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Aanleiding

Process information is critical to optimal and safe operation of industrial processes. Limited availability of such information often requires operation in relatively inefficient regimes. More efficient use of process information allows improved control and efficient use of production facilities: less off-spec, less rework and operation in a more energy and material efficient regime.

Doelstelling

INSPEC quantitatively integrates information from state-of-the-art Process Analytical Technology, process measurements and dynamic process models (data driven or physics-based) into Advanced Process Control. This will induce a step-change with respect to process controllability and enables operation in a more energy efficient regime, while reducing off-spec production.

Korte omschrijving

Existing chemometric technology for quantitative analysis of Process Analytical Technology (PAT) data will be extended to facilitate Advanced Process Control (APC). This includes optimization of data pre-processing to extract control-relevant information and fusion of PAT data with process measurements. Current APC methodology will be extended by optimizing the use of all available realtime process information to enable optimal process operation. This includes technology development for detection process behaviour that deviates from physics and data-driven dynamic models and the development of tools for maintaining the accuracy of these models and

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Algemene informatie / General information

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modelbased controllers. Quantitative integration of these models with PAT extends the existing potential of APC as dynamic models will be enriched with information from PAT. This will greatly extend the information for development of control strategies. Key processes of industrial project partners will demonstrate the benefits of the projected developments.

Resultaat

INSPEC provides dedicated process control and monitoring solutions that integrate PAT, process data and dynamic models (physics-based or data-driven). This enables quantifiable, objective gains in efficiency and energy use. A public software solution allows the scientific and industrial communities to implement the developed methodology in their processes with the help of e.g. specialized SME's.

De data in deze applicatie is afkomstig van de Rijksdienst voor Ondernemend Nederland (RVO) en wordt in samenwerking met de Topsector Energie ontsloten.
Voor meer informatie over de Topsector Energie, ga naar **www.topsectorenergie.nl**.

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