We enable companies to turn subsurface data into value by removing the limitations of traditional reservoir modelling.
Resoptima removes the traditional limitations of reservoir modelling by unlocking the power of subsurface data.

We have the only commercial ensemble-based modelling tool to address subsurface uncertainty.

Our solution orchestrates your static and dynamic models and modelling processes, bringing in all your data, to let you create, evaluate, and re-evaluate the reservoir in all the complexity you see.

Powered by our technology, subsurface uncertainty is transformed by data and physics into actionable insights.
Data Driven, Physics-Based

We orchestrate, automate and integrate geo-modelling and reservoir engineering subsurface models and workflows.

Uncertainty-Centric, Uncovering the Reservoir

Our vision is that there is not just one view of the subsurface. Our technology is based on a methodology that enables geoscientists and engineers to continually create and re-create geological and reservoir models by testing uncertainties and assimilating them to collected data.

Reduced Modelling Time, Better Results

Our highly scalable algorithms handle large numbers of reservoir model parameters and automate history matching for fast and easy model updating. This enables teams to focus on decisions.

Analytics Assisted, Wider View

Our cloud solution enables you to explore and optimize your ensemble of models. With the ability to view multiple scenarios automatically, this improves reservoir management decisions.
ResX is the only commercially available ensemble-based software that ties static and dynamic data conditioning with the physics of reservoir models to address all subsurface uncertainties. Through efficient geomodelling and engineering workflows, uncertainty is captured and propagated through repeatable processes. ResX's automated and uncertainty centric approach dramatically reduces modelling time so the team can focus on the insights that drive high-value decisions.

- No “base case”
- Uncertainty-centric
- Honoring all available data
- Combining data and physics
- Automating manual workflows
- Connecting domains in a closed loop
- Living, easy updating models
- Lean, iterative reservoir modelling

Grounded in ensemble methods, ResX uses data and physics to capture all views of the subsurface.

Geoscientists and engineers can assess different concepts within a full range of geologically consistent—and equally likely—reservoir models.
IRMA (Integrated Reservoir Management and Analytics) is a cloud-based platform. IRMA drives robust management decisions by building on ResX’s ability to create and integrate data and models. IRMA has been designed to enable companies to unlock the power of predictive and prescriptive analytics for reservoir model ensembles. It is a live digital platform to investigate model performance, alternatives and performance benchmarks.

**Portfolio management**
- Corporate asset views
- Financial benchmarking
- Risk assessment

**Subsurface analytics**
- Reserves estimation
- Production insights
- Model validation
- Forecast analytics

**Domain Focus**
- Drainage strategy optimization
- Infill drilling
- Well planning

Unlock the power of analytics on an ensemble of models to drive the best decision
Fast Integrated Reservoir Modeling on the Gjøa Field Offshore Norway
SPE-188557-MS
Sætrom, Morell (Resoptima AS), Ravair, Le Maitre, Seldal (Engie E&P Norge AS)

**SOLUTION**

With the combination of the right algorithms and repeatable modeling workflows using ResX, it was possible to automate the process of reservoir modeling and data conditioning while accounting for all static and dynamic data in a consistent manner across the modeling chain. Adding to this the combined expertise of the subsurface team led to an improved understanding of the field.

**CHALLENGE**

- Compartmentalized, tilted fault segments
- High uncertainty in remaining hydrocarbon volumes and in the best location of infill wells
- 32 million unknown model parameters

Enhancing the Geological Models Consistency in Ensemble Based History Matching an Integrated Approach – SPE-186049-MS
Sætrom (Resoptima AS), Perrone, Pennadoro, Tiani, Rossa (Eni S.p.A.)

**SOLUTION**

The Ensemble Kalman based method made it possible to generate multiple matched models with a comprehensive set of model parameters. It addressed the history matching challenges using repeatable workflows that allowed new data to be quickly incorporated. For Eni’s complex reservoir, ResX’s integrated methodology made it possible to retain the necessary geological consistency.

**CHALLENGE**

- Complex, channelized turbidite reservoir
- Large uncertainties in faulting and channeling
- Increased reliability in reservoir model forecast

Consistent Integration of Drill-Stem Test Data into Reservoir Models on a Giant Field Offshore Norway – SPE-181352-MS
Sætrom (Resoptima AS), Selseng, MacDonald, Kjølseth, Kolbjørnsen (Lundin Norway AS)

**SOLUTION**

Using ResX, dynamic data including Drill Stem Test (DST) build up pressure derivatives were fully conditioned with static data inputs. The solution combined these data, the subsurface know-how of the asset team, reservoir physics, and machine learning algorithms to generate an ensemble of reservoir models. The results from this full suite of models provided a more reliable view of subsurface uncertainties thus reducing the risk of the chosen development strategy.

**CHALLENGE**

- Greenfield, with limited dynamic data
- Observed thickness below seismic resolution
- Capture information in multiple Drill Stem Tests to increase subsurface understanding
Selected Publications

JPT2018: Enhancing Model Consistency in Ensemble-Based History Matching
C. Carpenter, JPT Technology Editor. This article contains highlights of paper SPE 186049 listed above.

JPT2017: Integrated Software Tool Brings Speed, Reliability to Reservoir Modeling on Barents Sea Project
G. Halset, V. Arigoni, P. Panfili, J.-A. Tveit, SPE, Eni, J. Sætrom, Resoptima

EAGE2015: Improved History Matching and Uncertainty Quantification for Gas Condensate Fields Using an Ensemble Based Approach
A. Barliansyah, T. Skåre, Bayerngas, T. F. Munck, J. Sætrom, Resoptima

EAGE_ECMOR2016: Reservoir Modelling and Uncertainty Quantification - Why we Currently Fail and What we Can Do to Fix this
J. Sætrom, E. Morell, T. F. Munck, Resoptima

IPTC-18868-MS: Consistently Integrating Static and Dynamic Data in the Facies Model Description Using an Ensemble Based Approach
J. Sætrom, A. Phade, M. L. Vinther, T. F. Munck, Resoptima

SPE-175668-MS: Improved Reservoir Management Decisions Using Ensemble Based Methods
J. Sætrom, K. Klemens, T. F. Munck, Resoptima