Advanced Analytics

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Introduction

Some of our plants trace their production methods back to the Solvay process invented in the 19th century while others are based on modern organic synthesis methods. However old the process or the factory, all of our sites can benefit from the progress of Advanced Analytics to improve operations, boosting productivity and quality while reducing costs.

Solution

The Solvay Industrial teams have developed a playbook on Data Science Playbook for the Digital Acceleration of Plants. This can be seen as a guide to show how data science is delivered within the digital acceleration in plants program.

In order to promote data-driven decisions, Advanced Analytics at Solvay will first start with a Root Cause Analysis with descriptive models. Once the requirements are properly identified and documented, models can be developed for the following applications:

- Online Quality Control with model-based sensors
- Monitoring/maintenance with predictive (forecast) models
- Process/Energy optimization with Prescriptive models

The diagnostic / RCA activities will take about 1 to 2 weeks with the support from the Site Production and Process Engineer. Depending on the solutions to be developed, the delivery time may vary (see playbook).

Impact

With the proper modeling in place, data-driven decisions will reduce variability, OPEX and (planned or not) shutdowns, while improving product quality. Financial impacts expected are the following:

- Volume increase (+2-3 %)
- Variable Cost reduction (-5%)

Used in conjunction with APC (see section 1.), Advanced Analytics will help digitize operations. With the standardization of IT systems and data sets, numerous tools can be replicated more easily.

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Playbooks

- **Data Science Playbook for the Digital Acceleration of Plants**

Synthesis Standard One Pager

- **Advanced Analytics**

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Linked Pages

- **Production**