HONEYWELL FORGE

SMART APC SUPERVISOR

PRODUCT INFORMATION NOTE

Honeywell Forge Smart APC Supervisor is an Enterprise Performance Management solution that captures benefits above and beyond those realized by Advanced Process Control (APC). Smart APC Supervisor utilizes artificial intelligence (AI) & machine learning (ML) models and optimization techniques that provide insights and recommendations to operate underlying APC systems within their optimal ranges, increasing throughput and recovery.

WHAT IS ENTERPRISE PERFORMANCE MANAGEMENT?

EPM is a set of tools that collect, unify, and act on operational data to optimize performance, sustainability, and safety at the enterprise level.

CHALLENGES

- Adjust process and APC parameters with changes in plant operations and feed quality

- Utilize past changes in plant operations to drive adaptive optimization models

- Drive global optimization over the entire process as opposed to individual units

The diagram to the right shows the operational flow of data when Smart APC Supervisor is integrated into a process. Smart APC Supervisor sits above the existing APCs and utilizes AI/ML models along with an optimization engine to provide recommendations on setpoint and operating limit changes to the system.
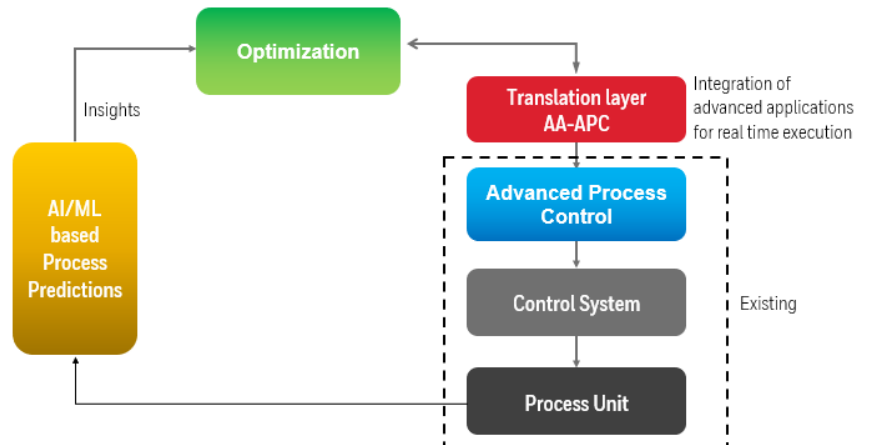
SOLUTION

Smart APC Supervisor is a supervisory-level optimization solution based on machine learning models and optimization techniques that provide optimum targets to underlying APC controllers.
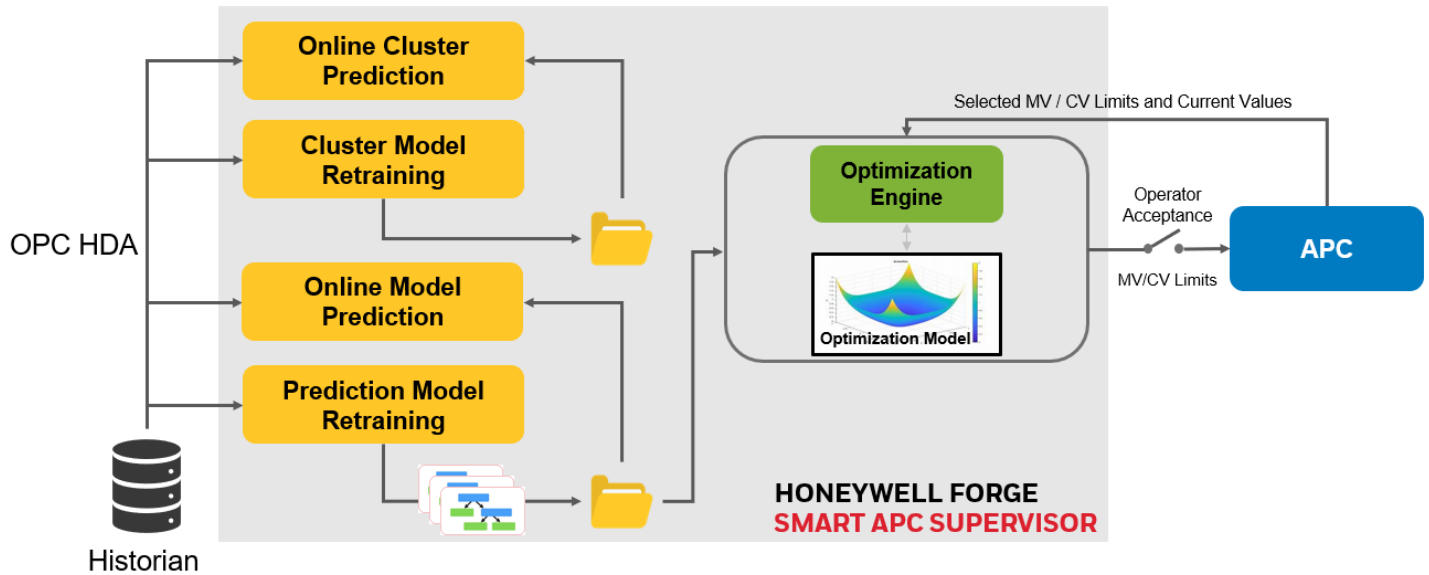
Key Capabilities

- Machine learning models are used to reduce human dependency and provide adaptive and optimal targets to APCs

- Can be implemented regardless of existing APC vendor

- Built on Honeywell domain expertise, Smart APC Supervisor deploys pre-defined analytics with standard architecture, resulting in fast deployment times and accelerated time to value

- AI/ML model-based prediction, clustering, and optimization. Models relearn at defined frequency to ensure relevant predictions and provide suggestions based on the most recent conditions and operating data

- Applicable to all base / precious metals applications to drive full mine-to-mill optimization

Conceptual Data Flow

Functional Architecture

The following figure illustrates the functional architecture of Smart APC Supervisor. Plant data is read from a site historian for all input variables needed by the prediction models to predict the target variables and by the clustering models to determine the present cluster of operation. Historic data is used for training and retraining these models. The optimization technique is constrained non-linear optimization, which provides optimum targets to the underlying APCs.

Benefits

Honeywell Forge Smart APC Supervisor results in accelerated time to value by:

- Faster response to on-going process changes like ore grade change (feedstock)

- Scalable solution that can be added as a module over existing APCs with a predefined analytics engine and architecture

- Manages complex interactions between multiple process units to reach the global optimum, not just the individual units

- Proven solution with typical results including a 2% Increase in throughput and/or 1% improvement in recovery

Operator Control

Smart APC Supervisor helps to reduce the workload on the operator by providing adaptive tuning and recommending optimal ranges for the APCs.

The end-user validates the recommendations provided by Smart APC Supervisor. Once approved, the updated limits are downloaded to the APC. Smart APC Supervisor tracks and monitors realized benefits for easy value recognition.

Connectivity

Honeywell Forge Smart APC Supervisor is compatible with any Distributed Control System (DCS). This product works with any existing APC applications and control systems (Honeywell or third-party).

Support Services

This product comes with worldwide, premium software support services through our Benefits Guardianship Program (BGP). BGP is designed to help our customers improve and extend the usage of their software application and the benefits they deliver, ultimately maintaining and safeguarding their software investment.

For More Information

Learn more about how Honeywell Forge Smart APC Supervisor can fit your operations, visit Advanced Process Control or contact your Honeywell Account Manager.

Honeywell Connected Enterprise

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