

# PERCEPTION ENGINEERING, LLC IMPROVING DATA MANAGEMENT AND COLLABORATION IN CONTRACT ENGINEERING WITH 3DEXPERIENCE WORKS SOLUTIONS

## Case Study



With design, communication, collaboration, and data management solutions from the 3DEXPERIENCE Works portfolio, Perception Engineering has not only gained cloud-based communication and data management capabilities, but has also realized the benefits of increased collaboration internally and with clients to more efficiently develop new products, such as the Bath Bean shown here.

### Challenge:

Streamline communication, improve data management, increase collaboration, and remove location limitations to accessing its design and engineering environment.

### Solution:

Add design, collaboration, and data management solutions from the **3DEXPERIENCE** Works portfolio on the cloud-based **3DEXPERIENCE** platform—including **3DEXPERIENCE SOLIDWORKS**, Collaborative Designer for **SOLIDWORKS**, Collaborative Business Innovator, and Collaborative Industry Innovator—to its existing **SOLIDWORKS** implementation.

### Results:

- Improved and automated data management
- Realized 24/7 access to design and engineering environment
- Minimized design errors
- Increased collaboration and flexibility through cloud-based access

Perception Engineering works to provide customers with start-to-finish design assistance, offering design, engineering, and product development services ranging from new product development and manufacturing support to machine design and complex automation systems development. The Michigan-based design and engineering consulting firm has built an experienced, passionate team that understands the need for high-quality engineering solutions. With years of experience in manufacturing, product development, and machine design, Perception Engineering was built with engineers from diverse backgrounds who are able to come together and assist manufacturers with any project.

When President Stephen Wierenga founded Perception Engineering in 2013, choosing a design, engineering, and development environment that would contribute to the firm's success was a critically important decision. The company chose **SOLIDWORKS**® 3D product development software.

"**SOLIDWORKS** was the obvious choice when starting Perception Engineering," Wierenga explains. "Early on, we had a vision to be a trusted extension of local manufacturers' engineering teams. To do this, we not only had to have knowledge of how products are made, but we also had to be experts in the tools and software that our clients use. In our region and industry, the preferred design software was and remains **SOLIDWORKS**."

Using **SOLIDWORKS** design software, and later the **SOLIDWORKS** PDM Standard product data management (PDM) system,



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— Scott Tompsett, Director of Operations

Perception Engineering continued to grow, adding employees and embracing the Entrepreneurial Operating System®, a complete set of simple concepts and practical tools that have helped thousands of entrepreneurs around the world build successful businesses. However, improving and streamlining communications with clients and increasing collaboration among various team members became increasingly necessary amidst the closures and lockdowns precipitated by the COVID-19 pandemic. This prompted Perception Engineering to move design and engineering operations into the cloud by adding design, collaboration, communication, and data management solutions from the **3DEXPERIENCE**® Works portfolio in 2021—including **3DEXPERIENCE SOLIDWORKS**, Collaborative Designer for **SOLIDWORKS**, Collaborative Business Innovator, and Collaborative Industry Innovator. The portfolio, purpose-built for mainstream innovation, connects a business' ecosystem in a single, unified, collaborative environment, leveraging the cloud-based **3DEXPERIENCE** platform.

### POWER OF COLLABORATION

Since implementing design, communication, collaboration, and data management solutions from the **3DEXPERIENCE** Works portfolio, Perception Engineering has gained cloud-based communication and data management capabilities. The design and engineering consultancy has also realized the benefits of increased collaboration: both across project teams and with clients. "Having the ability to collaborate around a 3D design is pretty powerful," stresses Director of Operations Scott Tompsett.

"Before we had cloud-based capabilities via the **3DEXPERIENCE** Works portfolio, we could use screenshots and emails to try to collaborate, but having design information available in the cloud 24 hours a day, seven days a week from any digital device gets other team members involved," Tompsett explains. "With more flexible access to project data on the **3DEXPERIENCE** platform, everyone can contribute, which makes collaboration more efficient and effective."

Mechanical Designer Cody Cook concurs. "On a recent project, we recruited a solo contractor to develop design options, which he then could post to our **3DEXPERIENCE** 3DSwYm® Community, giving us the opportunity to have ideas offered and validated from both within and outside Perception Engineering,"

Cook says. "On another project, we had three members of the team in-office and two other team members off-site. Working on the **3DEXPERIENCE** platform, we were able to improve communication and collaboration among team members because we are all working in the same design environment."

## NOTHING FALLS THROUGH CRACKS

Although Perception Engineering had a PDM system in place prior to adding data management capabilities from the **3DEXPERIENCE** Works portfolio, the company still had instances in which the inability to communicate in real time resulted in items falling through the cracks or getting overlooked. "In the past, it was often difficult to get to a customer facility and our mechanical design, project management, and controls personnel were not always in the same location," Cook recalls.

"We would get to a point at which we had to bring everyone together, and occasionally we'd learn that something had been missed," Cook continues. "With the addition of communication, collaboration, and data management capabilities from the **3DEXPERIENCE** Works portfolio, we are communicating in real time at every stage of the project, so everyone is on the same page. We improve communication, maintain tight revision control, and have even reworked our workflows to shorten development cycles and become more efficient."



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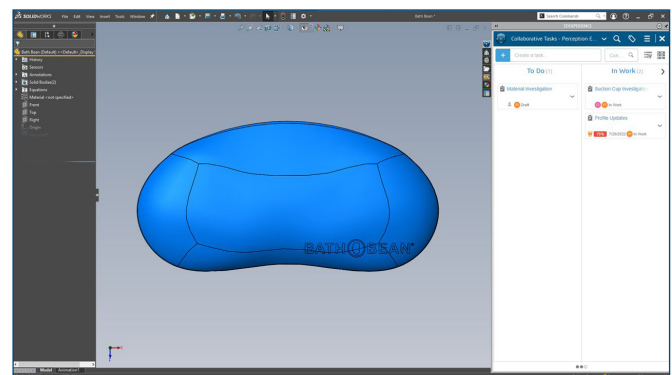
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## FLEXIBILITY, SCALABILITY, AND SECURITY

In addition to providing Perception Engineering with the flexibility to access design and project data around the clock from anywhere, the **3DEXPERIENCE** Works portfolio allows the consulting firm to tap and scale up additional solutions from the **3DEXPERIENCE** platform—such as advanced simulation, greater collaboration—as the company grows, while also improving the security of its data. "Reliability is an important benefit of the **3DEXPERIENCE** Works portfolio," Tompsett notes.

"Previously, we had one server that sat next to Cody's desk," Tompsett adds. "If something ever happened to that machine, we would be in an awkward spot. With the **3DEXPERIENCE** platform, we can rely on the fact that our data will be there and avoid delays related to server crashes or a power outage."



By adding automated, cloud-based data management capabilities from the **3DEXPERIENCE** Works portfolio to its existing SOLIDWORKS installation, Perception Engineering has realized 24/7 access to its design and engineering environment while minimizing design errors at the same time.

## 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 270,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit [www.3ds.com](http://www.3ds.com).



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