

FieldAP drives huge competitive advantage in subsea field concept, Pre-FEED, and tendering

Industry Challenges

Driven by need to respond to the falling price of crude oil, the subsea industry has undergone a wave of bankruptcies and consolidations over the past few years. Yet, far fewer greenfield and brownfield offshore sites can be drilled profitably today.

This increasingly competitive environment requires operators to squeeze margins from its suppliers. In the past, operators typically funded pre-FEED (front end engineering design) and concept work since there were many more new fields and a limited number of suppliers. Today, operators expect those costs to be absorbed by engineering companies, which in turn only reap rewards if they do a great job and win the bid. In other words, doing the work has become the cost of getting a sale.

Further, operators expect engineering companies to provide more extensive concepts and images, and to invest in expanded engineering work, using real-world data before the operator awards any projects. Therefore, an engineering company that does not showcase its engineering skills in the bidding process has limited chances of progressing through the process and winning the bid.

Situation

A Houston-based organization that provides engineering services to the global subsea oil and gas industry has a pre-FEED group that develops complex proposal documents and presentations for use with complementary organizations to tender for new subsea drilling and well construction projects.

In the past, the bidding process used by the company was very basic. The engineers captured brainstormed ideas on flipcharts and in PowerPoint, then converted them into static visuals using Visio, Corel Draw and MS Paint. These documents would be sent to an outsourced engineering house for conversion into CAD files using the rudimentary engineering data. These CAD files were then used to develop the tender by the company.

In the past, outsourced design firms could be hired to rapidly develop draft drawings and concepts, without draining resources from the company. However, these firms either no longer exist in the marketplace or were not a cost-effective option. As a result, the company was left without the tools and internal resources required to provide the type of work needed to submit winning bids.

Solution

Upon introduction to FutureOn's FieldAP visualization technology, the company realized very quickly the field development software was precisely the digital solution that could resolve its pressing issues.

Using FieldAP, the company can now build visually pleasing 2D and 3D fields directly in a collaborative web environment. The fields themselves can incorporate the necessary engineering data to allow asset managers to make sound business decisions.

The additional smart functionality eliminates the pre-FEED CAD work during the proof-of-concept stage and the previous requirement to engage an outsourced engineering firm.

Further, by using FieldAP the company has streamlined its entire field design process, so it can rapidly produce many more concept designs for multiple fields that include important information, such as flowline data.

In the past, the company would have not considered incorporating bathymetry data at this early stage. Now, it is able to load accurate bathymetry data that includes real-world coordinates such that right from the project's outset an accurate data set is built, providing the confidence that data used to build bids sets can be later used for decision-making purposes.

Immediate Results

FieldAP has completely altered the way the company is conducting business. It can generate many more field concepts in a much shorter time, eliminate inappropriate options quickly, and know that the options being presented to the client are accurate — without the need to spend significant up-front expense on outsourced engineering firms.

The ability to eliminate the need for outsourced engineering houses during pre-FEED was the most immediate cost-saving. An outsourced team of four drafters would cost up to \$2,000 per day, with work taking two to three weeks to complete, thus driving a net base cost savings of \$25,000-\$40,000 in the initial concept design phase. Additional savings also were derived from using fewer internal resources to develop bid documents and proposals. Such savings could easily triple the amount of immediate cost savings.

Equally important in today's competitive climate, the company can now respond far more rapidly and efficiently to project opportunities. It can develop concept proposals in 20 percent of the time it took in the past and respond to questions from operators and partners directly by being able to directly access key data in FieldAP. As a result, the company is winning more bids and driving new revenue in offshore engineering projects —at a time when management is closely monitoring business units' effectiveness.

Future Vision

As the use of FieldAP grows within the organization, the company expects the software's ability to support tight integration with its primary back-end SAP system will open the door from Pre-FEED to FEED, and eventually across the entire life of a field. Because the company stores all its key data in SAP, the ability to click on an asset either during the engineering, procurement and construction phases, or during operations, to provide key data about that asset will present a distinct safety and operational efficiency advantage.

Extending further into operations, the company will be able to create a virtual rig book on a tablet that will replace the hard-copy rig books currently in use, saving significantly on printing costs and eliminating risks and errors caused by static, out-of- date information susceptible to destruction or misplacement, and more easily make companywide updates for better consistency in policies and procedures designed to maximize the asset while ensuring the safety and security of people and the offshore environment.