Measurement 4 Management

Publieke samenvatting / Public summary

Aanleiding

Process industry is under continuous pressure to not only return high profits, but also to improve their short term and long term sustainability standards. Each company has to reach a specific leverage between people, planet and profit (Cramer, 2005). Insights from Digital Technologies, termed as Industry 4.0, are at the core of finding potential synergies and trade offs between economic profit and sustainability targets. Current digital technologies in Industry 4.0 allow, however, for only limited inclusion of process information available within companies, while the degree of acceptance of such digital technologies as managerial and operational tools is rather limited. Gains in sustainability, aligned with cost reductions, increases in safety and product quality and adequate market compliance do however require involvement of all stakeholders within the company; from manager to process operator (Aguinis & Glavas, 2012; Cramer, 2005).

Doelstelling

The aim of Measurement for Management (M4M) is to develop operational predictive technologies that (1) are transparent and include all available process information, (2) provide predictions of Key Performance Indicators on Safety, Environmental Sustainability and Economic Performance, and (3) will engage all relevant stakeholders in the company to understand how to optimally implement the M4M methodology in practice. This is in direct alignment with the TKI E&I mission to “create a sustainable and inclusive industry that operates within the boundaries of climate and environment”.

Projectinformatie / Project information

Projectnummer / Project number
TKITOEM4M
Subsidiebedrag / Grant amount
€ 1.135.594,00

Algemene informatie / General information

Penvoerder / Secretariat
ISPT

Publicaties en materialen / Publications and attachments

- **15.12.2024**

  Public Summary M4M

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Korte omschrijving

In M4M, data analysis methods will be developed to enable inclusion of novel information and prediction of Key Performance Indicators for Business excellence (BNR Webredactie, 2019). Relevant and feasible key performance indicators of Safety and Environmental Sustainability for the predictive evaluation of chemical process optimisation and management will be systematically identified and implemented in the M4M methodology. The M4M project addresses the acceptance issue and involvement of employers to tackle the complaint of nearly half the employer population, that they are not or very late involved in the digitization of their tasks and environment. Increasingly, the human factor is seen as crucial for the optimal implementation of Industry 4.0. Wageningen University will study in this project how Industry 4.0 impacts employees' jobs and responsibilities and how to involve employees and their managers in co-creating Industry 4.0 solutions. The Industrial partners will contribute case studies, consisting of running or developed processes that have a perspective on reducing environmental footprint within scope of economic performance and employee safety.

Resultaat

The direct results of M4M consist of: ? A generic approach for predictive modelling and process management in Industry 4.0, integrating Sustainability and employee engagement ? Publicly available software of the novel MSPC (multivariate statistical process control) and LCA (life cycle assessment) technologies for academic development and implementation at industrial third parties ? Lessons learned with regard to hindering and supporting factors when addressing and involving the human factor in the co-creation of Industry 4.0 ? Engaging Industrial Case Studies as an n-fold Feasibility Study for the integrated M4M methodology. Indirectly, M4M will deliver: ? An enhanced Value Proposition of Process Data for value-based control of production for Process Industry. ? Providing Process Industry transparency & insight how their processes associate to Safety,

Environmental sustainability and Economic Performance with evidence-based models. ?
Company employees inherently more skilled and motivated to use Industry 4.0 technologies, through involvement and co-creation of company values with predictive models.

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**.

Voor meer informatie over de TSE / Energie-Innovatie regelingen die RVO aanbiedt, ga naar **www.rvo.nl/tse**.