

## Optimize production, lower operating costs, and reduce failures with **Ambyint InfinityRL™**

### CHALLENGE

Ninety percent of rod lift wells are under-optimized - with 75% typically overpumping and 15% typically under-pumping. Operations teams leverage traditional tools and processes to manage rod lift wells, but the result is that Production teams focus primarily on fighting fires and typically have time to focus on only 20-30 wells on any given day. This leaves the vast majority of wells unattended daily and consequently under-optimized.

Rod lift wells are managed in much the same way as they were 30 years ago. As the number of rod lift wells have increased and SCADA systems have become more common, operations teams face too many wells, too much data, manual processes, and limited time to improve well operating states proactively. For most operations teams, a well is considered “optimized” as long as its running.

E&P companies are focused on getting the most they can from producing wells at the lowest cost if they are to generate sufficient margins in today’s economic climate. As many rod lift wells do not meet that objective on any given day, companies fall short of their margin potential, leaving revenue in the ground and driving excessive operational costs.

### BENEFITS

- ▶ Increase production volumes up to 5%
- ▶ Reduce operating costs up to 30%
- ▶ Lower failure rates up to 50%
- ▶ Increase tech/engineer efficiency at least 25%
- ▶ Reduce electricity consumption 10-20%
- ▶ Reduce GHG emissions 10-20%

### SOLUTION

Ambyint InfinityRL™ acquires operational data from an edge device (either Ambyint Amplify™ or third-party), supervisory control and data acquisition (SCADA), or analytics software, evaluating daily all dynamometer cards, lift system data, and production streams for down wells, production at risk, and uplift opportunities. The product classifies wells as underpumping, overpumping, or “dialed-in” and produces optimal setpoint recommendations. Engineers then review and accept those recommendations at which time InfinityRL updates controller setpoints. Alternatively, the engineer chooses auto accept mode allowing InfinityRL to change setpoints automatically, freeing engineering time for other high-value tasks.

Ambyint employs advanced physics models, deep subject matter expertise, and artificial intelligence (AI) to enable optimization at scale. InfinityRL analyzes and optimizes an entire field of rod lift wells 24 hours per day, 365 days per year. The end result is production increases as high as 5%, operating cost reductions up to 30%, failure rate decreases up to 50%, and operational efficiency gains of at least 25%.

## ASSET OPTIMIZATION

An advanced physics engine provides a more accurate model of the wellbore giving engineers greater visibility into the optimization state of the well.

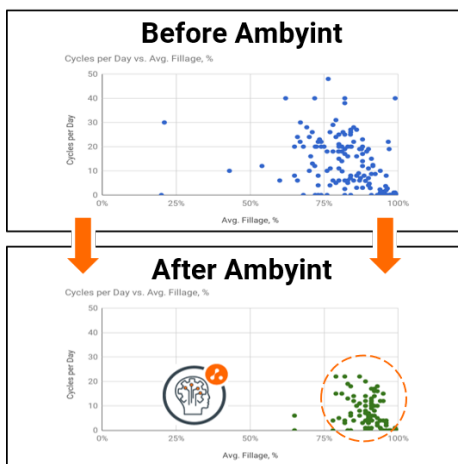
- ▶ Improve downhole wave equation that accounts for well deviation and friction
- ▶ Manage by exception with well state analytics
- ▶ Implement setpoint changes with remote well control



## SETPPOINT MANAGEMENT

Physics-based AI classifies well optimization states and determines optimal setpoints, depending on whether the well is over- or under-pumping.

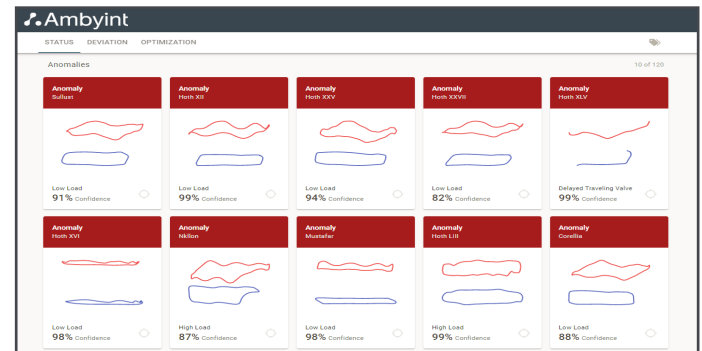
- ▶ Optimal controller setpoint recommendations for review and autonomous update
- ▶ Wasteful strokes eliminated reducing failure rates, workover expenses, electricity use, and deferred production
- ▶ Production uplift on underpumping wells



## PREDICTIVE MAINTENANCE

AI analyzes POC operations data, dynocard data, and production data, finding anomalies such as hole in tubing, rod part, delayed traveling valve, stuck pump, scaling daily surveillance routines, increasing MTBF, and reducing deferred revenue.

- ▶ Downhole issues identified prior to failure
- ▶ Greater workover planning lead times
- ▶ Improved well design decision making with downhole insights
- ▶ Reduced time spent manually reading cards



## SYSTEM INTEROPERABILITY

Data management, open API, and 3rd-party system adapter library provides secure read and write capabilities with Ambyint Amplify sensorless and edge-based controllers as well as 3rd-party SCADA systems.

- ▶ Compatible with all major production accounting and SCADA platforms, such as P2 ProCount and Weatherford CygNet
- ▶ Supports Lufkin WellManager, ChampionX SMARTEN, and Weatherford WellPilot POCs
- ▶ Secure by design across data transport and cloud storage using TLS encryption
- ▶ Integratable into cloud-based data lake for operating or reporting use

## About Ambyint

Ambyint, a market leader in production optimization for the oil and gas industry, delivers step-change improvements to E&P production outcomes and margins. Ambyint combines advanced physics and subject matter expertise with artificial intelligence to automate operations and production optimization workflows across all well types and artificial lift systems. For more information, visit [www.ambyint.com](http://www.ambyint.com)