JewelSuite

Upstream modeling for optimal production
Upstream development is about making the right decisions when determining what an oil and gas company will do with assets. Contrary to refineries, real estate, or pipelines; upstream assets are natural objects that exist in the subsurface. Precise subsurface models provide critical insight to determine the optimal field development plan.

Challenges include:

- Method of recovery
- Identifying hydrocarbons in a particular underground location
- Reservoir production over time

Key decisions depend on understanding of the subsurface:

- Development plan
- Facilities size
- Selection of materials
- Number and location of wells
- Well design
- Final investment decision
JewelSuite delivers subsurface intelligence and insight through a portfolio of applications focused on geological modeling, geomechanics, reservoir simulation and visualization to optimize field development plans and drive greater production. It can be used as a standalone or in combination with other JewelSuite applications or third-party software for advanced subsurface analysis.
Precise subsurface models

JewelSuite is an innovative, powerful tool to create precise geological models that can seamlessly transfer into any industry standard simulator. The JewelSuite Subsurface Modeling application allows faster, better, more robust evaluation of even the most complex geology. Its ability to rapidly build multiple scenarios accelerates analysis of alternative possible outcomes for determining optimal field development plans.

Revolutionary technology
JewelSuite uses a patented gridding technology that enables modeling of complex geological structures, such as intricate fault systems, unconformities, and salt intrusions, without compromises.

Seamless reservoir simulation
Integrate geologic models seamlessly into reservoir simulation without losing structural details to better assess reserves, production rates, and other critical parameters of field development planning.
Integrated geomechanics

The JewelSuite GeoMechanics application gives greater insight to optimize the performance of wells and reservoirs. Create 1D well-centric to 3D full field geomechanical models to optimize well plans and proactively prevent dangerous and costly rock mechanical issues.

Wellbore assessment
Reliably forecast wellbore instability before, during and after drilling to mitigate issues such as wellbore collapse, tight hole, stuck pipe, fishing, kicks, lost circulation, formation damage, casing deformation, and sidetracks.

Reservoir analysis
Model fault structures, stress, and pore pressure and analyze the effects of pressure changes during drilling and production operations.
A collaborative view

The foundation of effective field development, for greenfields or brownfields, is a collaborative environment. The JewelSuite Viewer application provides a seamless environment to visualize and share information-rich models accurately and in a relevant context for all stakeholders, providing a robust view of projects.

**Data agnostic**
Integrate data from multiple databases, software platforms and proprietary technologies and enable the sharing of data and information cross-functionally with the extended enterprise.

**Effective visualization**
Users can query, analyze, and visualize projects using arbitrary cross sections and other methods in addition to standard data filtering views and routines.
Extensibility

All JewelSuite applications are built on a robust platform, making it possible to easily enhance existing functionality with new plug-ins or modules that contain custom algorithms or methodology; build unique workflow standards through set workflow panels; and connect to proprietary databases or other subsurface applications.

Interoperability

Easily exchange data between JewelSuite applications through shared files, or by dragging and dropping data and seamlessly connect to third-party industry applications.

Accelerated delivery of new technology

Quickly develop, manage, upgrade and scale petrotechnical software within a single user-friendly, integrated and powerful environment.