CoPro: Intexc Suite – Seamless integration of model-based real-time solutions into production IT environments

Project:
Improved energy and resource efficiency by better coordination of production in the process industries

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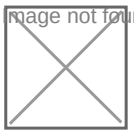
The goal of the CoPro project was to develop and to demonstrate methods and tools for process monitoring and optimal dynamic planning, scheduling and control of plants, industrial sites and clusters under dynamic market conditions, to provide decision support to operators and managers and to progress to automated closed-loop solutions to achieve an optimally energy and resource efficient production.

CoPro brought together 17 partners from 8 EU countries, including 5 industrial end users and 6 technology providing SMEs. The project developed solutions for the **plant-wide optimisation of large plants, for balancing production and consumption in industrial parks for industrial symbiosis**, and addressed **power plant scheduling** and **demand-side response**. It further developed online data analytics for **anomaly detection**, and **decision support** for plant operators and managers. The solutions can be integrated into the IT infrastructure of the plants via an **integration platform** that supports the connection to different IT systems. CoPro developed **model libraries** for the efficient development of advanced optimisation-based solutions and techniques and software for **hybrid modelling** and **model management**.

The developments of CoPro were motivated by and applied to challenging use cases from different sectors of the process industries:

- (Petro-)chemical production;
- Cellulose fiber production;
- Production, formulation and packaging of consumer goods;
- Sterilisation and packaging of food.

CoPro demonstrated that significant savings of energy and resources are possible by using advanced technologies for monitoring, decision support, optimisation, and planning and scheduling.



Sector:

Cement

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Ceramics

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Chemicals

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Engineering

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Minerals

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Non-ferrous metails

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Steel

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Water

Summary:

The Problem

- Model based applications provide an important contribution to optimised plant operations.
- It is still a challenge to integrate model-based real-time solutions with the existing heterogenous IT-systems in the plants.
- Time and effort to integrate real-time model-based applications into IT-System environments must be reduced.

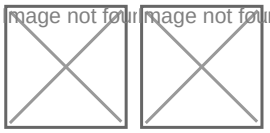
The Solution

- The Intexc Suite – an integration platform for real-time data orchestration of distributed model-based applications in the process industries.
- Provides a platform to realise model-based real-time solutions for monitoring, operator assistance, and online optimisation.
- Seamless model integration and orchestration of data flows with ready to use interfaces to common production IT-Systems.
- Several successful installations at industrial sites.

Theme:
Plant-wide monitoring - SPIRE02-2016
Keywords:
IT integration, Model-based real-time solutions, Data Communication, Operator Support, Soft Sensor, Decision Support
Type:
Case study
Other
Software
Poster

Resources

Link:
Technology Short Description: Intexc Suite



Complementary Material:

Poster: Operator support for improving energy and material efficiency

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