

**Honeywell**

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# **HONEYWELL PERFORMANCE+ DIGITAL TRANSFORMATION SOLUTION**

**Honeywell**  
UOP



Powered by

**HONEYWELL  
FORGE**

## CONNECT TODAY AND ACCELERATE TIME TO VALUE

Honeywell has been a leader in the energy sector for over 100 years. Our experience has taught us that the only way to handle unpredictable times is by being proactive and by taking control.

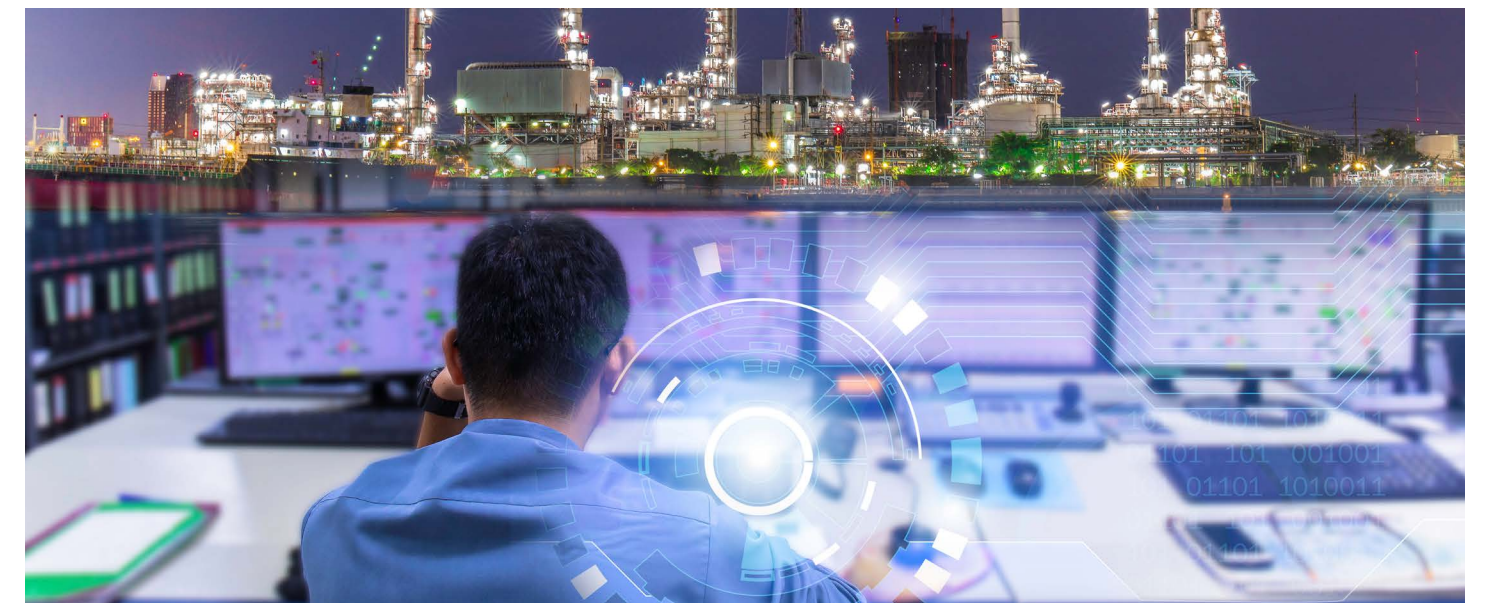
We know that if you wait to react, you've already lost.

Honeywell Performance+ combines industry leading technologies for process licensing, automation, and industrial software under the same umbrella to offer customers value-added, digital solutions. This powerful offering allows Honeywell UOP process technologies to come digitally enabled with UOP know-how embedded digital solutions for process design, operator training, process performance prediction, optimization, scenario analysis, and predictive analytics for key assets. This can significantly improve the customer's bottom-line by enabling the plant to start-up sooner, get to full capacity faster and run optimally over its lifecycle.

# SOLUTION OVERVIEW

**When built for Honeywell UOP licensed units, Honeywell Performance+ offers an integrated suite of tools to enable your team to monitor, model, predict, and optimize to drive more value out of your operations:**

- **Process Technology Analytics (PTAs) and Process Digital Twins (PDTs):** PTAs and PDTs update the gains, limits, and setpoints to the APC on a regular basis to keep the APC evergreen. For complex or site level optimization, UOP can offer the Plantwide Optimizer which is based on the patented proxy limit technology and can provide effective coordination and optimization across multiple process units and downstream blending if applicable.
- **Advanced Process Control (APC):** UOP's experience and know-how is built into every APC application. UOP design correlations are encapsulated in toolkits that capture the non-linearity of the process units and calculate variables that are difficult to measure directly using other methods. This allows the APC application to push the process unit closer to its limits.
- **Operator Training Simulators (OTS):** High-fidelity operator training simulators (OTS) for the key process units with embedded UOP reactor models, scenarios and exercises and Abnormal Situation Management Consortium (ASM) compliant graphics that match the DCS graphics to train the operators in a safe environment well before plant start-up. These operator training simulators leverage UOP's process design models and can also be used to test out control strategies for the distributed control systems (DCS) and develop seed models for the Advanced Process Control (APC).
- **Asset Performance Management:** Honeywell's Asset Performance Management software provides continuous process performance monitoring and equipment health surveillance covering every aspect of the plant from instruments, valves, and compressors to an entire process unit. The software enabled with AI/ML techniques, UOP know-how (for UOP designed and delivered equipment and modular units) and/or vast OEM correlation database offers performance and fault models to detect and predict equipment health and process performance issues to help avoid unexpected plant downtime.
- **Best in Class Training and Simulations:** A team is only as good as its knowledge and skills. Prepare your team to perform their jobs accurately and safely with flexible competency solutions from an industry leader in refining, petrochemical and gas processing technologies. UOP's training and simulations offer the in-person and on demand tools you need to address the growing skills gap while helping to increase productivity and reduce the risk of human performance issues at your plant.

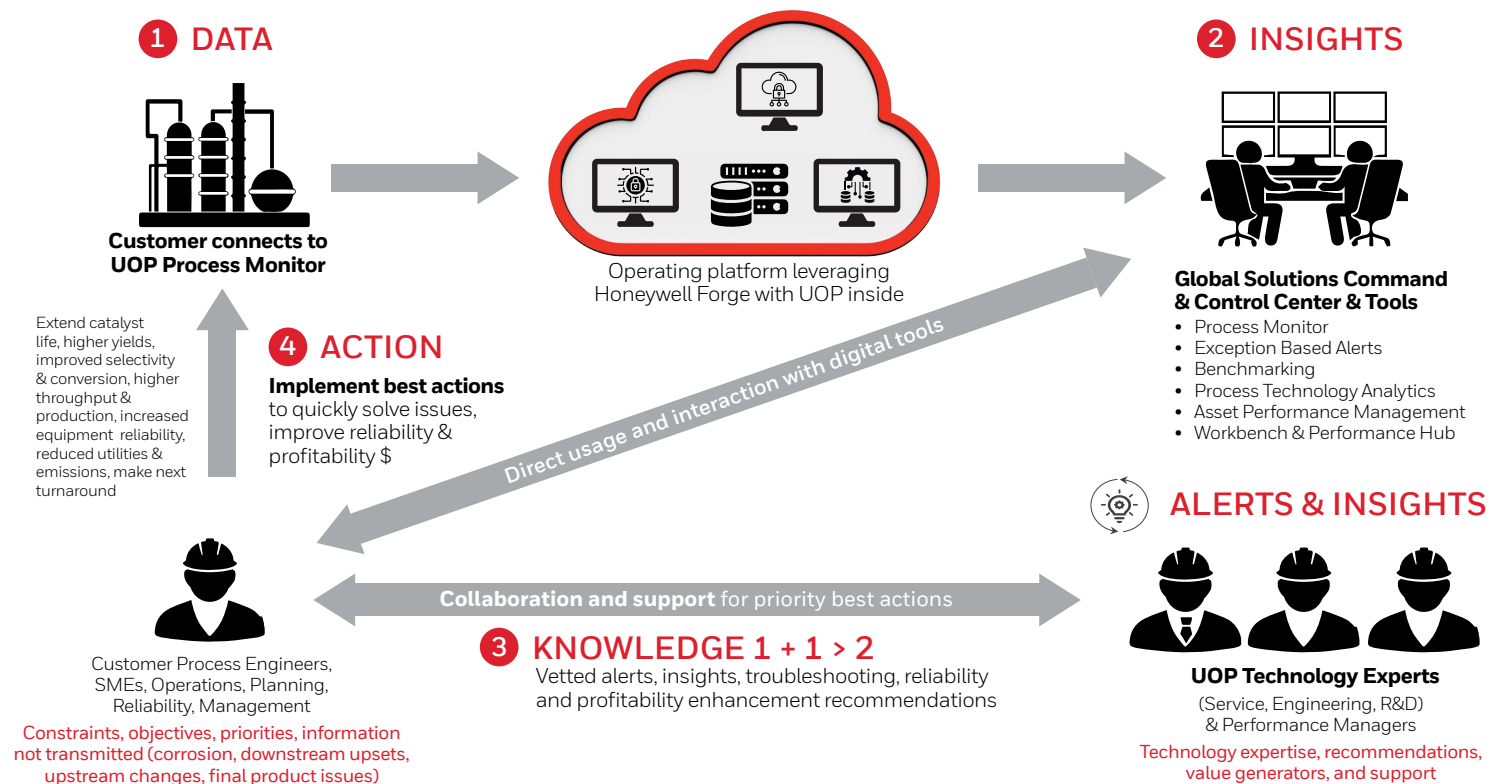


# HONEYWELL FORGE PERFORMANCE+ SERVICES

To ensure benefits are achieved and sustained on an on-going basis, Honeywell Forge Performance+ Services enable your teams to be supported by a Honeywell UOP expert to achieve operational excellence. This digitally enabled service solution is designed to improve Unit operating efficiency and reliability. Through greater operational visibility, it allows you to identify performance gaps and opportunities, all with the assistance of an expert from Honeywell UOP. This proactive service brings deeper insights and real-time recommendations through priority access to UOP technical experts to help you improve unit reliability, production rates, operational efficiency, performance, and overall unit and site profitability.

Process issues and equipment failures lead to unplanned downtime. Changing feed, catalyst condition or objectives without adjustments can lead to performance being less than optimal. Process engineers do not always have the time, tools, experience and/or in-house support to quickly find root causes to solve problems or manage changes in a timely manner for optimal performance with reduced risk. Honeywell Forge Performance Plus Services dedicate a team of experts to your business. This enhanced relationship will enable the exchange of actionable technical recommendations to allow your teams to become proactive vs. reactive.

**Model:** Figure below depicts how the data is transformed to insights and converted to knowledge and finally actions where the value is realized.



# THE PROOF

Leverage Performance+ Services to help solve problems faster, identify opportunities for increased profitability via reliability and optimization improvements. By implementing Honeywell Forge Performance+, we see profitable growth opportunities.



**A Medium size Refinery** enabled with UOP Digital Solutions can realize **~\$34M** of additional **profit/year**.

- Assumptions: 300KBPD, \$13/BBL margin @ 2.5% better throughput due to APC solution enabled with UOP know-how



**A Medium size Aromatics Complex** enabled with UOP Digital Solutions can realize **~\$4M** of additional **profit/year**.

- Assumptions: 1000 KMTA capacity, 400 \$/MT Naphtha to PX spread @ 2.5% better throughput due to APC solution enabled with UOP know-how, plus 2 days of better availability per year due to OTS. with UOP know-how



**An LNG Project Developer** using 5 MMTPA modular LNG pretreatment enabled with UOP Digital Solutions can realize **~\$15M** of additional **profit/year**.

- Assumptions: 2.1\$/MMBTU LNG processing fees @ 2 days additional availability due to OTS solution enabled with UOP know-how, 2% higher throughput due to APC enabled with UOP know-how



A Small/mid **Sustainable Aviation Fuel** unit enabled with UOP Digital Solution (OTS) can realize **~\$14M** of additional product **profit/year**.

- Assumptions: 20kbpd, 80\$/BBL SAF uplift, @ 2 days additional availability due to OTS solution enabled with UOP know-how, 2% higher throughput due to APC enabled with UOP know-how

## Make Honeywell UOP Your Trusted Connected Industrial Provider

UOP has a tenured history of implementing profitable connected industrial solutions. UOP manages digital transformation solutions with over 350 service agreements customers operating refining, petrochemical and gas processing plants with most customers renewing over the last 70+ years. We have over 310 units connected at over 100 customer sites globally with plans to connect to 750+ units within a year with our digital tools deployed. We have been proactively providing support with limited data sets for decades.

Extract the most value with Performance+ Services that leverage the best of our technical expertise and digital tools to be proactive and focused on adding value to your operations. We want the opportunity to partner with your technical personnel, and work side by side with you as an extension to your team, with a primary focus on creating and supporting value realization through actions.



### **For more information**

For more information, please contact your UOP representative or visit us online at [www.uop.com](http://www.uop.com)

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