

LiftSelect

Strategic production planning service

APPLICATIONS

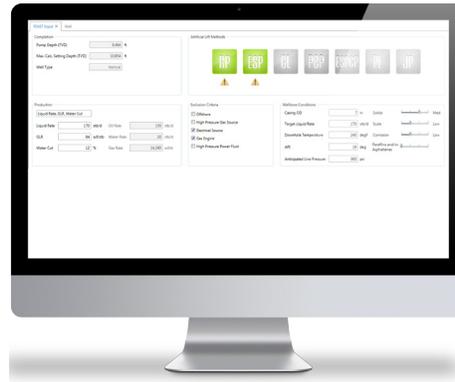
- Wells requiring artificial lift at any time in their life cycle: exploration, development, and production
- Existing or new assets

BENEFITS

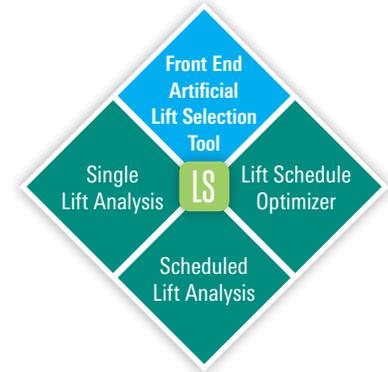
- Maximizes well value by optimizing artificial lift selections to balance economic and technical constraints
- Simplifies the process of comparing artificial lift methods and economic models
- Eliminates subjective biases from interfering with rational decision making

FEATURES

- Forecasts of well response to all common artificial lift methods
- Calculation of production rates and net present value (NPV) for the expected well lifetime or well economic limit
- Sensitivity analysis for different production scenarios
- Warnings that help an engineer understand the impact of changing one or multiple variables
- Integration of reservoir model, well models, and economic analysis



The initial screening workflow rapidly evaluates operating conditions to simplify deeper analysis.



The four modules of the LiftSelect service.

LiftSelect* strategic production planning service simplifies the process of selecting the artificial lift strategy that will best achieve an operator's goals, based on objective analysis of economic and technical criteria.

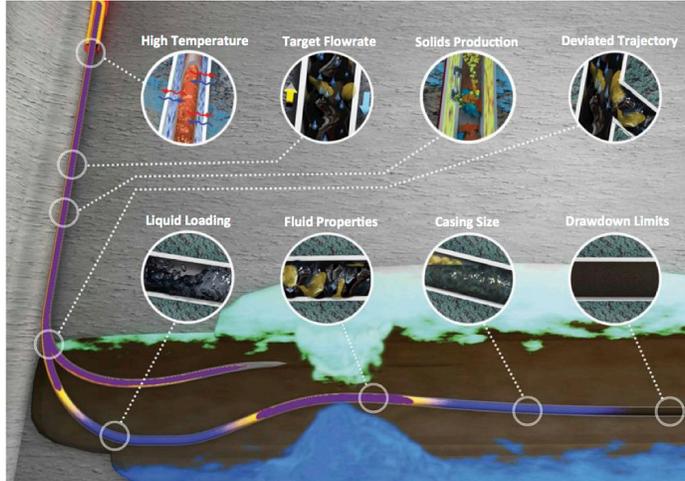
The service uses available field and reservoir data to model well behavior and maximize asset value by reducing the cost per barrel of hydrocarbon production. This scientific approach encourages impartial decision making, free of biases based on historical preferences or opinions for or against a particular artificial lift method.

Screen rapidly without bias

Initial scoring applies proprietary software to rapidly and objectively eliminate inappropriate artificial lift systems from consideration. The software, developed using Schlumberger expertise in all areas of artificial lift and validated by industry experts, compares limitations of the seven major types of artificial lift against well criteria from the operator such as well depth and deviation, downhole temperatures and pressures, produced fluids and solids, availability of power and surface facilities, and flow assurance concerns such as paraffins and solids production.

By comparing well conditions to technology limitation and adding a consideration for multiphase flow, the selection process narrows the number of artificial lift systems suitable for a particular application. For some relatively uncomplicated wells, the prescreening option sufficiently reduces the choices for reasonable decision-making. However, most wells will be complex enough to warrant further lift management and evaluation.

Every technology works



Objective software modeling narrows down the artificial lift technologies that suit conditions in a particular well or field.

Simulate a method, a schedule, or a lifetime strategy

LiftSelect service includes a number of additional options that can return results as production rates, cumulative volumes, capex, opex, NPV, and pump properties:

- Single artificial lift evaluation simulates well performance with one artificial lift method for a particular period and allows comparisons between methods. This module could, for example, help an operator determine whether the production gains from a lift method are likely to outweigh its cost over some period.
- Scheduled lift analysis helps operators that need to optimize a fixed schedule for transitioning between methods, for example, when an operator allows wells to flow naturally during an initial production period or automatically transitions to another lift method after some time period.
- Full lift optimization determines the most appropriate lift methods for each period in a well's life—including natural flow, if applicable—and the best time to switch from one method to the next. The optimization system includes NPV as an objective function, enabling the system to iterate up to 1,000 times to converge on a plan that maximizes NPV. This module objectively determines the best time for the transition.

Analyze economics, system configurations, and well or field plans

LiftSelect service can analyze effects of multiple economic factors such as equipment run life, total cost of ownership, capex, opex, and commodity prices. In addition, the service can simultaneously analyze up to five well configurations to compare artificial lift methods or define the lift method and compare costs for different pump sizes, serviceability, pump speed, and other factors.

The service can be used once to set up well or field segment plans, or can be used to reoptimize the plan to suit new conditions such as changes in operator strategy, commodity price, or production.

An almost unlimited number of scenarios can be simulated to create a complete picture of the available artificial lift strategy options.

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