
WELL EDGE
AUTONOMY
Optimize production, drive performance
and gain flexibility in your operations
START THE JOURNEY
Honeywell

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INTRODUCTION

Upstream operators are challenged with sustaining and optimizing production while lowering operating expenses.

To boost both production and operational efficiency, wellhead instrumentation, automation and control / SCADA systems are used to improve production and operational efficiency.

Over the past five to ten years, advances in computational speed available via low-cost industrial PCs or edge computers have created significant new opportunities. These developments offer upstream operators an ideal way to enhance their existing control systems with smarter capabilities.



Edge computing solutions can be deployed across multiple wells on a well pad connected to a tank battery with separation and gas compression and can be expanded over the entire field from producer to injection wells.

You can optimize production by integrating gas lift, ESP and other forms of artificial lift (AL) systems as well as combining natural flow with AL wells.

With automated and intelligent well testing, operators benefit from adaptive test durations, ongoing checks for well stability, and the integration of standard operating procedures directly into the control system.

The solution can be introduced with Honeywell or 3rd party controllers and SCADA systems.

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INDUSTRY CHALLENGES

Upstream operators are faced with the challenge of maintaining and enhancing production efficiency while simultaneously reducing operating costs.

Delayed Response, Risk of Downtime

Manual monitoring, site visits and slow reactions to well anomalies and optimization opportunities.

Data Quality in Operational Models

Relying on manual calibration remains a barrier to achieving reliable, high-precision insights from operational models.

Siloed and Fragmented Operations

Multiple point solutions create silos and hinder scaling across thousands of wells.

Limited Scalability across Multiple Wells

Optimizing individual wells can limit efforts to maximize efficiency across entire well networks.

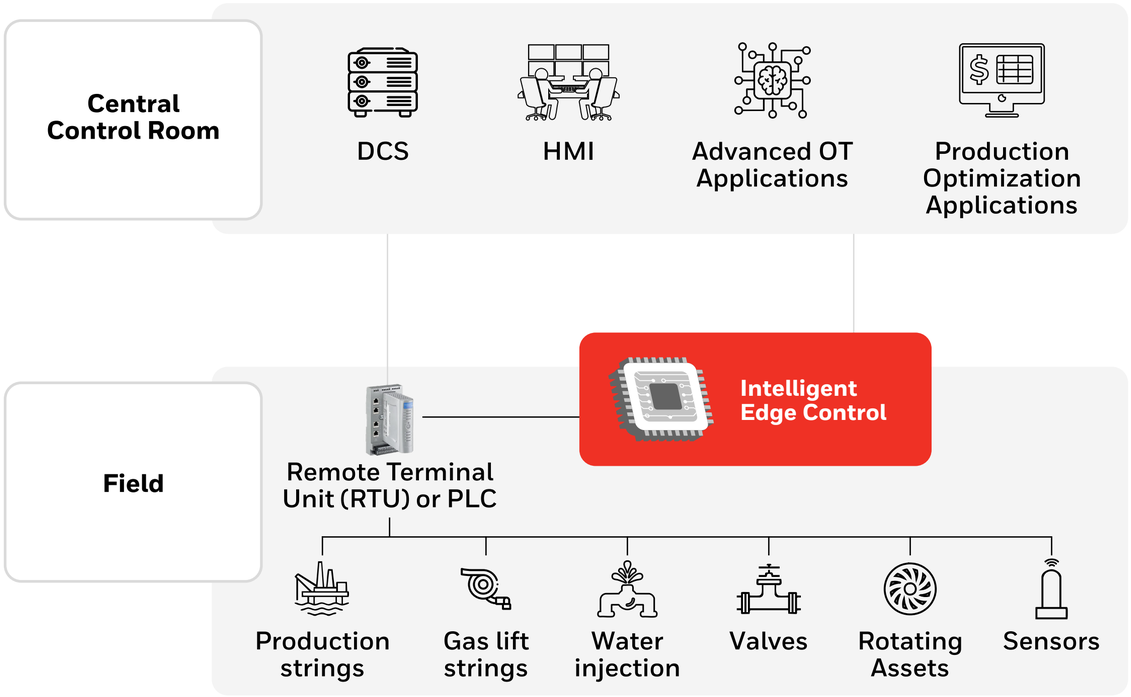


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THE SOLUTION: WELL EDGE AUTONOMY

Scales across multiple wells, process equipment and facilities.

OUR APPROACH



TYPICAL APPLICATIONS

- **Intelligent and Optimized Well Testing**
- **Autonomous Choke Control and Optimization**
- **Virtual Flow Metering**
- **Autonomous Chemical Injection**

Note: Autonomous choke control and optimization is applicable across a range of wells from producers to injectors including artificial lift optimization at the edge. i.e. Gas lift optimization, ESP well optimization and in general multi-well optimization.

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KEY OUTCOMES

Production Optimization

3 - 5% production uplift through proactive well optimization.

Reduce Lost Production Opportunities

Reduction of deferred production **by up to 7 - 10%**.

Faster Decisions

50% faster decision-making cycles through real-time insights and automation.

Cost Savings

Significant cost savings on operational inefficiencies by outomationg workflows and reducing manual workload.

Profitability

Improve profitability margins by optimizing asset portofolios and scaling operations with minimal added effort.

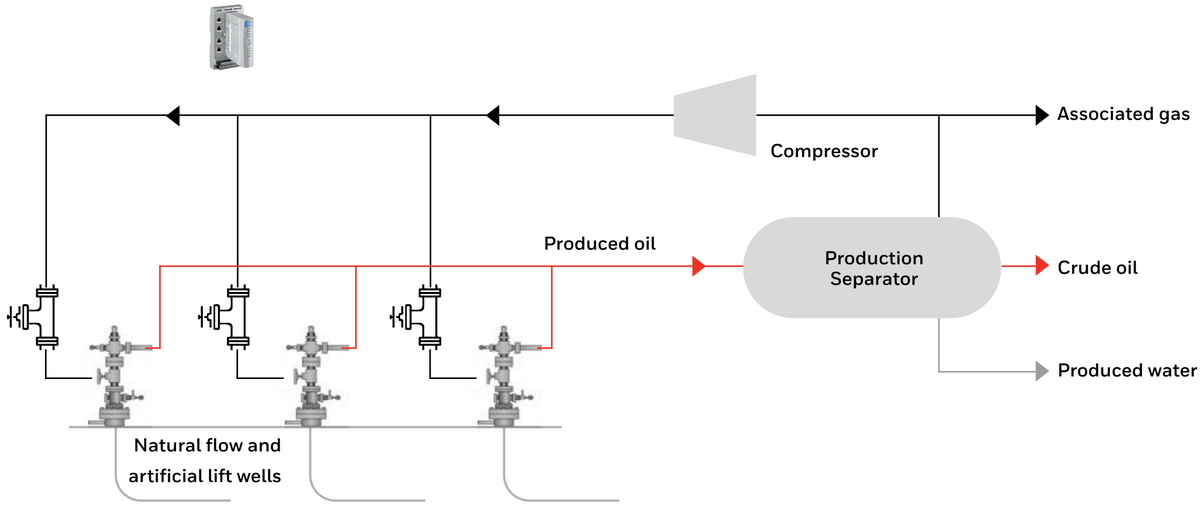
*Estimated results based on historical project data.

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CURRENT VS FUTURE STATE

ISSUES WITH CURRENT STATE

- Not closed loop - deferred production
- Latency and data resolution loss
- IIOT sensor data not integrated



CURRENT STATE

Analytics, Surveillance and Optimization — Predictive analytics, Exception based surveillance/ alerts, Production optimization/ Digital field applications

Historian — Real-time data management and visualization

SCADA — Instrument, basic process control, sequences, emergency shutdown

FUTURE STATE

Analytics, Surveillance and Optimization — Production optimization applications integrating models and data across subsurface, wells and facilities.

Historian — Real-time data management and visualization

SCADA + Edge Computing

- Adaptive Control of well tests
- ML for well performance
- Data validation & error handling
- Virtual metering
- Multi-well Control & optimization
- IIOT sensor integration

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TAKEAWAYS: TRANSLATING VISION INTO VALUE

Autonomous Operations

Comprehentsive, scalable architecture supporting decentralized, semi-autonomous operations.

Proven Edge Control

Decades of experience in process control and field-wide optimization.

Seamless Integration

Integration with production optimization solutions and strong engineering expertise.

Leverage Existing Investment

Operators can leverage existing automation and optimization technology. You can start small and expand over time.

Closed Loop Production Optimization

Enables higher production uptime and production gain.

Future Proof for Intelligent Operation

Ready for future connectivity to your local cloud and AI-ML driven advanced analytics.

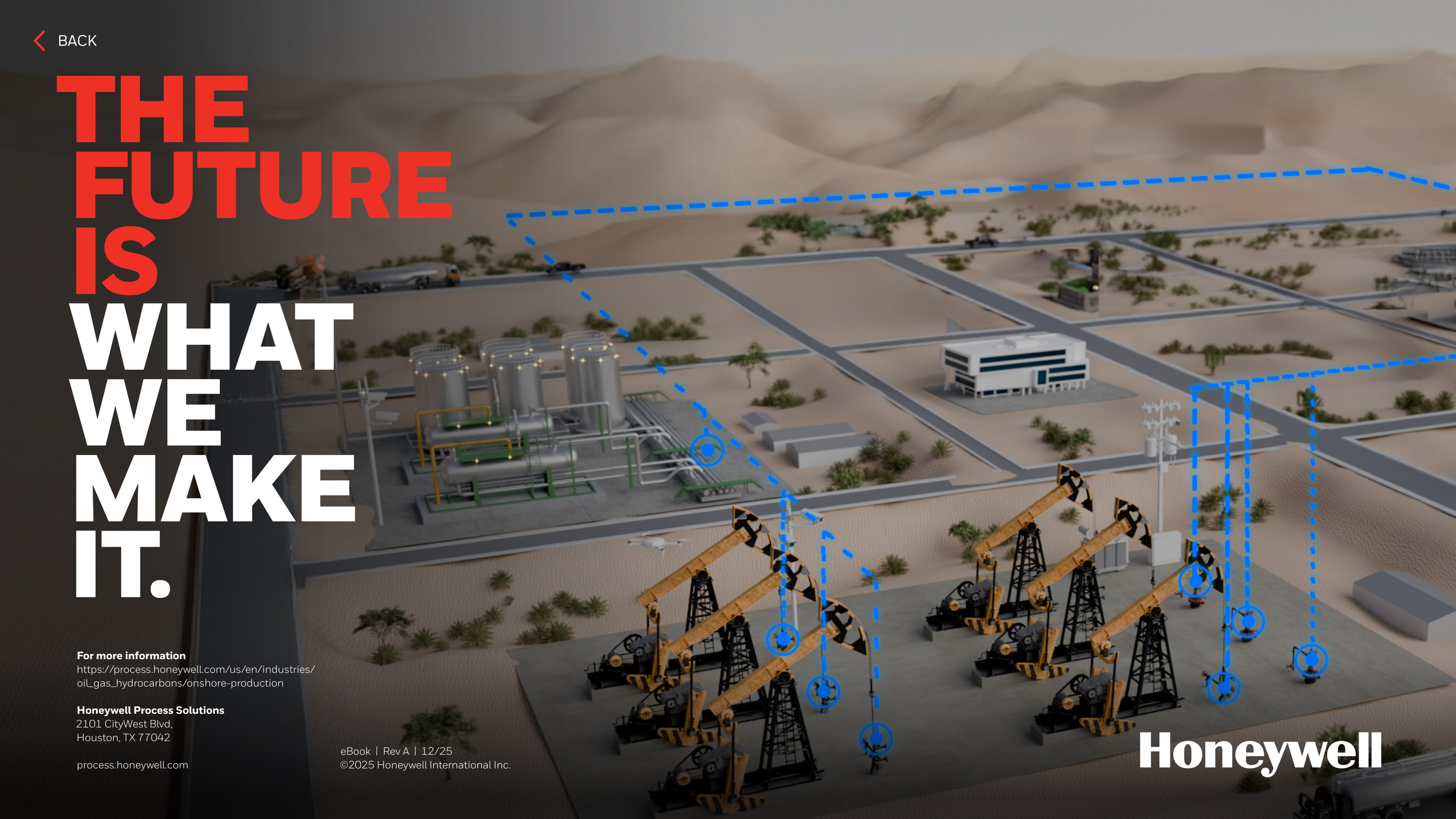
LET'S CONNECT!

MOVE UP TO TOP QUARTILE PRODUCTION PERFORMANCE AND LOWER OPEX

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BACK

THE FUTURE IS WHAT WE MAKE IT.



For more information
https://process.honeywell.com/us/en/industries/oil_gas_hydrocarbons/onshore-production

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