

FUTUREON

ADVANCING OILFIELDS INTO THE FUTURE

Today, the oil and gas sector enjoys unparalleled opportunity coupled with enormous amounts of asset-related data spanning multiple engineering disciplines—mechanical, electrical, structural—and different proprietary systems. Oil and gas project teams, particularly in offshore engineering field development planning, have long been handicapped by lack of readily accessible information and seamless collaboration needed to navigate information-sharing environments. This limitation impedes planning, compresses profit margins and constrains capital expenditure, undermining management’s attempts to improve productivity and drive cost efficiency. Awakened, oil and gas companies now seek ways to transform their existing operating models for sustainable and cost-efficient operations. Enter FutureOn.

FutureOn is on a mission to transform the standard oil and gas industry operating model and eliminate complexities with digitalization methods and digital twin technology—an abstraction/digital replica of physical assets.

FutureOn’s robust offshore data visualization software, Field Activity Planner (FieldAP)—an integrated, cloud-based digital platform—digitizes the planning process and enables field engineers to better comprehend sub-sea field assets via a digital twin, or as FutureOn calls this concept: “FieldTwin”. FieldAP utilizes the modern-day web to construct 2D or 3D field visualizations of engineering data directly in a web browser. The company’s advanced digital and visualization technologies and integrated tools enable engineers to accelerate the field planning process with an accurate visual basis and better decision-making. “The simplicity and anytime-anywhere accessibility of FieldAP provides a seamless visualization of engineering data with accelerated field development,” states Darrell Knight, EVP-Global Accounts, FutureOn.

Across the Life of Field, from development planning to construction, operations and decommissioning of field assets, FieldAP helps teams collaborate productively with field engineers to make profitable development decisions while driving new revenue and cost reduction goals. FieldAP leverages the Engineering, Procurement, and Construction (EPC) process to link engineering data and construct a true virtual representation of



Darrell Knight

the field being built with the simultaneous rendering of maintenance documents for field assets. These digital fields are stored and updated on the company’s digital twin collaboration tool - FieldTwin. The cloud platform utilizes survey, bathymetry, mapping and sub-sea surface data files to build a precise test environment for an efficient digital twin performance calculation during the simulation. With a series of asset models and generic asset libraries, the company grasps the process of adding metadata-equipment-specific and piping and instrumentation diagram (P&ID) data for seamless sub-sea asset operations. “With metadata and P&ID data, the field engineers are able to construct a predefined field with appropriate asset functionalities for a specific requirement,”

explains Knight.

FutureOn also integrates with popular flow simulation software for efficient installation and operation of pipelines through every stage of field development. The company can enable integration of its data visualization tool with any operational software to bring the digital field directly from the cloud platform to life within any web-based operational dashboard. The dashboard collects data, such as performance, temperature or humidity levels, from sensors and IoT devices to support predictive analysis for proper tracking of an operating asset. FutureOn also innovated a built-in virtual reality feature that enables field engineers to explore the virtual environment while insulating the field and operating assets. This allows engineers to “see” more of their field, easily plan ROV operations, and inspect reservoir and well paths, etc.

As technology continues to evolve, FutureOn explores new possibilities of virtual reality coupled with artificial intelligence and machine learning to enhance predictive analysis and accommodate whole EPC processes and simultaneous operations (SIMOPS). “Our clients look to expand the digital twin concept to the entire sub-sea ecosystem.” says Knight. The company plans to adopt a Software-as-a-Service strategy to actively engage field engineers across EPC and operating companies. FutureOn today is actively engaged with leading companies in the oil and gas industry globally to uncover greater customer-product interaction and digitize the energy marketplace. **EC**