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ANSYS Mechanical Solves Challenges of a Megayacht Builder



Megayacht builder Delta Marine uses finite element analysis to ensure interior design flexibility while maintaining desired strength, vibration, and weight characteristics in the composite structural members of its boats.

Purchasers of 100-ft. plus megayachts have come to expect the ability to customize the interior design to a level that matches their wildest dreams. Delta Marine has become one of the world's leading builders of this type of craft—in part through its expertise in designing carbon-fiber structures that enable virtually any interior configuration while providing high levels of strength, durability, and performance. However, giving interior designers the freedom to place walls or partitions to achieve a certain look creates structural design challenges by increasing the complexity of the load paths.

Although the design of Delta's most recent megayachts has encountered complex load distribution challenges, designers were able to produce vessels that are beautiful, strong, and fast.

SharePoint Server 2007 Transforms Static Repository to Dynamic Platform

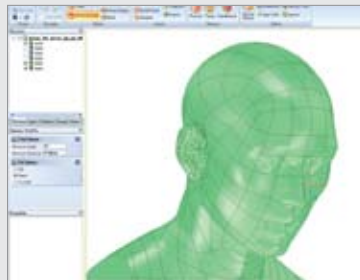


Communications, collaboration, and knowledge sharing are key ingredients to achieving innovation and streamlining design, development, and business processes. Old technology doesn't cut it. To succeed, companies must turn to Web-based infrastructures.

BorgWarner, a leading supplier of automotive power-train technology, sought to support collaboration across its business to better compete in the global marketplace. With aid from consultant CDW, the company deployed Microsoft Office SharePoint Server 2007 to transform its intranet from a static repository for policy documents into a dynamic collaboration platform.

Now users across product development, supply chain, manufacturing, and finance groups can better manage workflow processes, enhance global team collaboration, locate documents for greater reuse of knowledge assets, and provide training resources—all of which helps bring products to market faster. In one year, BorgWarner achieved its ROI by increasing overall productivity and cutting intranet costs by 64% annually.

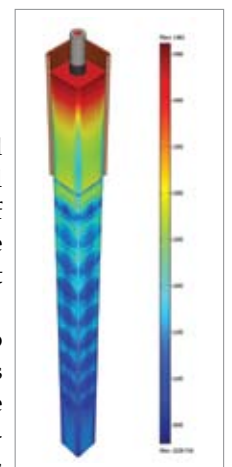
Widex Enhances Hearing Aid Technology with SpaceClaim



Each design application has its own particular demands and requires a special combination of tools to achieve excellence. The optimization of hearing aid designs calls for a unique skill set—the ability to perform basic functions in one area but extensive expertise and creativity in others. This is the case with Widex, a leading provider of digital hearing aid technology.

Constant review and evaluation of designs and approaches requires simplifying CAD designs, analyzing acoustics and vibration, and using a specialized algorithm-development and simulation environment. To meet these needs, the hearing aid technology developer assembled a collection of tools that provided flexible and easy-to-use interfaces, interoperability, and specific technical functionality. This software mix streamlined processes, reduced cycle time, and optimized use of resources.

Ugitech Optimizes Steel Casting Process Using COMSOL Multiphysics



A manufacturer of stainless steel uses multiphysics modeling and simulation to optimize the speed of its continuous casting process while maintaining the quality of its product and the safety of its operations.

The steel maker used modeling to examine the early solidification of its product after it was removed from the mold. During this phase, cracks, segregations, depressions, and air gaps can form, diminishing the quality of the steel. Through multiphysics modeling and simulation, the company was able to better understand what was happening inside the steel bloom as it passed through the casting machine, create profiles for the 150 grades of steel that it manufactured, and thus better control its processes by optimizing the temperatures and speeds of its operations.