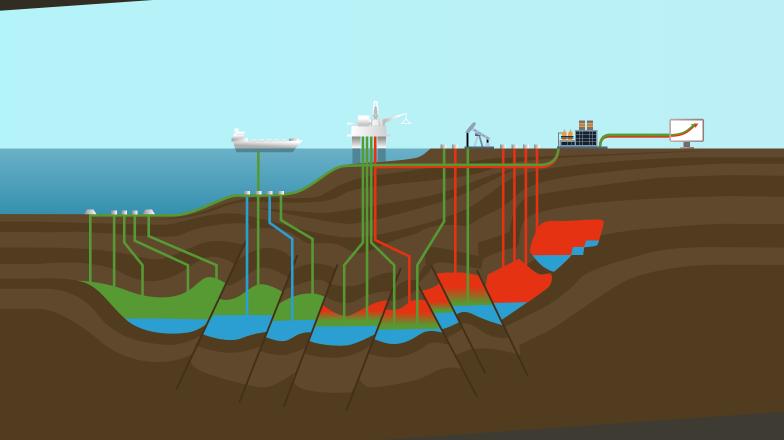


PIPE-IT IAM SOFTWARE

Integrated Asset Modeling (IAM) & Optimization

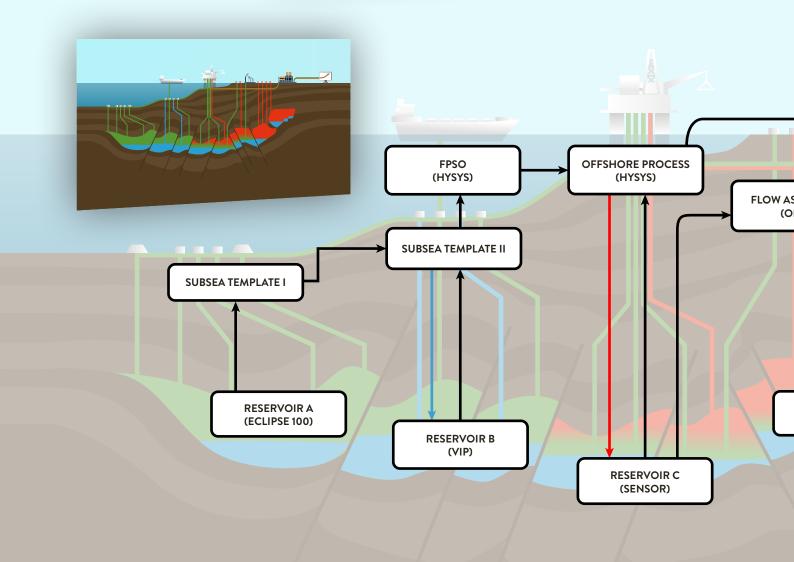


WHAT WE PROVIDE TO THE INDUSTRY

- Pipe-It IAM software
- Pipe-It Solutions & Services
- Optimization

- Sustainability
- Consultancy
- PVT Consistency





Any asset can be implemented as a **Pipe-It** project with integrated models for each part, and multi-level optimization.

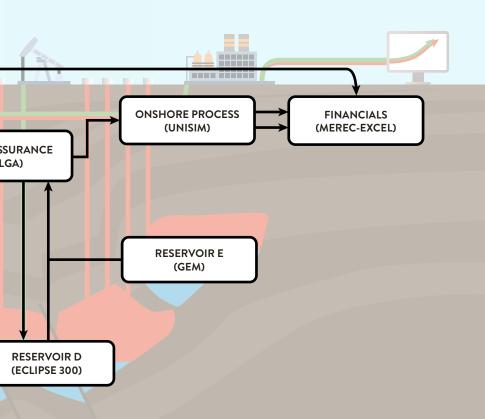
FEATURES

- integrate your existing array of software
- Build & automate integrated projects
- Perform optimizations across disciplines
- Compositional streams from black-oil rates
- Vendor independent integration

SOLUTIONS

- Product Blending Optimzation
- Production Allocation
- Tie-In Evaluation
- Reservoir to Network Integration
- Infrastructure of compositional streams

INTEGRATE AND OPTIMIZE ONE GLOBAL MODEL — PIPE-IT IAM SOFTWARE



"Pipe-It breaks down the walls between upstream and downstream integrated operations..."

Reservoir Engineer, major NOC

BENEFITS

- Decision making with confidence
- Reduced OPEX & CAPEX, increased NPV
- Fast Track solution implementation
- Freedom to continue using your exisiting software
- Integrate any O&G specialist software into one integrated, global model

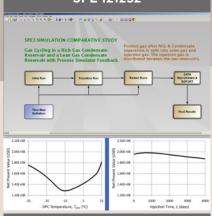
Reference projects

ASSET	CUSTOMER
Åsgard Area (Norway)	Statoil
Santos Basin (Brazil)	Petrobras
Mariner (UK)	Statoil
Miskar (Tunisia)	British Gas
Ekofisk (Norway)	ConocoPhillips
Shale Assets (US)	BG Group
5 Major Fields (S. Arabia)	Saudi Aramco
Foothills (Colombia)	Equion Ecopetrol



IAM Benchmarks

SPE 121252



SPE 130768



EXAMPLE PIPE-IT USAGE

RESERVOIR MODELING

- Blackoil-to-compositional conversions so you can use (e.g.) ECL100 instead of ECL300
- Coupling multiple reservoir models from a mix of software vendors
- · Practical Reservoir-Surface Integration

SURFACE PROCESSING

- Create accurate streams from reservoir models for detailed surface process calculations
- Extremely fast process module that can reproduce most Hysys/Unisim process models

WELL TESTING

- Convert well test rates with varying separator conditions to rates with a common surface process
- Obtain flowing composition from well test rates

PRODUCTION SYSTEMS

- · Compositional production allocation
- Multi-phase flow meter modeling
- Transient well startup
- · Surface Network integration (OLGA, GAP etc.)

FIELD OPTIMIZATION

- Mature field tie-ins for optimal utilization of existing infrastructure
- New field development planning & well/field inphasing optimization
- · Product blending optimization

SHALE RESERVOIR OPTIMIZATION

- · History matching and forecasting
- · Rate Optimization of Liquid Rich reservoirs
- · Well Design & Spacing optimization

SOLUTION:

Petrostreamz is a specialty consulting and software company, providing solutions for model-based IAM. The company spun-out from PERA in 2005, which has a 25+ years track record in advanced PVT and streams technology, gas-based EOR, and compositional reservoir simulation.

Services

- · Pipe-It software licensing.
- Building Pipe-It custom projects from upstream to downstream.
- Development of customized Pipe-It modules and plug-ins.
- Pipe-It model maintenance and sustainability services.
- Fluid Consistency check for integrated modeling.
- Training courses.

Ready-to-use Modeling Solutions

- Product Blending Optimization
- · Production Allocation
- Reservoir to Network Integration
- Tie-In Evaluation

Shale Solutions

- Well Design Optimization
- History Matching & Forecasting
- · Choke Control / Liquid Yield Optimization
- Refracture Evaluation

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