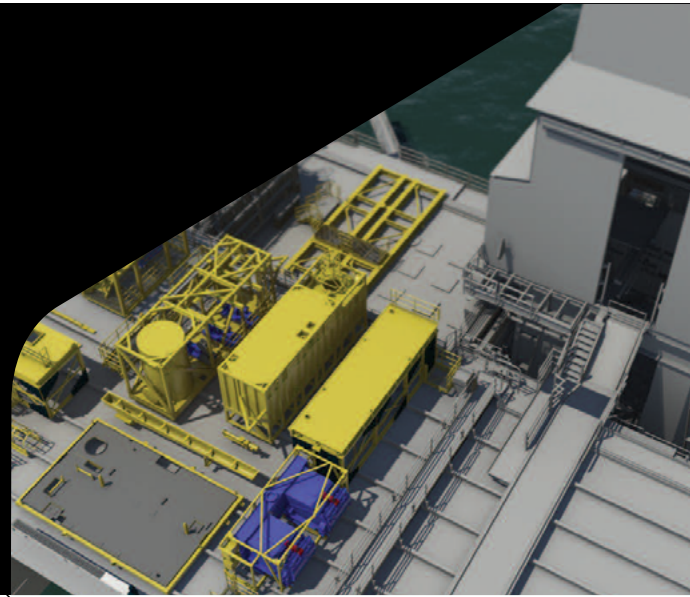


RDS DESIGNS OIL RIGS MORE QUICKLY AND ACCURATELY WITH BIM



BIM is critical to RDS's success.

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– Stephen Brechin, Principal CAD Engineer for RDS


Introduction

With more than 500 engineering and project support specialists in six global offices, RDS delivers drilling rig design services to oil and gas owners, EPCs, and offshore drilling contractors. It serves as the engineering division of KCA DEUTAG, one of the world's largest drilling contractors. The company designs both new drilling facilities and modifications and upgrades to existing drilling rigs. Recently, the company migrated to Plant Design Suite Ultimate, which includes AutoCAD Plant 3D software. AutoCAD Plant 3D software enables RDS to design and document drilling facilities using 3D models.

With help from AutoCAD Plant 3D, the company has been able to:

- Set up models for new projects in hours instead of days
- Incorporate equipment models from vendors into designs more quickly and easily
- Support the continued use of the libraries of catalogs and specifications developed in its prior design system

Take advantage of a simpler and more intuitive user interface for plant design.



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The challenge

Prior to adopting AutoCAD Plant 3D, RDS used a 3D plant design application that was a third-party add-on to AutoCAD software. RDS appreciated the 3D functionality of the solution, but felt it was not giving them the competitive advantages their business needed. They felt it was time consuming to do a number of key tasks, such as set up a new project, incorporate designs from equipment vendors into models, and make design modifications throughout the detailed design phase. After reviewing the software’s long-term suitability, RDS felt it was time to explore alternatives.

“As a company, we are always looking for ways to increase efficiency, productivity, and quality,” says Stephen Brechin, Principal CAD Engineer for RDS. “Our old software did not seem to be keeping pace with our goals. For instance, we would have liked for the software to do a better job of streamlining routine plant design tasks, like having flanges join to pipes more automatically. We decided to see if AutoCAD Plant 3D could better meet our business needs, but without requiring an extensive training process or having to redo our catalogs and specifications.”

The solution

In evaluating AutoCAD Plant 3D, RDS reached out to its Autodesk Authorized Reseller, CADline, and Autodesk. Brechin explains, “Both Autodesk and CADline worked together to understand the industry we work in and our specific business requirements. Plant design software is so critical to our business that we see both Autodesk and our reseller as partners in our process.”

The usability and interoperability advantages of AutoCAD Plant 3D stood out for RDS as well. Because AutoCAD Plant 3D is based on the familiar AutoCAD user interface, the company felt its people would be able to become competent users more quickly. RDS also recognized that the software could import models from equipment vendors more easily. Additionally, it was important that AutoCAD Plant 3D would allow the company to keep using the catalog and specification databases it had amassed over the years. Thousands of hours were spent developing these libraries, and RDS did not have the time, resources, or funding to recreate them.

“We spent around 2,000 hours building up our catalogs and specs,” says Brechin. “All the data has been verified by engineers. We know the data, weights, and dimensions are accurate. We simply could not afford to recheck all that data in a new system. So it was a big plus in favor of AutoCAD Plant 3D that we could easily migrate from one system to the other.”

Fast implementation—faster modeling

RDS worked closely with CADline to implement AutoCAD Plant 3D software. They developed a plan for installing and configuring the software, importing data from the old system, and training users. Over the course of two weeks, RDS completed the initial, more intensive phase of the process, which encompassed getting everything configured and ready to use. After a short training period, the company's users experienced almost immediate timesaving with help from AutoCAD Plant 3D.

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“We developed a detailed project plan and executed it,” says Brechin. “The implementation was fast—less than four weeks from start to finish. The learning curve was shorter, and we found that the AutoCAD users we had access to were able to leverage their existing CAD skills rather than having to learn ‘special’ AutoCAD commands.”

Brechin adds, “We saw a number of advantages right away with AutoCAD Plant 3D. We can have a project up and running in about an hour these days. It took several days to set up projects in our prior solution. We saw that the speed with which designers could make modifications and changes to the models throughout the detailed design phase of the project could generate greater savings in the number of hours it would take to deliver a project.”

A perfect fit

Much of the plant design RDS does is intended for offshore oil drilling rigs. With offshore work, everything needs to be designed and fabricated onshore. It's absolutely essential that everything fits together when it arrives at its offshore location. Along with the other tools in the Plant Design Suite, AutoCAD Plant 3D software's interoperability and improved design automation are helping RDS design with a higher degree of accuracy. “We have to be sure that when we create our models, everything fits the first time,” says Brechin. “We can't have piping, equipment, or steelwork going offshore and then find it doesn't fit. The increased degree of automation in AutoCAD Plant 3D helps us get the details right more quickly. It's little things, like when you drop a flanged valve into a pipe it also brings in the mating flanges and joins everything automatically, and bigger things, too. For instance, bringing in equipment models from external vendors takes a fraction of the time it used to take. Also, making a change to the routing of a pipeline or changing the slope of a pipeline can be done in minutes rather than having to redraw or remodel the pipeline.”

The result

As RDS reflects on its choice of Plant Design Suite Ultimate, the company points to several factors reinforcing its confidence in the software. “Our plant design software is critical to our success,” says Brechin. “We can't afford any downtime. Plant Design Suite Ultimate has proven to be a robust and powerful solution for 3D plant design. From the smallest details to sophisticated 3D models of entire drilling rigs, the Plant Design Suite software helps to deliver the capabilities we need along with timesaving ease-of-use and automation.”

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