

Control Performance Solutions: Improvement Projects

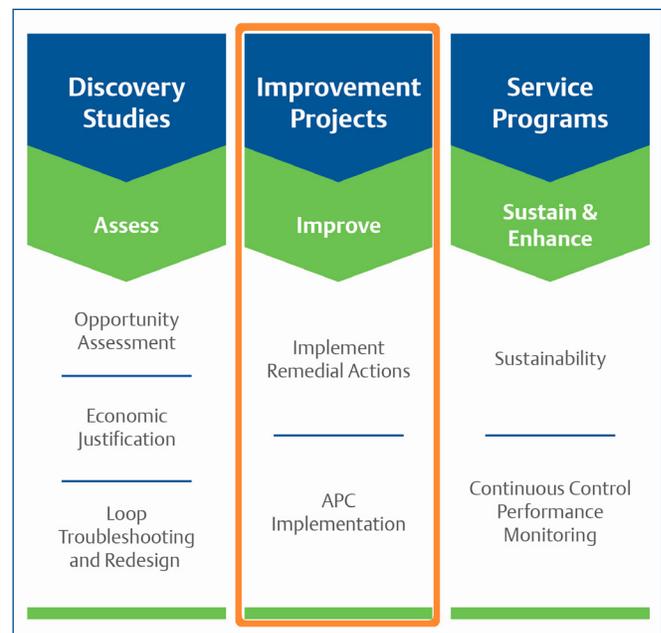
- Apply remedial actions from a Control Performance Discovery Study
- Implement Advanced Project Control schemes
- Reduce process variability and improve operational performance



Control Performance Improvement Projects can be used to solve a particular problem or to implement remedial actions previously identified as improvement opportunities

Introduction

Emerson offers process optimization expertise through the combined resources of Control Performance consultants and Emerson's Local Business Partners. Emerson consultants can help you deliver previously identified improvement opportunities through Control Performance Projects. They have wide experience in the process industries including Refining, Chemical, Power, Pipelines, Pharmaceutical, Food & Beverage, Mining & Metals, Pulp & Paper and others.



Benefits

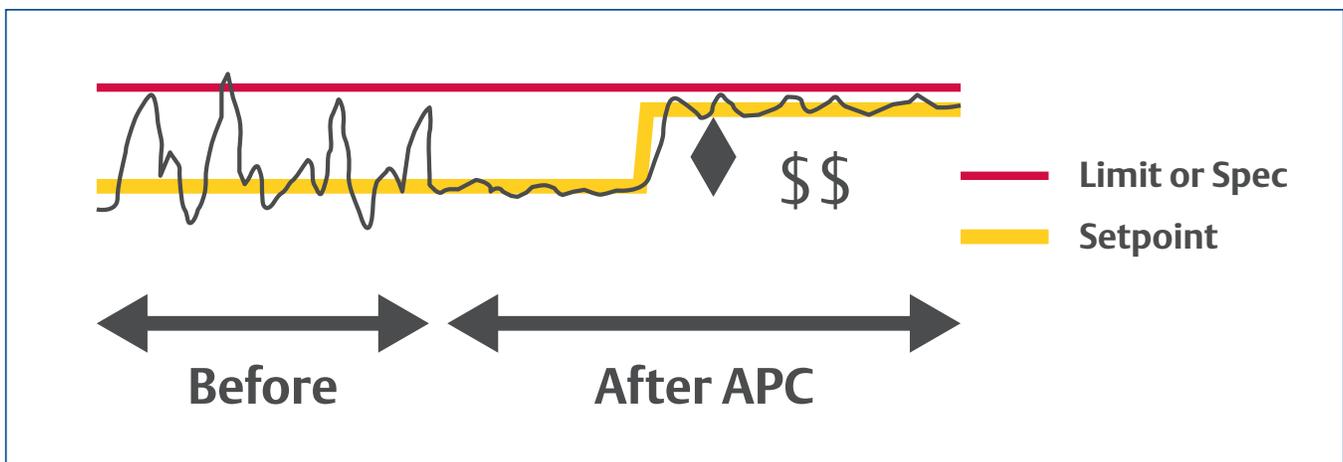
Apply remedial actions from a Control Performance

Discovery Study: At the completion of a Control Performance Discovery Study, a problem has been sufficiently analyzed and a path forward is typically proposed. What results is a detailed project plan that serves as a roadmap to achieve the identified benefits. Throughout a project, a consultant will ensure the changes being made will result in tangible benefits that are aligned with your business and operational goals.

Implement Advanced Project Control schemes: Emerson has the expertise to deliver high quality Control Performance solutions for plant operations with very complex process dynamics. Example projects include, but are not limited to, modifying existing control strategies to include more advanced regulatory schemes such as Feed Forward Control, implementing Model Predictive Control strategies, and training Neural Network models.

Reduce process variability and improve operational

performance: Once determining the root cause of loop performance issues, Emerson consultants can help you remediate these problems. Control Performance Discovery Study are designed to reduce process variability problems that can impact quality, throughput, or raw material and energy consumption. After reducing variability, the consultants will help you shift your set points to achieve more optimum process performance.



Service Description

Control Performance Improvement Projects can either be delivered to implement remedial actions identified during a Discovery Study, or help you implement a pre-defined scope of Advanced Process Control (APC) applications that you have previously identified. Emerson consultants provide turn-key services to design, configure, install and commission a wide variety of APC applications.

A typical APC Project would include the following steps:

- Regulatory control performance review
- Pre-step tests and plant test design
- Functional Design Specification (FDS) Development
- Configuration
- Step testing and data collection
- Model identification and controller building
- Controller simulation and testing
- Commissioning
- Site Acceptance Test (SAT)
- Project Post Audit

A project involving onsite time for process step tests and commissioning can vary from one to four weeks, depending on process complexity, process response time, and the ability to simultaneously step test manipulated variables independently.

Example Projects

The following are examples of Control Performance Projects that Emerson has successfully delivered:

- At a precious metals grinding mill, an APC Project justified by a Discovery Study addressed a process interaction that could be optimized using a Model Predictive Control (MPC) strategy. The project implemented this new strategy and increased throughput by 5% and precious metal recovery by 1%.

- At a petrochemical plant, the implementation of MPC on a distillation column reduced steam consumption by 7% and improved recovery of the valuable product by 1%.
- At a specialty chemical plant, a new MPC strategy on a distillation column resulted in \$400K per year in energy savings.
- At a pharmaceutical plant, utilizing a new MPC strategy on a reactor increased throughput by 33%, eliminating the need for a capital project to build a new production line.
- At a refinery, a Discovery Study justified a project to implement MPC technology on their delayed coker, resulting in increased diesel recovery by 3%.

Ordering Information

Description	Model Number
Control Performance Solutions: Improvement Projects	Contact your local Emerson Sales Office or Local Business Partner.

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