Coordinating Optimisation of Complex Industrial Processes

Project:
Coordinating Optimisation of Complex Industrial Processes

Project website: *www.cocop-spire.eu*

A complex industrial plant comprises continuous and/or batch unit processes where the complexity stems from its dynamic properties. In order to achieve an economically and environmentally efficient operation of a plant, the objective of the COCOP project was to **enable plant-wide monitoring and control by using the model-based, predictive, coordinating optimisation concept in integration with local control systems.**

The project also combined technological and **social innovation within a common co-creation process** in order to improve effectiveness and impact of the innovations, their implementation process and user's acceptance.

The implemented solutions were tested in **two industrial scale tests**: in a **steel** and in a **copper plant**. The test cases validated the requirements and the developed solutions. The quantitative results provided good evidence that these approaches can enable to achieve the objectives and **provide considerable economic benefits** when the solutions have been developed to the TRL 9 level.

The COCOP general concept can be applied to any large industrial production site because it relies on general methods such as modelling of dynamics, data analysis and optimization. Thus, the project also analysed the transferability to other three sectors: Wastewater Treatment, Chemical and Glass Manufacturing sectors.

COCOP was a collaborative 42-months SPIRE project (October 2016-March 2020) and the consortium consisted of 12 partners (5 research organisations and 7 companies), from 6 European countries**.** This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723661.

Image not found or type unknown

Image not found or type unknown

Sector:

Chemicals

found or type unknown

Non-ferrous metails

found or type unknown

Steel

found or type unknown

Water

Summary:

Description

Theme:
Plant-wide monitoring - SPIRE02-2016
Keywords:
plant-wide, process model, process control, model-predictive control, data analysis,
Contact Name:
Project Coordinator: Prof. Matti VILKKO (Tampere University)
Email:
matti.vilkko@tuni.fi