



Spotlight on the Business Value of Engineering Simulation

Profiting from the Investment in Smart Engineering Simulation

To survive and profit in the current demanding business environment, organizations must engineer high-quality and innovative products, design and manufacture them for the lowest possible cost, and then beat their competitors to the global marketplace. To meet that challenge, many of the most innovative companies in the world use engineering simulation to develop products that dominate the marketplace.

There is no single solution for every organization, although one basic principle is universal: Engineering simulation is performed up front in the product development process at companies large and small because Simulation Driven Product Development provides quantifiable value. Tools used to test many alternatives for product designs before prototyping provide engineering teams with the ability to get products to market quicker. It also allows these teams to rapidly iterate on designs so they can determine the best and most innovative alternatives. In addition, reducing the number of expensive prototypes provides direct cost-savings benefits.

As simulation technology continues to expand in depth and breadth, companies are able to simulate a greater range of their product requirements. Multiphysics simulation delivers results that approach real-world conditions, supplying an even more reliable basis for making product design decisions. However, these larger solutions may come at the price of computational time. High-performance computing continues to address this problem, making it possible to solve complex problems on a laptop, which, several years ago, would have been impossible using an entire room of processors.

Capturing and reusing engineering data generated from numerous design iterations and increasing types of simulation help to maintain product design efficiency and protect intellectual property. Managing engineering knowledge is vital for individual users, small teams and enterprise-wide implementations.

Engineering teams and individual designers can be even more productive when using simulation technology with an adaptive architecture, which gives them the capability to iterate with their existing CAD files, incorporate other software tools, explore what-if scenarios and develop reusable models all within the same working environment. Not only does this speed up the product development process, it allows team members to apply their experience and skills in the most efficient manner and generates more opportunities to develop the innovative products required for continued profitability.

The world's most successful companies turn to simulation solutions from ANSYS, whose products are used by 16 of the top 20 most innovative companies in the world today, according to a *BusinessWeek* report prepared by the Boston Consulting Group and by 97 of the top 100 industrial companies on the *FORTUNE* Global 500 list. Today, more than ever, these companies have invested in Smart Engineering Simulation to increase the efficiency of their processes, improve the accuracy of their virtual prototypes, and capture and reuse simulation processes and data. ANSYS delivers solutions to help organizations profit in today's turbulent economic environment. ■