CoPro — COORDINATED PRODUCTION FOR BETTER RESOURCE EFFICIENCY

SPIRE PROJECT

Goal, Mission & Facts

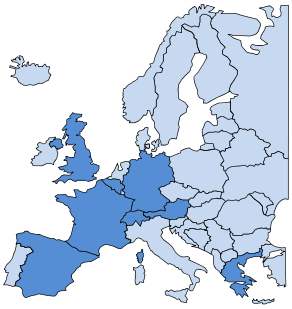
Improved energy and resource efficiency by better Coordination of Production in the process industries

CoPro will provide tools for the **plant-wide optimisation of continuous and discrete decisions,** will develop **technology for balancing production and consumption in industrial parks for industrial symbiosis** and will address power plant scheduling and **demand side response.**

The Project builds on the results of the FP7 projects MORE and DYMASOS and is closely linked to the H2020 projects consens and EPOS .

Start: November 1st, 2016
Duration: 42 months
Funding: 6 million €
Consortium: 17 partners from 8 countries

Source: INNO Group



CoPro will make significant contributions towards

Efficiently utilising existing plants by integrated plant-wide scheduling and control

Better Coordination of connected units in a site and within a chemical park

Buffering the effects of fluctuating renewable energy production and distribution by integrating demand side response with plant-wide scheduling and control

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Project structure & Use Cases

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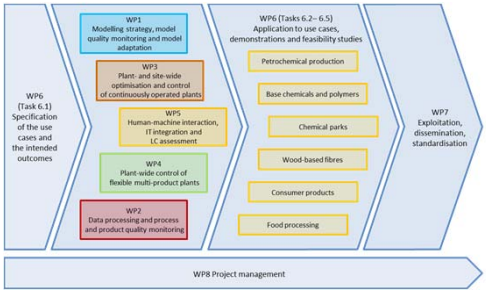

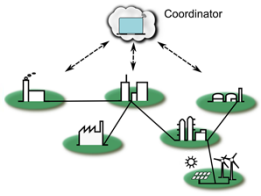

Source: Wenzel 2017

Guided by the requirements of the industrial use cases, technological innovations of broad applicability will be made in the following areas:

- Overcoming the modelling bottleneck
- Data-based process and product quality monitoring
- Plant- and site-wide optimisation and control of continuously operated plants
- Plant-wide scheduling and control of multi-product plants
- Human-machine interaction
- System integration and data orchestration
- Model Management and Life Cycle Support
- Integration of LC assessment tools

Source: INEOS in Köln

The technical developments are motivated by the practical needs of industry and will be demonstrated in use cases from various sectors of the European process industries.

Industrial Use Cases

(Petro-)chemical production: Coupled processes incl. power plant and the purchase of electricity, unit switch on/off, scheduling and maintenance, coordination within a chemical park

Coupled base chemicals production units, coordination within a chemical park: Resource production and consumption in coupled plants not sharing details of their business and processes

Cellulose fibre production plant: Network of units with redundant equipment, selection and switching of active units, planning of cleaning

Production, formulation and packaging of detergents: Scheduling of maintenance operations, optimization of product changeovers, data-based detection of anomalies and predictive maintenance

Sterilisation and packaging of food: Scheduling of production steps in a multi-product plant, optimal operation of thermal processing steps

Consortium

Technology providing SMEs

LeiKon, divis intelligent solutions, asm, ORSOFT Advanced Production Scheduling, PSE, sabisu

Universities

Universidad de Valladolid, technische universität dortmund, EPFL ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

Dissemination/ exploitation SME

inno

Research institutes

CERTH CENTRE FOR RESEARCH & TECHNOLOGY HELLAS, CSIC

Industrial end users and use case providers

Frinsa, LENZING LEADING FIBER INNOVATION, covestro, INEOS THE WORLD FOR CHEMICALS, P&G

www.spire2030.eu/copro

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