

ANSYS Simulation Platform

A strategic platform for connecting simulation with the business of engineering



In today's fast-paced, high-pressure business world, it can be difficult for engineering organizations to step back and strategically examine the technology portfolio supporting their engineering functions. As a result, most teams are relying on a set of disconnected engineering tools that have been pieced together over time. Because these tools don't integrate easily, they fail to deliver the speed and high level of collaboration that's required to succeed in today's increasingly competitive environment.

By choosing to standardize on the comprehensive and fully integrated ANSYS simulation platform, engineering teams can improve their current product lines, innovate next-generation products, and analyze and optimize the performance of their smart and connected products while in service. This strategic capability enables engineers to test and make important decisions with the lowest possible level of risk. They can design at the system level, apply multiple physics and gather inputs from various functions across the team — leading to products that can be launched with the highest possible degree of confidence, without sacrificing speed or cost control. The scalable ANSYS platform features an open architecture that easily and seamlessly integrates with other technology systems and solutions.

Today's engineering teams are challenged to design products in an incredibly complex environment. Products are increasingly a medley of mechanical, electronics and software sub-systems. As smart functionality is incorporated into more and more products, additional physical forces and new design concerns — such as thermal build-up, impact resistance and signal integrity — come into play. And, as competition increases, engineers are asked to confidently verify performance and launch new offerings faster than ever.

In addition, today's engineers must overcome a number of siloes. Not only are team members working in different departments or distributed around the world, but the customers they serve are also geographically dispersed. Product developers struggle to communicate effectively and collaborate with one another, while also keeping pace with localized customer needs that are constantly changing.

For most engineering teams, the easy gains in product performance have already been achieved. In order to innovate, designers are relying on pushing the limits of materials and product designs. In doing so, they need to account for all physical interactions and multiple physics.



ANSYS offers the industry's leading simulation platform, which transforms how you engineer your products and predict problems with products in service. A common platform enables integration of ecosystem of technologies and partner solutions that accelerates the pace of innovation.

The good news is that engineering teams have access to an arsenal of technology tools and work processes that can help them meet these challenges. The bad news is that these tools and processes are often not well integrated or shared across team members working in different parts of the world.

Most product development teams have cobbled together a collection of technology solutions over time, to address the current design challenge — instead of strategically defining and implementing an integrated, comprehensive technology system. The result is a set of tools that may not represent the best possible approach or support true collaboration — and an array of disparate work processes that do not reflect industry best practices. The lack of an integrated technology platform results in significant inefficiencies. For example, a recent Aberdeen study found that the average engineering team adds 3.6 hours of work to each analysis simply because they are using multiple data formats.¹

While it's difficult to pause in the ongoing rush toward the next product launch, most engineering organizations could benefit from taking a moment to look at the bigger picture. Instead of relying on their current technology portfolio, they need to ask themselves, “Are we using a set of integrated, best-in-class solutions that can increase our efficiency and drive bottom-line results?”

What is a Platform?

In today's highly connected world, it's not enough to offer a superior product. Leaders like Apple and SAP have created comprehensive platforms that allow their products and services to easily integrate with one another, as well as with those of their partners. Platforms add business value because they demonstrate that companies understand the day-to-day needs of their customers that extend beyond one product or one location. This end-to-end, value-added approach is the basis for the robust, highly connected ANSYS simulation platform.

The Power of a Shared Technology Platform

ANSYS has anticipated the needs of today's over-taxed and geographically distributed engineering teams by designing an open, integrated platform for simulation that helps team members work together most effectively. Not only has ANSYS developed the best targeted solution in each physics discipline over its 40-year history — but it also delivers the industry's most robust technology platform for integrating these tools, interfacing with other engineering solutions and supporting proven best practices in product development.

The ANSYS simulation platform is based on an open framework that easily unifies individual ANSYS solutions with one another, as well as with custom applications and third-party technology tools. The ANSYS simulation platform recognizes that engineers require a variety of tools and work processes — and delivers significant strategic value by seamlessly integrating these technologies and practices via a single, open architecture. While no one vendor can possibly provide every tool needed across the product life cycle, ANSYS has anticipated the needs of working engineers by offering a convenient platform for technology integration.

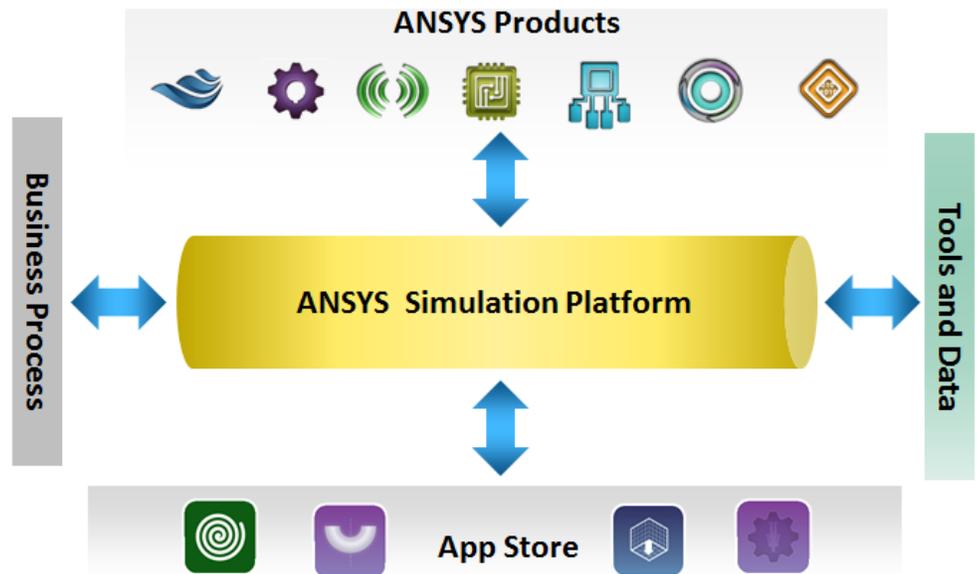
In addition, the ANSYS platform allows companies to implement a complete product life cycle process. From initial design of products through field maintenance, ANSYS provides the full range of flexible, adaptable simulation capabilities that can meet virtually any product development challenge.



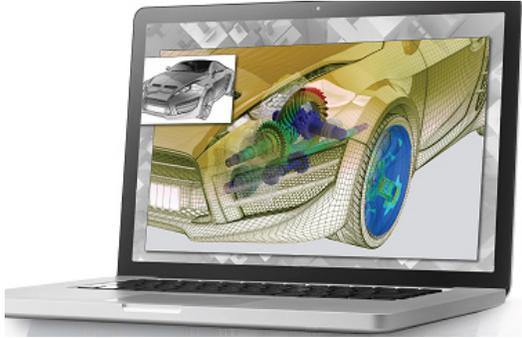
A consolidated simulation platform facilitates holistic approach to product development that, according to Aberdeen Group's Survey², dramatically reduces time to market and product development costs.

Over the past four decades, ANSYS has partnered with the world's leading engineering teams. This deep knowledge base has enabled ANSYS to develop a platform approach that supports proven best practices in product development. Engineers can work at the component or system level, confident that their simulations can be handed off seamlessly and that results can be easily shared. The ANSYS simulation platform helps companies eliminate the functional barriers that can slow the development process or result in product designs that are not fully optimized across all physics. In Aberdeen's study, 60 percent of companies reported "significant efficiency improvements" or "some improved efficiency" after consolidating their technology platforms.¹

ANSYS has formed strategic alliances with established technology leaders, including General Electric, to help its customers apply the world's most advanced engineering practices. By forming an alliance with GE, ANSYS can help its customers implement "digital twins" via GE's Predix analytics platform. Engineering teams can create a virtual replica of their products to study and predict performance issues while the products are in service. Remote sensors mounted on working products feed information back to the engineering organization, which can use this data to build and assess a "twin" product system — as well as inform future product development activities.



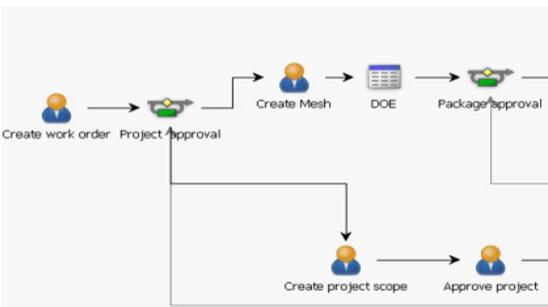
ANSYS Simulation Platform helps customers drive efficiency across their enterprise by providing bi-directional connectivity between engineering tools, data and business processes. An open platform scales the benefits of simulation from experts to mainstream engineering.



ANSYS Simulation Platform delivers the most comprehensive simulation portfolio to simulate complete systems from concept to detailed design



Our simulation platform allows you to leverage ANSYS' strategic partner network of industry-leading companies to meet your evolving needs



A single platform enables centralized data and process management that allows alignment of simulation workflows with business processes such as PLM

Why ANSYS Platform? Three Key Reasons

Today most product development teams are leveraging the power of engineering simulation to some extent. However, most engineering organizations are using a variety of tools that may or may not connect well with one another. By choosing the ANSYS simulation platform, with its broad capabilities and tight integration, companies experience these key benefits:

- **Comprehensive simulation.** Instead of working only at the component level, or studying a single physical force, engineers can leverage the ANSYS simulation platform to develop a complete virtual prototype that realistically predicts how products will perform as integrated systems. Engineers in different functional areas can still work on individual components or in their own physics disciplines — but have complete confidence that these efforts will come together to create a single, comprehensive system-level perspective.

- **Scalable solutions.** Companies of every size and type use ANSYS solutions to solve their product development challenges — and ANSYS is built for scalability, so that the platform can naturally expand as engineering needs change over time. The ANSYS platform also is designed to adapt seamlessly as the underlying IT infrastructure evolves. The platform's open architecture and hardware-agnostic design enable the ANSYS technology platform to be easily implemented, and expanded, in any IT environment.

- **Extensible ecosystem.** While engineering simulation is a critical capability for engineering teams, ANSYS recognizes that its software does not operate in a vacuum. Instead, it must integrate and connect with all the other technology tools and systems used by product development teams today. The ANSYS simulation platform maximizes integration and connectivity among different technology tools and systems. Backed by 40 years of use by the world's best engineering teams, and developed by leading software experts, the ANSYS platform provides practical support for the way product designers actually work.

The Bottom Line: Increased Financial Results

It's always challenging to take the time — and invest the resources — needed to rethink the engineering team's foundational technology strategy. But the ANSYS technology platform has proven, across thousands of customers, its ability to deliver a significant return on investment.

Because the ANSYS platform is intuitive and easy to learn, it can be quickly mastered and applied by everyone on the engineering team — from chief engineers to managers and designers. In today's world of "doing more with less," the ANSYS platform is a smart solution that maximizes the productivity and contributions of every team member.

The ANSYS simulation platform also enables new products to be launched faster than ever, which means that revenue generation happens much earlier. And, because newly launched products have already been verified under a host of real-world operating conditions, warranty expenses can be greatly reduced.

In addition, a shared simulation platform lowers the total cost of technology ownership. Aberdeen found that engineering organizations that had consolidated their technology systems were able to reduce their total cost of ownership by 7 percent over a 12-month period — while teams failing to consolidate realized a 3 percent gain in cost of ownership during that same time.¹

Instead of relying on “the way we’ve always done it,” it’s time for product development teams to consider the benefits of a platform approach. By bringing together stakeholders from across the organization, working at the system level and benefitting from a tightly integrated IT architecture, engineering teams can seize a significant strategic advantage via the ANSYS simulation platform.

Conclusion

The ANSYS simulation platform is helping the world’s leading engineering teams work faster, consider performance at the system level and collaborate across the global enterprise. All these benefits add up to a significant competitive advantage. By launching innovative products and features rapidly — while still verifying every aspect of performance — companies can maximize the return on their product development investments. The ANSYS platform approach is built for the way engineering teams actually work, and it can take the performance of a global product development organization to a new level of speed, cost effectiveness and collaboration.

¹ “Achieving Product Development Success Through a Consolidated Simulation Platform,” Aberdeen Group, January 2015

² “Why Engineering Simulation is Critical to Your Smart Product’s Success in the Internet of Things”, May 2016