Emerson E&P Software
RMS

Emerson Oil & Gas Value Chain
Exploration and Production Software

Upstream

Exploration

- Seismic acquisition, processing, and interpretation
- Exploration drilling

Development & Production

- Reservoir modeling
- Well design, drilling, and completion
- Production Optimization

Midstream

Transportation & Trade

- Pipeline transportation
- Terminals for processing, storage, and distribution

Downstream

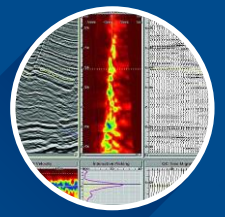
Refining, Processing, & Blending

- Crude refining and processing
- Petrochemicals

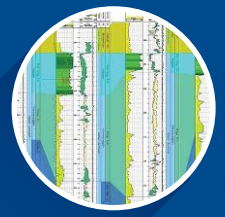
Marketing & Distribution

- Wholesale and marketing to end-user

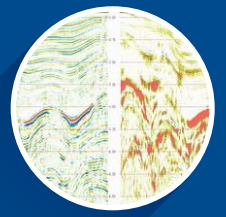
Exploration & Production Software



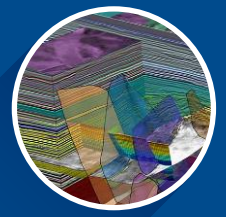
Processing & Imaging



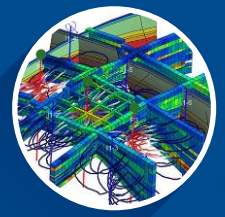
Formation Evaluation



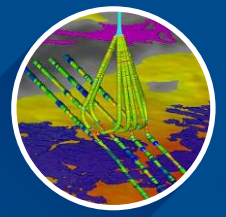
Interpretation



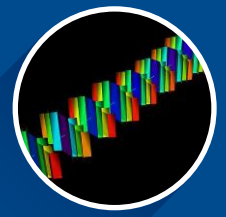
Geologic Modeling



Reservoir Engineering



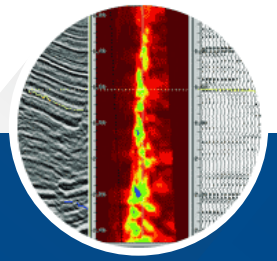
Drilling



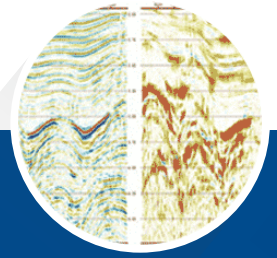
Production Optimization

Emerson E&P Software Portfolio
Geologic Modeling and Reservoir Engineering – Anchor Products

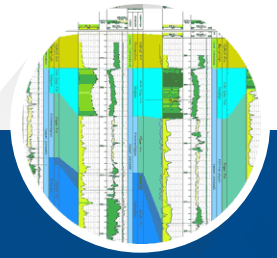
Processing & Imaging



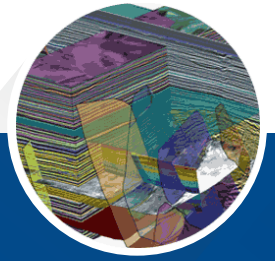
Interpretation



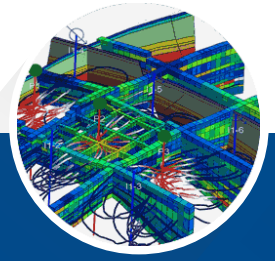
Formation Evaluation



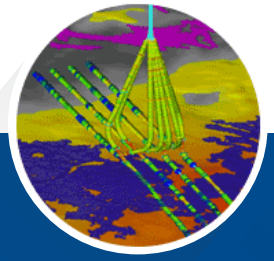
Geologic Modeling



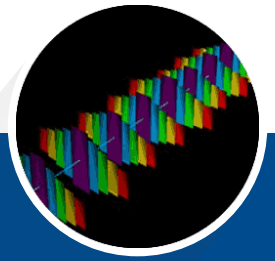
Reservoir Engineering



Drilling



Production Modeling



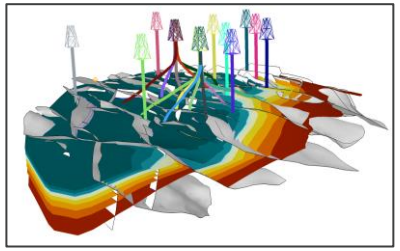
DATA MANAGEMENT & CONNECTIVITY

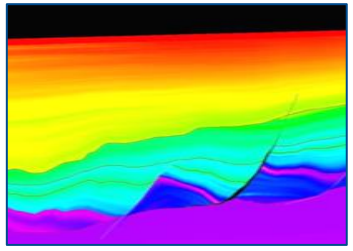
RMS
SKUA-GOCAD
Tempest

Emerson E&P Software – Geologic Modeling and Reservoir Engineering Anchor Products

SKUA-GOCAD

Geologic Integrity across Subsurface Workflows

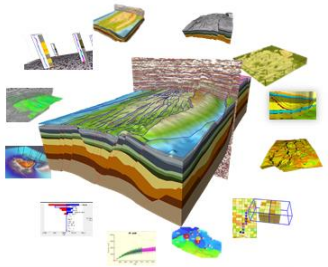


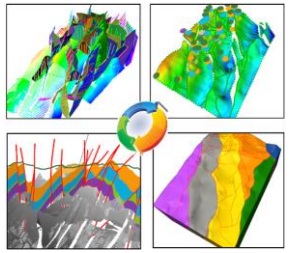


- Model geology accurately whatever the structural and stratigraphic complexity
- Ensure geologic coherency across processing and imaging, seismic and geologic interpretation, geomechanics and reservoir engineering workflows
- Open system with software development toolkit and APIs for client customization

RMS

Reservoir Modeling Workflow Automation

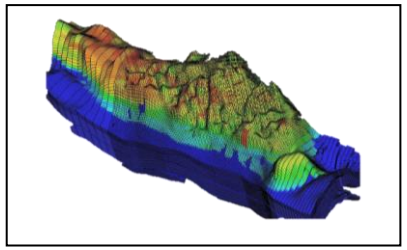


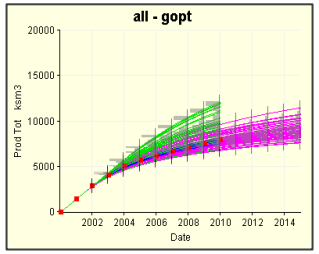


- Build and easily maintain evergreen reservoir models while consistently honoring all your data
- Workflow and uncertainty centric modeling solution for traceability, repeatability and optimal scenario and realization handling
- Key component of Big Loop™
- Open system with python scripting and APIs for client customization

Tempest

Reservoir Development with Confidence

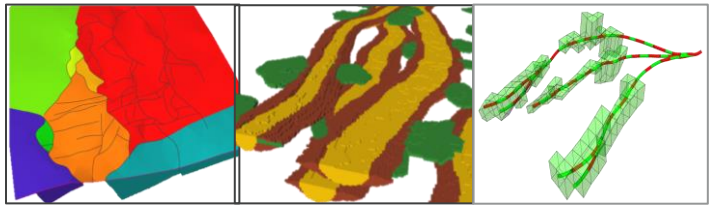




- Tempest MORE: established black oil and compositional flow simulator, leader in CO2 injection
- Tempest ENABLE: the first and most eficient ensemble-based history matching and optimization application
- Tempest VIEW: efficient, reservoir engineer oriented, flow simulation result analysis application

Emerson E&P Software – Geologic Modeling and Reservoir Engineering RMS

High quality models

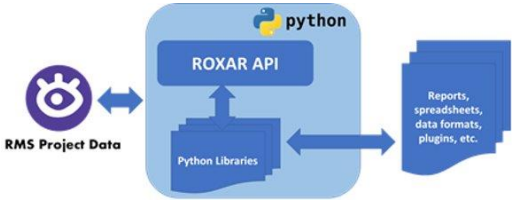


- Fast and user friendly modeling tools for building accurate reservoir models from seismic to simulation
- Unique and powerful structural uncertainty modeling functionality
- Several facies modeling options to accomodate for a variety of depositional environments
- Flexible and intuitive navigation and visualization of data and results throughout the modeling process
- Powerful region handling for structures and 3D grids

Workflow automation

- Intuitive and easy Workflow handling capabilities for any modeling workflow
- A workflow can consist of a combination of predefined Jobs or Tasks, and/or custom made Python scripts
- Support for nested workflows
- Comprehensive scenario and realisation handling
- Uncertainty handling capabilities for a variety of modeling operations
- Notes and comments can be added as part of the workflow for improved understanding and collaboration

Openness and scripting

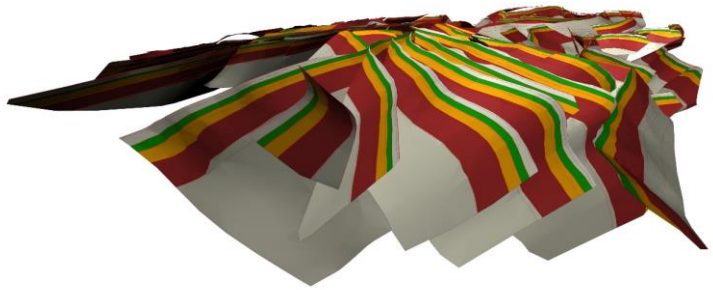


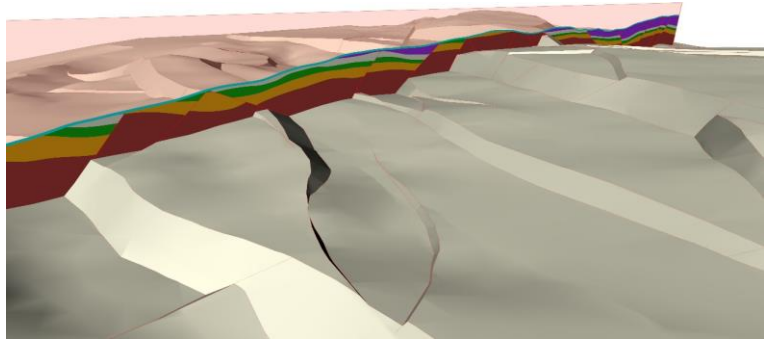
- The Roxar API provides access to RMS project data using the Python language.
- The API allows you to retrieve and make a copy of and store data, run calculations, create new data items and more.
- A RESQML data transfer tool allows for import and export of RESQML files independent of application or platform
- Roxar API can be used to interact with data & jobs not only in RMS but also using external processes e.g. Jupyter notebooks

Build better reservoir models faster

Emerson E&P Software – Geologic Modeling and Reservoir Engineering
RMS – Customer Success Story

Developing a Reservoir Modelling Workflow for the complex Heidrun Field





Challenge

- One of the most significant production challenges in the Jurassic region of the North Sea is the ability to generate accurate and geologically representative reservoir models due to issues such as fault and stratigraphic geometry, truncation behavior and the creation of viable simulation grids.
- The customer had previously utilized two different software packages to model the field, but challenged RMS to develop a simulation ready model capturing all identified reservoir complexities, which would then form the basis of future reservoir management strategies and help increase field production. Modelling time, ease of use and reproducibility were key criteria for the case.

Solution

- A complete, complex and accurate fault model was built and quality controlled in just a few days.
- Horizon modelling was set up as a single job, using in the seismic interpretations, the isochors, the well data and other control data to build a geologically consistent stratigraphic model.
- The Base Cretaceous interpretation can be defined as an unconformity which allows it to truncate any underlying horizons. The horizon model ‘remembers’ the geometry of the uneroded stratigraphy, and this was used by the gridding job to guide the construction of grid layers in the 3D grid, ensuring that the 3D grid is as geologically accurate as the horizon and fault models.

Result

- A modeling workflow with the different jobs used was established during the modeling process, allowing fast and easy model updates as new data/information is available in the future.
- A highly accurate and geologically representative model was built – often in areas of poor data resolution – accommodating all available data and geological complexities. This allowed the RMS modelling system to succeed where competitor systems simply could not cope.

Emerson E&P Software
RMS

Learn more: www.emerson.com/EPSoftware

Contact us: EPSinfo@emerson.com

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