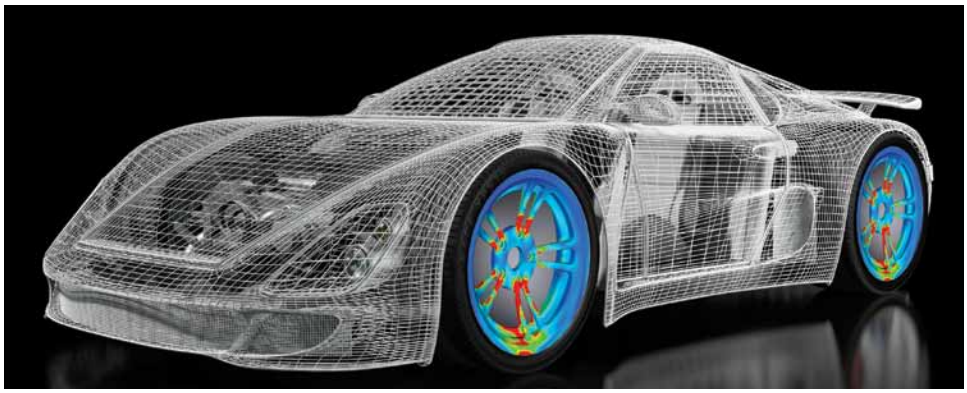
Customer Testimonial

"We have chosen NEi Nastran after an extensive and detailed internal benchmark, comparing the results, the performance, and the features of the solver developed by NEi Software, Inc. with those of our former FEA platform. Full compatibility, accuracy, along with the professionalism and quick turnaround of the tech support from NEi Software and SmartCAE were the main reasons why we selected NEi Nastran as our FEA software for the future."

Paolo Marabini
Minardi F1 Team



Minardi benefited from the use of NEi Nastran due to a reduced modeling time, surface contact feature, robustness of the nonlinear analysis setup and solution, accuracy (results compared well with test results), and seamless data access (input-output data generated by NEi Nastran and the previous Nastran package were shared without incompatibility issues).



The following distinctions set NEi Software apart in the engineering software industry and form the basis for why NEi Software should be your choice for CAE software.

High Performance and Simulation for the World Class Enterprise

NEi Software has the ability to take your toughest problem and provide analysis results your engineers can use as a solution in your new product development cycle. High numerical performance and robust product simulation capabilities are the keys to NEi Nastran. It is successfully deployed across many industries as an enterprise-wide solver including aerospace, automotive, marine, electronics, heavy equipment and medical. NEi Nastran provides comprehensive product performance simulation in a broad range of engineering disciplines including linear and nonlinear stress, buckling, vibration, shock, acoustics, and heat transfer. Simulation, validation, and optimization capabilities are a distinct advantage of the NEi Software product portfolio. You will find NEi Nastran in the most demanding applications including Formula 1 racing, America's Cup yachts manned space vehicles and human spinal implants.

Support, Documentation, and Training

NEi Software is recognized for the dedication, professionalism, and efficiency of its worldwide support team. NEi Software technical support provides both application and operating systems software support through telephone and electronic access so that you have the help you need to keep mission critical projects on schedule and within budget. Telephone support provides direct access to our staff of experienced support engineers during normal US business hours. E-mail support is provided 24 hours a day, seven days a week. We also provide access to our vast knowledge base of white papers, tutorials, journal articles, and additional documentation as well as a user forum. The many unsolicited testimonials we receive are an excellent indicator of the investment and commitment NEi Software makes to technical support.

Openness and Partnerships

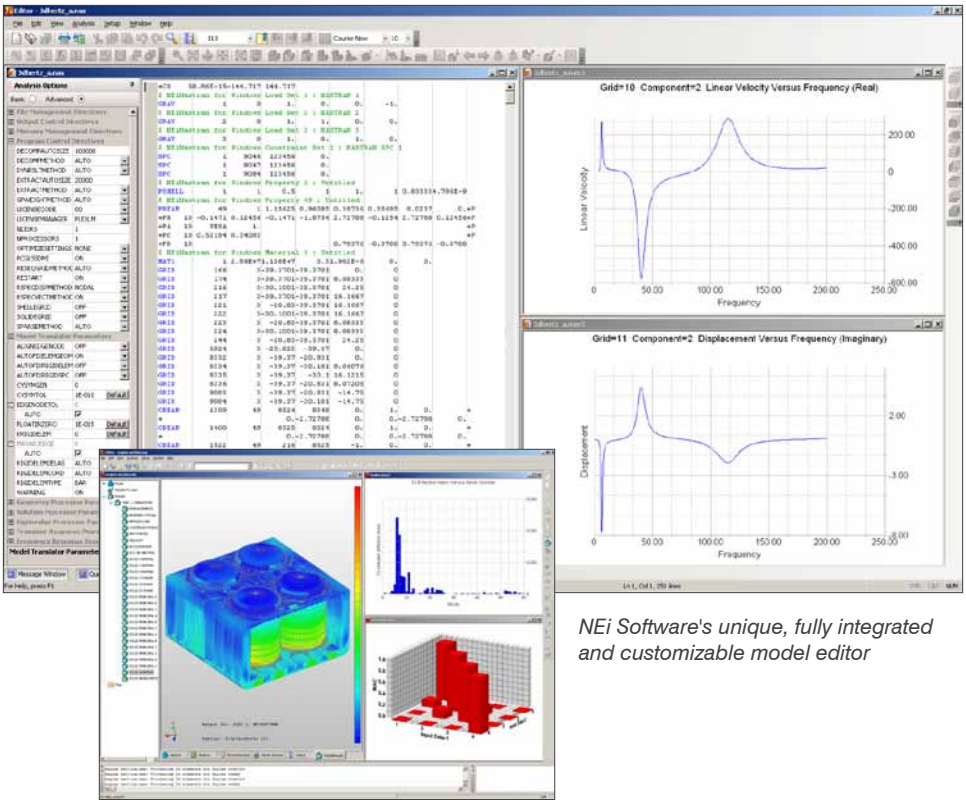
NEi Software is proud of its reputation for listening to customers and working with them to set development priorities. NEi Software looks to a core advisory group made up of leaders in various industries to help define future NEi Nastran product strategy. Implementation of core technology is the domain of a highly experienced team comprised of both NEi Software and selected software development partners. For many advanced customers, the long term value of NEi Nastran is not only derived from robustness, consistency and openness of core capabilities, but also from the way they can leverage this for their specific needs. NEi Software is committed to maintaining the open and productive nature of relationships with a wide variety of independent developers working to provide customer and industry specific functionality within NEi Nastran.

Continuous Upgrades That Improve Productivity

NEi Nastran is updated continuously with numerous customer driven enhancements. Enhancements save users enormous amounts of time and effort, as well as improve ease-of-use by streamlining tedious, frustrating and inconvenient operations. As an example, consider Cessna Aircraft and their process for the analysis of their latest line of business jet aircraft. Previously they would build FEA models using shell elements for skin panels and manually replace panels in compression critical for elastic buckling with shear elements. This process was very time consuming considering the large number of load cases required to certify the aircraft for flight. NEi Software saved Cessna thousands of engineering man hours by automating the process with a dedicated nonlinear tension-only shell element that automatically reverts into a shear element when the critical load is reached. A close partnership with Cessna provided an optimum user interface and allowed further NEi Nastran enhancements tailored to Cessna's unique requirements. Cessna is just one of our many customer success stories. NEi Software's strategy continues to be the development of simulation technology for the most demanding engineering analyst with a user interface and features that are tailored to both individual customer needs and the wider community.

Value

Our goal is to insure that you get the most from your CAE software investment. NEi Software's high level engineering analysis software typically offers a significantly lower total cost of ownership as compared to other CAE software products including other Nastran and non-Nastran FEA packages. We accomplish this by investing in development, support, and training in order to maintain an extremely high level of quality in our products and services which we offer to our customers. At the same time, we rely on a low cost business model, electronic media, a core of experienced direct sales engineers and a network of satisfied customers to market our product, rather than on an inflated marketing budget.

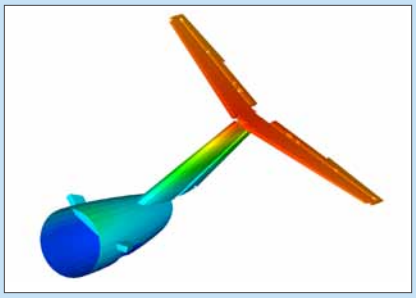


NEi Software's unique, fully integrated and customizable model editor

Customer Testimonial

"Cessna Aircraft is using NEi Nastran to analyze airframe components on the Citation CJ3 and the Citation Mustang. Cessna Engineers have been very impressed with the customer service received from NEi Software. The development of tension-only quad elements eliminates redundant models and repetitive work functions, resulting in reduced analysis cycle time."

Gene Paulsen
Cessna Aircraft



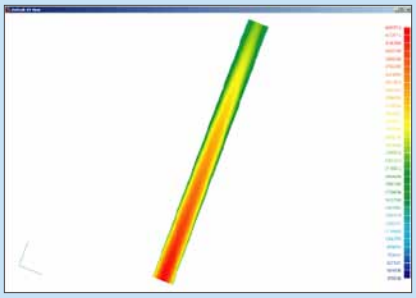
Cessna Aircraft Company of Wichita, Kansas used NEi Nastran to perform finite element analysis on the new Citation CJ3 and Citation Mustang business jets. Customer driven enhancements like the Tension-Only Quad Element allowed Cessna to avoid redundant models and repetitive work function resulting in reduced analysis cycle time.

Clients

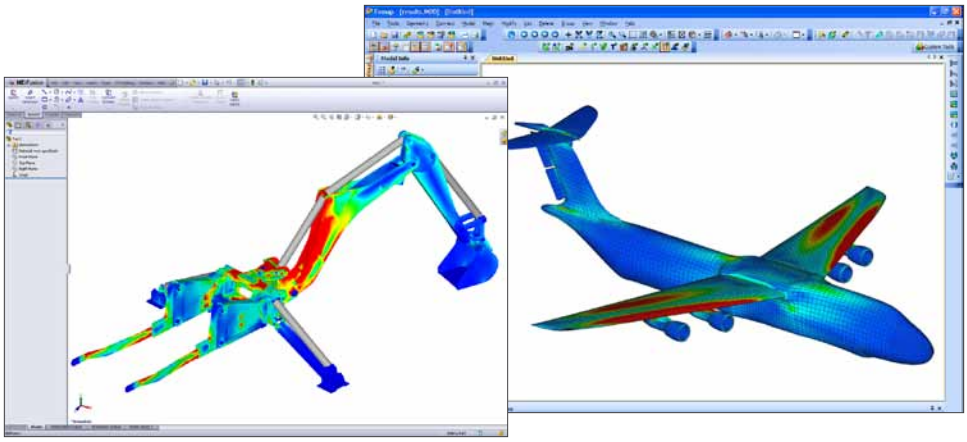
Customer Testimonial

"Composites analysis is inherently complex and challenging. Choosing the right FEA software provider becomes that much more important. Six years of experience with NEi Nastran advanced software features coupled with superb service and support has confirmed my choice."

Phil Craven
America's Cup Composites Analyst



NEi Nastran users design, analyze and optimize their designs early in the development cycle. NEi Software technical support is there also to help them get the most out of structural, fluid dynamic and advanced composite modules. They get things right when it's time to build. They push the envelope… without breaking.



NEi Software's performance, support, and value have been recognized by many innovative, high profile, and progressive organizations noted for their world class product development capabilities. We are pleased to provide reference letters, testimonials, and arrange for conferences. A small sample of the companies that use NEi Nastran include:

- Advanced Medical Optics (AMO)
- Air Force Research Lab
- Alion Science and Technology
- AMSEC
- Andrews Space
- ASEA
- ATK Aerospace
- BAE Systems
- Bath Iron Works
- Boeing
- Burg Industries
- C&D Aerospace - Zodiac
- Cessna Aircraft
- Chevron
- Cirrus Aircraft
- Erickson Air-Crane
- Exmar Offshore
- Fabco Automotive
- Farr Yacht Design
- Federal Aviation Administration (FAA)
- Gibbs & Cox
- General Atomics
- General Dynamics
- Georgian Aerospace
- GKN Aerospace
- Goodrich Aerospace
- Gulfstream
- John Deere
- Hitachi
- Holvrieka
- Honda
- Honeywell
- ITT Corporation
- KBR
- L-3 Communications
- LifePort
- Lockheed Martin
- NASSCO
- NASA Langley
- NASA Marshal Space Flight Center
- NAVAIR
- NAVSEA
- Norfolk Naval Shipyard
- Northrop Grumman
- Northwest Composites
- NSWC
- Panasonic
- Portsmouth Naval Shipyard
- Puget Sound Naval Shipyard
- Raytheon
- Scaled Composites
- Spirit Aerosystems
- Toro Rosso F1
- Toyota Aircraft
- Volvo
- Wilson & Ihrig

Product Suite

NEi Software provides a complete suite of CAE tools for linear and nonlinear statics, dynamics, and heat transfer as well as fluid flow, fatigue, optimization, and advanced composites. Support is provided for Windows and Linux platforms in both stand-alone and networked configurations. Femap is an industry standard and supports all major CAD geometry formats. NEi Works is an embedded Nastran FEA system inside of SolidWorks and breaks new ground in engineering software by directly integrating Nastran with CAD to remove long standing barriers between design and analysis. NEi Software's latest product, NEi Fusion, represents a new approach to engineering analysis and simulation software. NEi Fusion joins two powerful technologies — 3D feature based, parametric CAD for model creation, and high accuracy, industry proven Nastran solvers for solution generation.

Nastran Solver

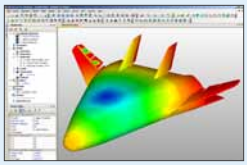
NEi Nastran

NEi Nastran is a powerful, professional level, Finite Element Analysis tool used in all industries to simulate and analyze linear and nonlinear stress, dynamics, and heat transfer characteristics of structures, mechanical components, and fluids. Integrated tightly with Femap it offer unparalleled ease-of-use and productivity features such as:

- Automated Impact Analysis (AIA™)
- Automated Surface Contact Generation (ASCG™)
- Automated Edge Contact Generation (AECG™)
- Automated Inertial Relief (AIR™)
- Progressive Ply Failure Analysis (PPFA™)
- NEi Editor

These features automate model setup and results analysis when performing complex simulations. Support is provided for most materials such as metals, rubber, composites, acrylics, and plastics. Emphasis is placed on accurate results regardless of FEA mesh density and element selection. High performance 32-bit and 64-bit technology and large model capability allow the analysis of extremely complex and detailed structures.

Pre- and Post-Processors

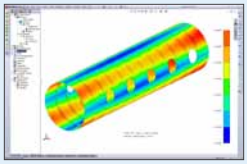


Femap®

Femap by Siemens PLM Software is a professional level modeler and results processor used for preparing models and viewing the results of engineering analyses for structural, heat transfer, and fluid flow problems. Femap is tightly integrated with NEi Nastran.

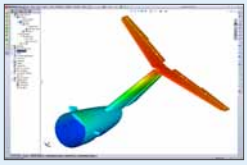
NEi Fusion™

NEi Fusion is the perfect package for getting started in Finite Element Analysis because it includes the most widely used and needed analysis capabilities — linear statics, steady state heat transfer, normal modes, buckling, and prestress, plus additional capabilities for handling composite material analysis, assemblies with contact, and design optimization analysis.



NEi Works™ Basic

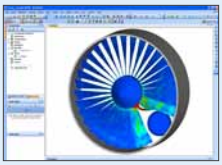
NEi Works Basic provides NEi Nastran Finite Element Analysis tools to SolidWorks® users. NEi Works is completely embedded within SolidWorks to maintain the look, feel, and ease-of-use of the CAD environment, while providing analyst level capabilities with NEi Nastran performance and accuracy.



NEi Works™ Expert

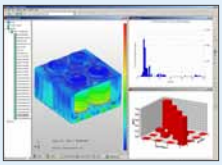
NEi Works Expert has all the capabilities in NEi Works Basic plus advanced capabilities such as: nonlinear statics, advanced dynamics, impact analysis, and more. NEi Works Expert is perfect for taking your simulations to the next level with its advanced dynamics and nonlinear capabilities such as Automated Impact Analysis (AIA™), ideal for performing virtual drop tests.

Additional Products



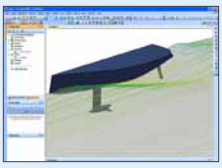
NEi Explicit™

The NEi Explicit add-on is a parallel explicit solver that is completely integrated within the NEi Nastran environment. NEi Explicit solves complex large strain material nonlinear problems such as large deformation plasticity, high speed impact and penetration, material rupture, and explosions. Model setup for NEi Explicit is virtually the same as for NEi Nastran and models can be interchanged between solvers.



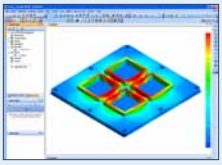
NEi Editor

The NEi Nastran Editor is a unique, fully integrated and customizable model editor which controls program operation and provides results summary data through an easy to use graphical user interface. Special real time controls allow viewing results and changing solution parameters while running analysis. Simulations can be analyzed in real time, increasing productivity and reducing model development time.



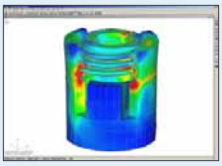
TMG-Flow

The TMG-Flow add-on for Femap provides advanced fluid dynamics analysis capabilities including laminar or turbulent incompressible and compressible flow, natural convection and general boundary conditions for fluid flow, and heat transfer in ducts and enclosures.



TMG-Thermal

The TMG-Thermal add-on provides advanced heat transfer capabilities in addition to those found in NEi Nastran including forced convection, duct flow, and phase change. An extensive set of modeling tools is provided for advanced radiation and spacecraft modeling, including solar and orbital heating, orbit modeling and display, specular reflections with ray tracing, and articulating structures.



NEi Advanced Fatigue

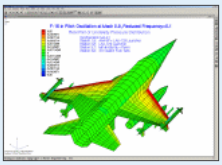
NEi Advanced Fatigue for Femap builds upon the fatigue capabilities of NEi Nastran. The add-on includes nominal and elastic stress methods along with local strain approach; nonlinear material using Neuber's rule; Haigh diagram, Woehler and hysteresis curve generation; failure probability and multiple material hypotheses for creating cyclic material properties, as well as a fatigue properties material database.

NEi Advanced Optimization

The NEi Advanced Optimization add-on provides design optimization capabilities beyond those found in NEi Editor and NEi Fusion. A powerful and intuitive graphical user interface along with state-of-the-art gradient-based and response surface optimization algorithms allow the software to improve any engineering system (structural, thermal, fluid, acoustic, electrical).

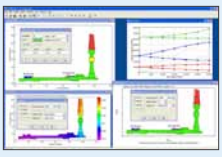
NEi Motion

NEi Motion by Fedem Technology AS, is a comprehensive modern CAE tool for virtual testing and verification of mechanical systems. The integrated dynamics and structural solving in NEi Motion is the most efficient way to evaluate your mechanism's function, strength and life. The software is founded on the integration of finite element technology and nonlinear dynamics, utilizing super-element methods.



NEi Aeroelasticity

The NEi Aeroelasticity add-on is a powerful engineering tool that integrates all essential disciplines required for advanced aeroelastic design and analysis. It has extensive capabilities in the areas of aeroelasticity, aeroservoelasticity, unsteady aerodynamics and structural dynamics.



NEi Rotor Dynamics

NEi Rotor Dynamics by DynaTech is a comprehensive finite element computer code for the mechanical design and analysis of rotor-bearing systems. It is a unique combination of statics, dynamics, and heat transfer specifically targeted for rotating machinery.

About NEi Software

NEi Software is a world leader in Finite Element Analysis (FEA), engineering simulation, and virtual test software. The core product NEi Nastran is a powerful, industry-proven FEA solver that thousands of companies routinely use to perform linear and nonlinear structural stress, dynamics, and heat transfer analysis. In addition, NEi Software's portfolio includes products for impact, kinematics, fatigue, acoustics, optimization, aeroelasticity, and Computational Fluid Dynamics (CFD) with support for a full range of materials from composites to hyperelastic rubber. NEi Software covers the different needs of each stage of the product development process, from designers looking for affordable, easy-to-use, CAD-based simulation for validation and trade-off studies to dedicated FE analysts looking for high accuracy, productivity, and real world fidelity. The website features case studies in aerospace, automotive, maritime, military, civil, petroleum, medical, and consumer products with videos, webinars, tutorials, and options for evaluation.

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