

# Production Optimization App

## Key Benefits

1. For the Executive: Provides a consolidated view of operations and finance metrics related to your producing assets.
2. For the Engineer: Computes the required key performance metrics, which include subsurface and surface equipment. Machine learning-driven and industry-standard physics-based analysis are used to optimize economics and increase production.
3. For the Production Operator: Dashboards visualize the daily data needed to prolong asset life, reduce downtime and operate-by-exception, while ensuring continual insights in the field operations.
4. For the Enterprise: Allow users to develop a unified data perspective that generates a sustainable, consistent, and comprehensive view of all your production data, connected and accessible in a single system.

## Key Features

1. Preconfigured commercial connectors to industry standard apps / software
2. Asset wide surveillance that connects operational and financial surface and subsurface data
3. Advanced production engineering analysis & forecasting technology including AutoDCA, type curves, etc.
4. Trained ML models for faster data cleansing and analysis

A common deficiency in production optimization is the time and effort in building and maintaining physics-based models. Traditionally, physics-based reservoir models take too long to build and execute to be useful in time-critical workflows. It often takes months to build and history match the model to produce impactful production forecasts for a variety of completion and lateral spacing scenario designs. The complexity is even more challenging in horizontal wells that are drilled through layered formations with numerous frac stages.

Companies utilizing the PetroVisor Production Optimization App can rapidly optimize production, evaluate asset and corporate-level cash flows, and plan oil and gas capital expenditures. Within a single unified workflow, a user combines complex data analytics, physics-based modeling, and sophisticated economics modeling processes. The results are used for building optimal drilling schedules, increasing production volumes, analyzing cash flows, and debt and investment needs.

This automated production app removes many manual processes from the user to allow them to focus on the results that matter. Human intervention in the workflows is minimized to building a goal-centric outcome which may include: determination of project scope and purpose, development of technical requirements and inputs, identification of decision criteria and decision points, and to provide seamless knowledge conveyance.



Reduce Time  
Reviewing Wells by

**85 %**



Increase Production  
Optimization  
Models by\*

**30 %**

# A simplified approach to production optimization



## CENTRALIZE & INTEGRATE YOUR PRODUCTION DATA

Create a central place to manage all integrations and automations to rapidly deploy workflows. Compatible with most data sources and major production accounting and SCADA platforms, such as P2, Quorum, Peloton, CygNet and more.



## FLEXIBILITY / SCALABILITY

Create sophisticated models by combining data from various sources. Quickly run models and analysis that are shared across teams.



## ACCESSIBLE AND UNIFIED VIEW OF YOUR DATA

Enable users to develop a unified data perspective that generates a sustainable and standardized view from the integrated data and the outcomes of the optimization workflows in a matter of hours.



## SYNCHRONIZATION / AUTOMATIC UPDATES

Decrease the time required for manual well assessment using prescriptive actions for underperforming wells which require further investigation.



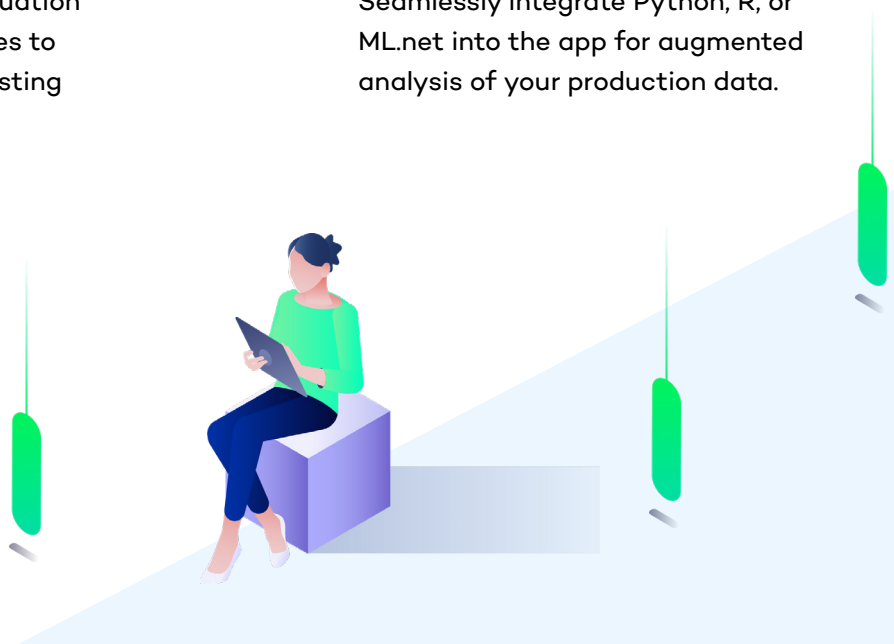
## OPTIMIZE YOUR PRODUCTION WORKFLOWS

Produce an automatic re-evaluation and selection of top candidates to increase production while boosting the economic success rate.



## ADVANCED TECHNOLOGY AT YOUR FINGERTIPS

Seamlessly integrate Python, R, or ML.net into the app for augmented analysis of your production data.

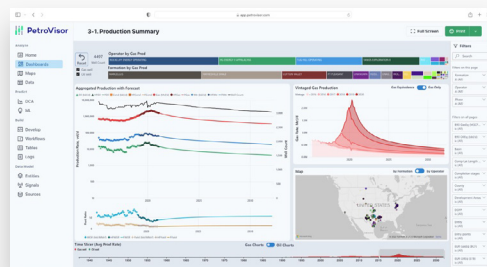


# How to use PetroVisor's Production Optimization App



## Production Loss & Deferment

These dataflows and calculations classify quantities of deferred production and production losses based on previous vs. actual performance.



- Efficiently track operational performance, including cumulative forecast vs. production and field estimates vs. budget vs. actual expenditures by cost type
- Quickly discover the most common reasons for downtime on all assets and filter to downtime reasons in the last 7 days

## Technical Well Problem Detection

Detect general technical problems based on production or injection rates, e.g. sudden changes in production rates.

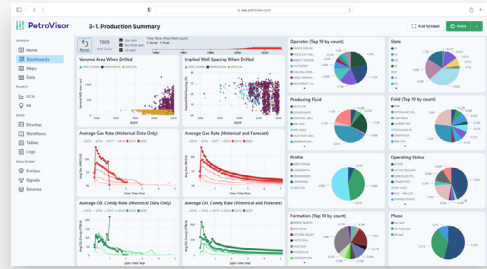


- Enable a production operator or production foreman to efficiently identify possible production issues in day-to-day operations



## Shut-in Risk Scoring & Remediation

PetroVisor identifies wells where remedial action may prevent a future shut-in, or where deteriorating production can be restored.



- Instantly view daily oil/gas/water production and daily forecast, daily injection, and daily average pressures
- Automatically analyze and rank wells for reactivation and shut-in based on optimal production potential or requirements for reactivation relative to cost, expense, and market pricing

## Workover Candidate Selection

The entire candidate screening model is automated, i.e. continuous automated screening for underperforming wells, including KPI calculations, data analytics, problem detection, cost and risk estimation, NPV calculation and ranking of workover opportunities.



- View workover expense summaries including previous quarters, budgeted, authorized and actual
- View monthly total workover cost by type and workover performance results
- Ranked list of under-performing wells to be checked, identified as work over candidates

## References

[\\*Artificial Intelligence Assisted Well Portfolio Optimization - An Automated Reservoir Management Advisory System to Maximize the Asset Value - Case Study from ADNOC Onshore](#)

[Deployment of a Generic Expert System to Rank Operations Business Opportunities Automatically Under Ever Changing Economic Conditions](#)

