3DEXPERIENCE® Works

3DEXPERIENCE®

WORRY-FREE CLOUD-BASED PLM FOR SOLIDWORKS USERS

Deliver innovative, high-quality products faster and more efficiently

DASSAULT SYSTEMES

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AFFORDABLE AND WORRY-FREE CLOUD-BASED PLM

Business is faster and more complex than ever, making it a challenge for small and midsize manufacturers to keep up with the pace. Even when demand for products is high, supply chain disruptions may slow the delivery of critical materials and components, derailing delivery dates. Constantly changing market demands and regulations force manufacturers to make last-minute adjustments that are difficult to manage with limited resources, potentially bloating costs and delaying time to market. Staying on top of change is not only a full-time job, but also critical to delivering innovative, high-quality products faster and more efficiently.

What's more, the modern product development process produces staggering amounts of data, making comprehensive data management essential. A typical mechanical design project may contain thousands of files including part, assembly and drawing files; simulation files; and computer-aided manufacturing files. Legacy CAD/CAM files need to be easily accessed for reuse. Further, the countless files necessary for effective project communications, such as spreadsheets, PDFs and emails, to name a few, all need to be managed to optimize collaboration.

Large enterprises rely on Product Lifecycle Management (PLM) software technology to manage the vast amounts of data supporting the ongoing evolution of product engineering and manufacturing processes. However, PLM projects demand a high degree of IT infrastructure and customization, so considerable administrative overhead is required to keep everything running.

Staying on top of change is critical to delivering innovative, high-quality products faster and more efficiently.

Small and midsize organizations could not afford company-wide PLM systems because of the time, cost and complexity involved. They often turned to engineering workgroup solutions centered on Product Data Management (PDM). A design-focused technology, PDM provided value through improving the management of product design data through existing product development processes. What it lacked was the ability to deliver a strategic, process-centered approach that could connect more than just a single department or process. In the age of constant change, the inability to connect the entire enterprise quickly emerged as a limiting factor for PDM solutions.

DEMOCRATIZING PLM

The traditional client/server PLM systems are still pervasive throughout industry. Nonetheless, cloud-based PLM solutions, such as the one offered as part of the **3DEXPERIENCE®** Works portfolio, are increasingly the preferred way to manage product development data due to ease of use, affordable pricing models and the simplification of overall system management. This has been great news for SOLIDWORKS users and other small to midsize businesses. The **3DEXPERIENCE** Works portfolio connects the people, applications and real-time data from every aspect of a business to the **3DEXPERIENCE** platform for improved productivity, increased collaboration and accelerated innovation.

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Cloud-based PLM enables speedy collaboration by providing a unified place for all data to reside with secure access for anyone in the value chain with an internet connection. That means suppliers, customers and remote team members can participate from any location, at any time and on any device, making it easier to manage the complexities of the entire product record, including the change management process.

As collaboration is critical to optimizing the product development process, it must include stakeholders outside the walls of engineering. Knowing who is working on what project, when each project is due, why delays occur and how to manage change are just a sample of the constant challenges.

The **3DEXPERIENCE** platform makes it easy for everyone in the company to participate in the product development process with easy-to-use apps that enable teams to contribute their departmental expertise and insight. Say goodbye to data extractions, screen captures, emails, Excel spreadsheets and a hodgepodge of disparate departmental tools. The platform automatically keeps an audit trail of

both engineering and communications data, helping to minimize errors and communication miscues. Bringing together people, processes and data for PLM is as easy as connecting the dots.

ENGAGING EXTENDED TEAMS

CONNECTING THE VALUE CHAIN

At specific junctures throughout the product development process, departments outside of engineering need product information to make their contributions. That puts pressure on designers and engineers who must interrupt their work to fulfill requests for PDFs or renderings of products still in development, taking time away from designing and innovating.

These requests include scenarios such as:

- Production wants to view designs and provide feedback early in the product design process to prevent downstream manufacturing issues.
- Managers and executives want access to real-time status reports to make informed decisions.
- Technical communications staff want the latest CAD models to create service manuals.
- Marketing wants access to product design files and to weigh in on the market appeal or to create images for collateral.

With all product data stored on the **3DEXPERIENCE** platform, stakeholders can independently access any data they need. As a result, designers and engineers are free to focus on innovation and maintaining productivity.

TRANSFORMING COMMUNICATION

CONNECTING TECHNICAL AND NON-TECHNICAL RESOURCES

It is difficult to communicate about CAD models and drawings with non-technical stakeholders. These stakeholders, however, need to understand the full intent and status of product designs to provide the vital feedback necessary to move products forward.

Without a clear understanding of what engineering is doing, tensions between departments can quickly flare, causing potential communication breakdowns and slowing time to market. This can be frustrating for engineers who typically agonize over getting every single detail exactly right, slowing the decision-making process to a painful crawl.

Leveraging the cloud-based collaboration tools on the **3DEXPERIENCE** platform, **3DEXPERIENCE** Works enables non-engineering decision-makers a "window" into the design and helps them participate in real-time reviews without any requisite CAD knowledge. Regardless of their expertise, team members should be able to interrogate models on their own time and in 3D, after all a picture is worth a thousand words.

Enabling non-CAD stakeholders to participate early in the design review process skyrockets collaboration and productivity on the front end. Everyone is on the same page. Decisions are made faster. It is easier to communicate concerns, identify issues and propose resolutions. Potential issues are uncovered earlier in the process, preventing downstream delays.

FINDING AND REUSING DATA

CONNECTING PAST AND FUTURE DESIGNS

Product requirements continue to evolve, so leveraging data, especially within the engineering department, saves time and money. Engineers building new products benefit from reviewing past designs, which becomes especially challenging if the engineer who built a previous product is no longer with the company. With a single source of data, the **3DEXPERIENCE** platform makes it easy to access, search and reuse product-related data.

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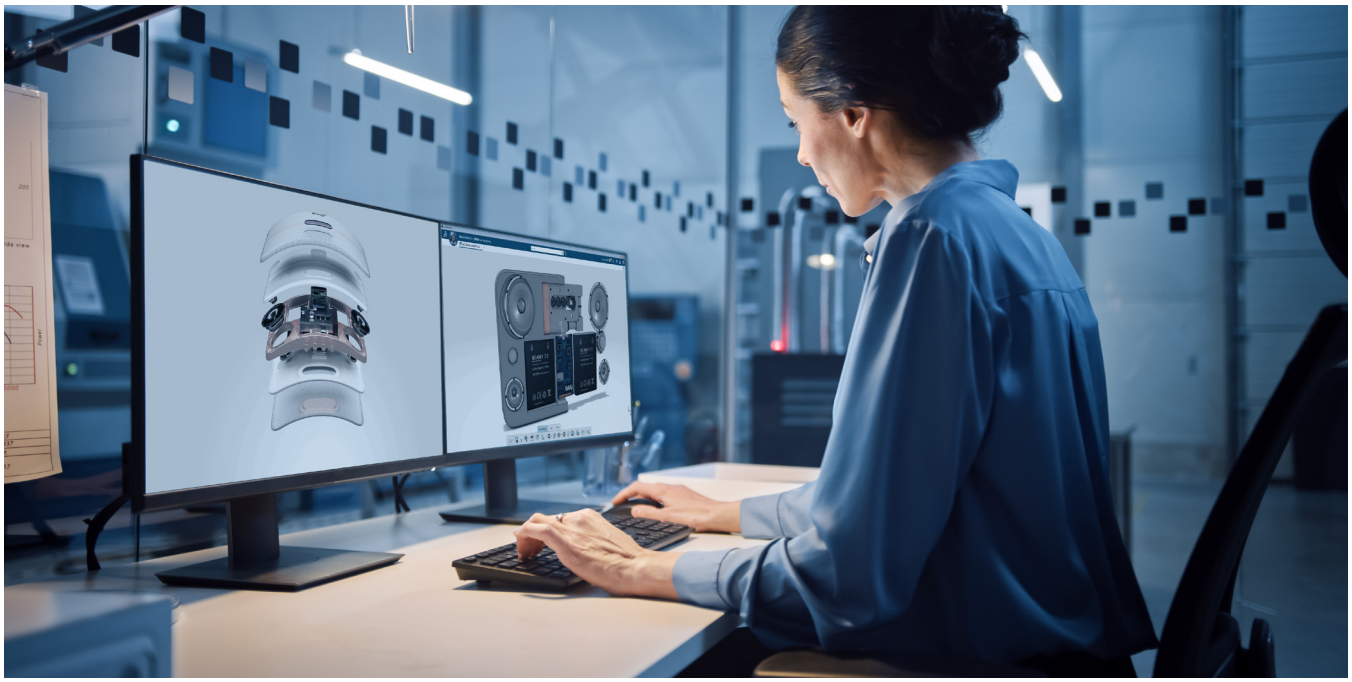
In many organizations, downstream manufacturing teams receive the data they need to do their jobs late in the design phase. However, if given the chance, manufacturing can make valuable contributions early in the design process that may help engineering lower the number of parts in an assembly, reduce material requirements, speed production or avoid costly last-minute changes. Manufacturing also benefits when engineering can show them what has changed from version to version.

The ability to understand changes between designs is also critical to success, but comparing structures, finding duplicates, locating specific components or detecting differences in large structures is typically challenging without the right tools.

PLM tools in the **3DEXPERIENCE** Works portfolio enable engineers to digitally compare modifications to product structure and collaboratively explore product differences to better address market and manufacturing requirements. Digital 3D visualizations of overlaid color-coded models make it easy to see differences and similarities, whether in component geometry, structures or properties. Or you can virtually compare differences side by side in a list or tree view.



COLLABORATING WITH EASE

CONNECTING PEOPLE WITH THE DATA

Most businesses want to automate the connection between design and manufacturing to facilitate efficiency and innovation throughout a product's lifecycle. A more productive product development organization not only achieves time-to-market goals and project material, labor and scrap cost targets but also dramatically improves company operations with higher-quality products.

By connecting teams around a unified product definition on the **3DEXPERIENCE** platform, required changes can be identified early in the design phase when they are easier and more cost-effective to implement.

With all your data stored securely on a cloud-based platform, data can always be safely accessed and managed. Product data cannot be lost or deleted accidentally. Team members contribute directly to a single product structure, eliminating the need to independently manage and combine separate, partial product structures.

With all real-time data in the same place, everyone is up to date with access to a single source of truth. Because users can manage the product structure as data, designers can work in parallel with other groups and have instant access to updates made by other design contributors. This enables real-time concurrent design, enhanced decision-making and faster design maturity.

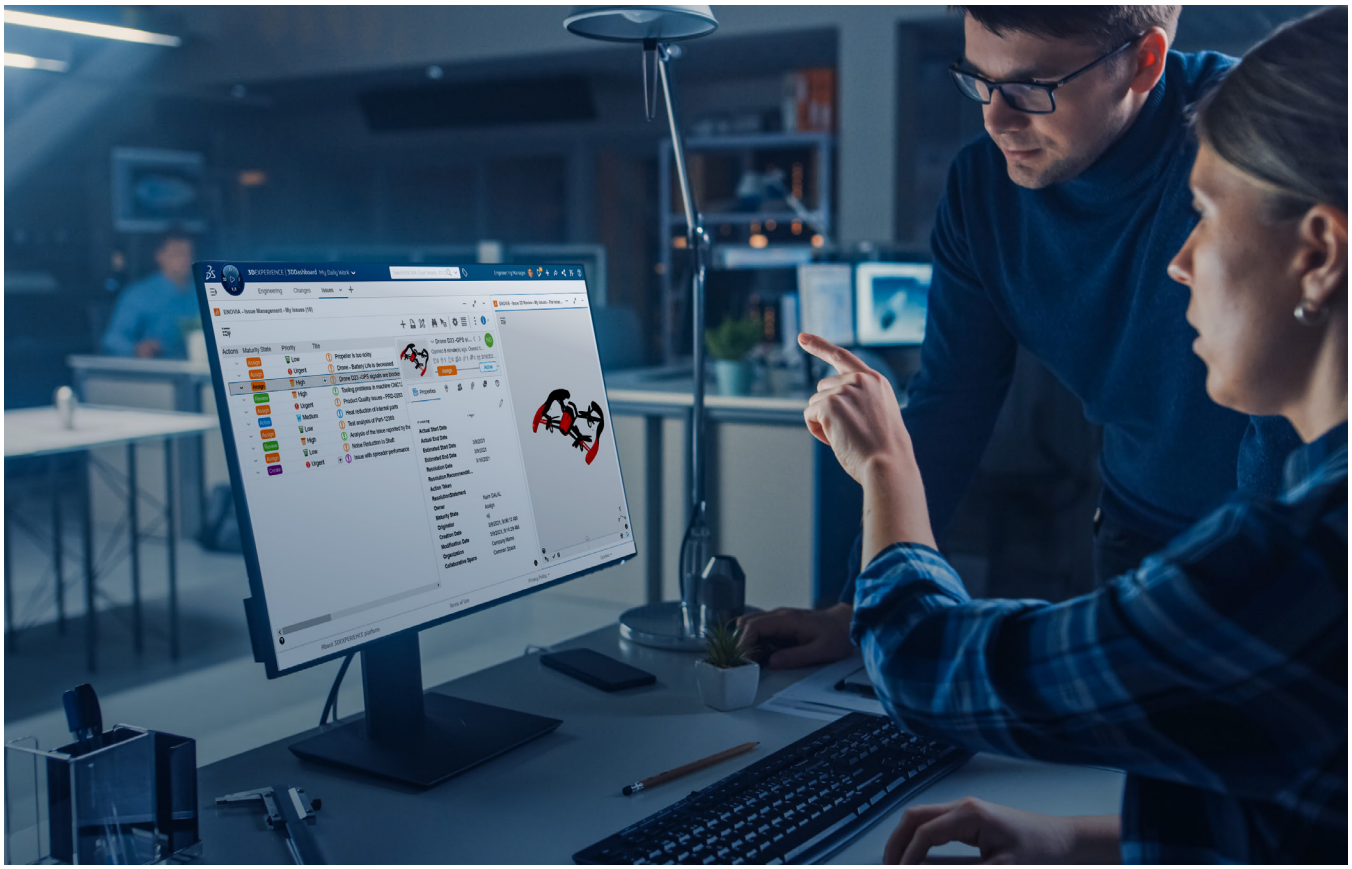
GROWING ALONG WITH BUSINESS NEEDS

CONNECTING BASIC PLM TO ADVANCED PLM

A cloud-based data management environment, the **3DEXPERIENCE** platform efficiently scales with your needs. Many companies start with engineering workgroup capabilities, which begin with the basics: a data repository, revision control and collaboration tools in addition to communication and task management tools. As your businesses grows, the platform provides the ability to add more PLM capabilities seamlessly, such as building and managing manufacturing bills of material (MBOM). Painfully long and slow implementation cycles become a thing of the past.

Sophisticated cloud-based data management environments like the **3DEXPERIENCE** platform also enable you to access PLM functionality directly from within the design environment, allowing a CAD-agnostic approach to all projects since you can store and manage CAD data in various file formats. Plus, all the tools needed to build innovative and high-quality products, such as design, engineering, simulation and manufacturing tools, are contained within the same platform.

It all adds up to rapid design and engineering iterations that can be realized with fewer physical prototypes necessary to finalize product development and manufacturing. It also means customers receive what they want faster, resulting in higher satisfaction and lower overhead costs. Product development teams are freed to invest in what matters most to organizations: building more innovative products faster.



LEVERAGING ALL THE DATA

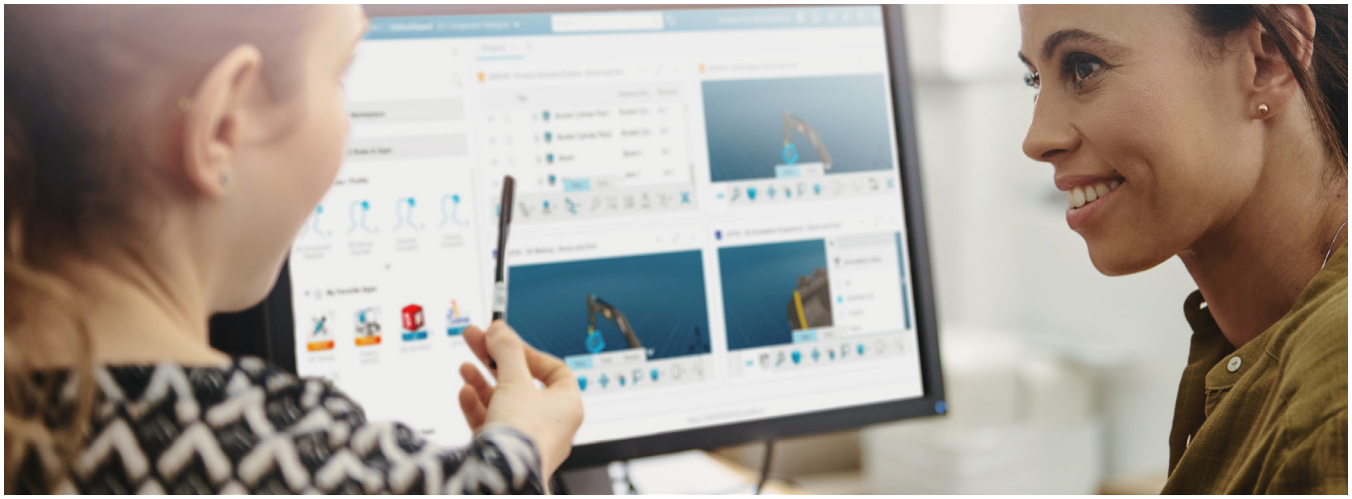
CONNECTING PLM TO PROFITABILITY

PLM on the **3DEXPERIENCE** platform digitally manages all stages of the product development process. Each stakeholder has data access according to their needs. By focusing on solving practical problems that every business faces, companies reach goals faster, with better performance and at less cost than traditional approaches.

The **3DEXPERIENCE** Works portfolio leverages over 40 years of PLM development and platform thinking from Dassault Systèmes, and connects it to the small and midsize business expertise of the SOLIDWORKS brand. The cloud-based deployment model eliminates large upfront hardware and software investments, including the ongoing costs and hassles of managing IT infrastructure and system updates. This levels the playing field for small to midsize businesses, making PLM accessible to all.

In today's market, the pressure is always on to deliver faster and at lower cost. To remain competitive, companies need to bring new products to market efficiently. Working from a single source of truth, the PLM tools in the **3DEXPERIENCE** Works portfolio can help you achieve your goals while enabling all team members to stay connected and on the same page.

To learn more about PLM tools in the 3DEXPERIENCE Works portfolio, please contact a local reseller.



Our **3DEXPERIENCE®** platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE** Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our **3DEXPERIENCE** platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 290,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit **www.3ds.com**.

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