

release includes software tools for the structural, vibration, and fatigue analysis—and optimization—of parts made from composite materials. Noran demonstrated the new analysis tools for composite design engineers at a conference of the Society for the Advancement of Material and Process Engineering (SAMPE 2006), held on May 2-4, 2006, in Long Beach, California.

At the conference, technical specialists from Noran also discussed how the firm's NEi Nastran FEA software is used to virtually test and predict real-world behavior of composite designs and achieve performance improvements in high-profile applications like Formula One race cars, Tour de France bicycles, and award-winning commercial spacecraft.

NEi Nastran is said to have features "of particular interest and value" to composite designers who use a variety of materials and fabrication methods, including hand layup of fiber cloth, filament winding, tapes, pre-pregs, honeycomb structures, and resin transfer molding. Such features are said to include use of new, more sophisticated failure criteria, such as NASA Langley LARC02, to identify potential problem areas. They also include easy definition and entry of composite material properties into the 3D model, including ply angles, layers, and stacking sequence; projection of curved coordinate systems to simulate fiber orientation in complex structures; and graphic visualizations of post-processing results, which identify problems in specific plies.

The release is part of a product strategy that is intended to "clearly distinguish NEi Nastran from more staid Nastran versions attached to broad-based lifecycle/CAD software by providing a continuous series of new simulation features, and offering customers the unique opportunity to obtain industry-specific code enhancements." For more from Noran Engineering, **circle E14**.

New Software Tools for Composite Design Engineers

Westminster, CA—Noran Engineering, Inc., a provider of finite element analysis (FEA) and engineering simulation software, recently announced the release of NEi Nastran V9 for high-end engineering analysis and simulation. The new

System Streamlines Product Development by Combining ERP and PLM

Paso Robles, CA—IQMS, a designer and developer of Enterprise Resource Planning (ERP) software,