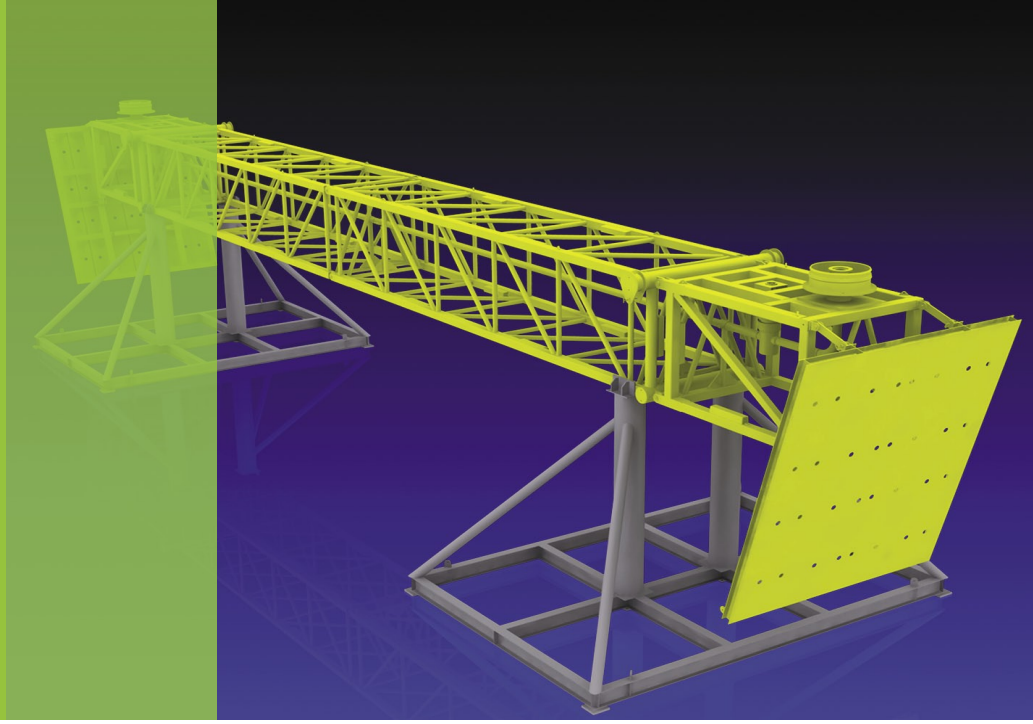
Gary A. Sidwell P.E.

Autodesk Manufacturing Solutions
Customer Success Story

Autodesk® Inventor™



"With Autodesk Inventor, we study the problems our clients have in the design phase. Because we design and analyze iteratively, we are able to create structures that perform far better than they ever imagined. That's why we keep getting called back."

Gary A. Sidwell
President
GSPE

Ahoy, Deep Savings Ahead with Autodesk Inventor

With Autodesk Inventor, GSPE, Inc. creates innovative designs that save a client millions

Project Summary

Since 1986, GSPE, Inc. has been designing heavy equipment, such as offshore construction equipment, platforms, offshore floating structures, rigs, and shipshape structures, for petroleum companies. GSPE, Inc.'s list of clients includes Shell, BP, Amaco, Cooper Cameron, and Conoco-Phillips. Until four years ago, the company focused on surface equipment for the petroleum industry. Then GSPE, Inc. decided to expand its portfolio of offerings to include sub-sea structures. Moving from 2D AutoCAD® to 3D Autodesk® Inventor™ has helped the company succeed in this lucrative market by allowing it to develop innovative designs quickly.

With Autodesk Inventor, GSPE, Inc. has:

- Saved one major oil company millions of dollars
- Greatly reduced the possibility of design errors
- Cut design cycle times by 25%
- Saved approximately $100,000 a year on personnel costs

The Challenge: Prove Expertise in Sub-sea Market, Increase Design Efficiencies

Moving into a new market required GSPE, Inc. to leverage all the resources at its disposal. Gaining client trust was a top priority. "We wanted to be able to see—and show to our clients—how a structure moved, slid, and rotated," says Gary A. Sidwell, GSPE, Inc.'s president. "That meant we needed a way to deliver high-quality presentations to our clients so that we could impress them with our expertise."

Not only did 2D fail to provide the sophisticated presentation package that GSPE, Inc. needed to impress customers, it simply was no longer efficient for its needs. GSPE, Inc. spent too much time double checking data and manually updating bills of materials (BOMs) every time there was a design change. In addition, because the designs GSPE, Inc. produces are complicated and include irregular shapes, the fabrication shop often needed clarification on how a particular piece needed to be cut or put together. At every stage of its design cycle—from initial design to client presentations to fabrication—GSPE, Inc. required a robust 3D design tool that could help the company tackle the sub-sea market.

GSPE, Inc. considered SolidWorks and SolidEdge, but decided that Autodesk's industry expertise, technology leadership, and great support was a natural fit. "Autodesk design tools are industry standard," says Mike Gore, senior designer with GSPE, Inc. "Autodesk also supports its products very well. If we decide to use Inventor for the next five years, we know we will get the service we need."

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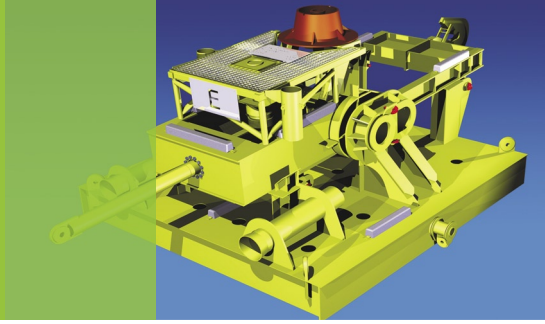

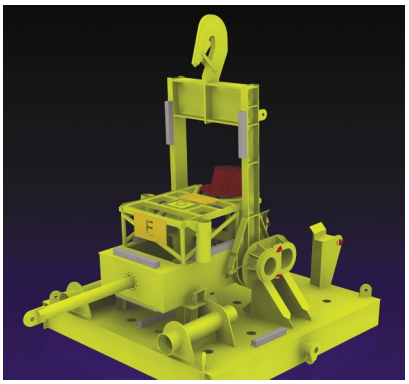

"Autodesk Inventor enables us to do what we do best: create truly cutting-edge designs quickly and cost effectively. It gives us—and our clients—confidence to push the envelope."

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GSPE, Inc. leans on its reseller, DGS, when it needs support. After conducting an initial investigation of solutions on its own, GSPE, Inc. asked DGS to weigh in. "They agreed that Inventor was the right choice," says Gore. After GSPE, Inc. implemented Autodesk Inventor, DGS trained GSPE's designers. Adds Gore, "They have been very responsive to our needs, answering questions and providing excellent training. We're very pleased with the service we've received from both DGS and Autodesk."

The Solution: Innovation Meets Automation

By adopting Autodesk Inventor, GSPE, Inc. has enhanced its ability to create innovative designs that impress clients in the sub-sea market. For example, GSPE, Inc. designed a one-of-a-kind modular truss system that is saving one of the world's largest commercial oil companies both time and money. Before the truss system, GSPE Inc.'s client had to deploy two sleds and a pipeline on the ocean floor to get oil from a well to a ship. Installing these pieces involved hanging them from a hook in the water and setting them precisely on the ocean floor, a time-consuming and costly endeavor. With the new truss system, GSPE Inc.'s client can lower one piece to the ocean floor anywhere between two points—a vastly easier and less costly process.

GSPE Inc.'s teams continually improved upon its original truss design, thanks to Autodesk Inventor. Explains Gore, "There's a vertical plate that goes horizontal once it reaches the sea floor. By tilting and locking this plate up during installation, we reduce a lot of stress that otherwise might occur when the lay vessel moves up and down. It was only by modeling this design in Autodesk Inventor that we realized that we could improve installation by modifying these plates."

Now, GSPE, Inc. creates designs for its new sub-sea customers that far exceed their original goals. "With Autodesk Inventor, we study the problems our clients have in the design phase," explains Sidwell. "Because we design and analyze iteratively, we are able to create structures that perform far better than they ever imagined. That's why we keep getting called back."

Eliminating Errors in Design and Fabrication

Before switching to Autodesk Inventor, GSPE Inc.'s engineers had to manually check to make sure that designs were accurate. This process took too much time to ensure a drawing's accuracy before the design went to the fabrication shop. "In AutoCAD, we had to do hand calculations when we reviewed drawings to make sure the dimensions were correct," says Sidwell. "Autodesk Inventor doesn't allow you to model a design that is not accurate. This has vastly reduced the chance of design inaccuracies—and given our customers a lot more confidence. They know by doing 3D modeling, we're ensuring that our designs are as accurate as possible."

Gore adds, "In addition, because I have everything set up in Autodesk Inventor parametrically, if the length of a number changes, it changes on the model, and the BOM automatically updates itself. Automated BOM changes save us as much as three days at the end of projects."

Fabrication shops are also thrilled that GSPE, Inc. is using Autodesk Inventor. "We give them DWGs straight out of Autodesk Inventor," says Sidwell. "These go to their computer-numerically-controlled machines, which automatically cut from the DWG. If the shop workers have a question, we can pull up a project, spin it around, and get inside to give them an idea of how exactly to put it together. When they leave the presentation, they have a better understanding of the structure and are confident in how to fabricate it."

The Result: Saving Millions

The truss system GSPE, Inc. designed will save one of its petroleum company clients between $5-8 million, because it is lighter and less difficult to install. Not only is the truss system saving GSPE, Inc.'s clients money, the design was completed in record time. Using the traditional pipes and sled combination, a company might spend 14 months just ordering the pipes. Furthermore, traditional installations often require using a lay barge for several days. However GSPE, Inc.'s truss system was designed and fabricated in fewer than six months—and requires a single crane operation to install.

Autodesk Inventor is also shaving 25% off GSPE, Inc.'s design cycles. GSPE, Inc.'s designers create new parts easily, maintain a library of commonly used structures, and no longer manually update BOMs. "Whereas I never reused designs before Autodesk Inventor, I incorporate existing design work in every project now," says Gore. "I'm generating a library of parts and components we use on a regular basis, which saves me a lot of time in new projects."

What's more, the company has been able to accomplish the same amount of work with fewer designers—a savings GSPE, Inc. estimates at $100,000 a year. Sidwell sums up the benefits GSPE, Inc. is experiencing with Autodesk Inventor this way: "Autodesk Inventor enables us to do what we do best: create truly cutting-edge designs quickly and cost effectively. It gives us—and our clients—confidence to push the envelope."

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