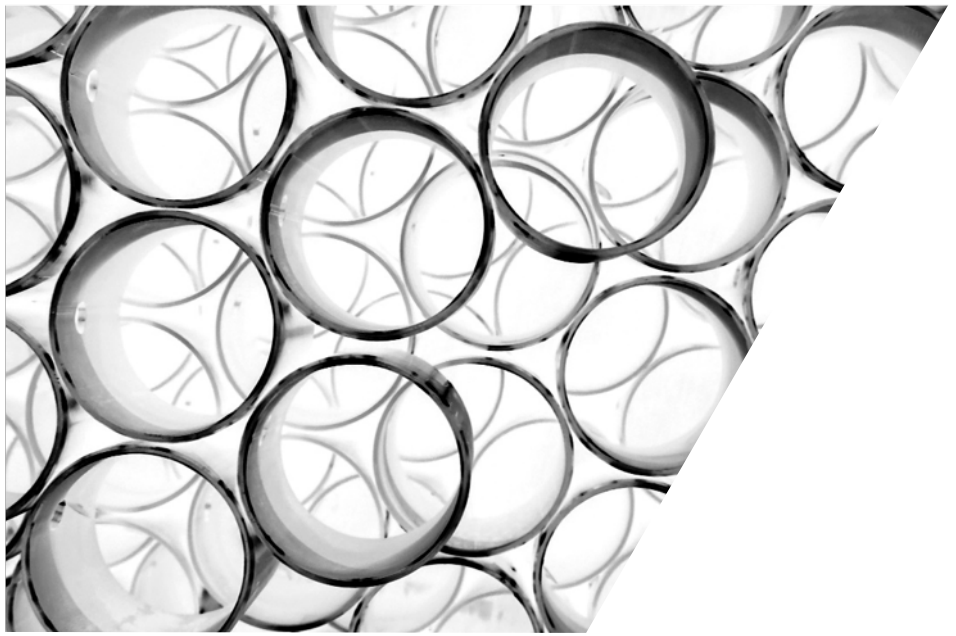
We worked with a major O&G company to optimise oil production from wells while minimising risk from temporary well shut ins

Using advanced analytics to minimise loss production opportunities through optimal operational decisions



Context

A major O&G company was facing operational pressures in the near future.

Natural reservoir pressure decline meant there would be wells at risk of temporary shut in due to liquid load up in the coming years.

When a well shuts down, the impact is reflected in loss production opportunity (LPO) plus costs associated with artificial lift measures.

Absence of historical data and complexity of the mathematical approach were main challenges the organisation could not overcome for the last 2 years

Approach

Apply advanced analytical techniques (dynamic simulation, predictive machine learning models, Bayesian optimisation) to identify optimal line up configuration and chokes settings to:

- minimise risks of temporary liquid loading risk
- optimise field oil and gas production while
- meeting set of constraints (plant processing capacity, pressure constraints, etc.)

Deploy a cloud-based infrastructure with scalable computational power and a simple command line interface to enable users interact with the model

Landscape

100+

Wells across the oil field

10+

Models at the gathering line level

<1s

Required to run a simulation

