

Integrating continuous production processes in end-to-end planning

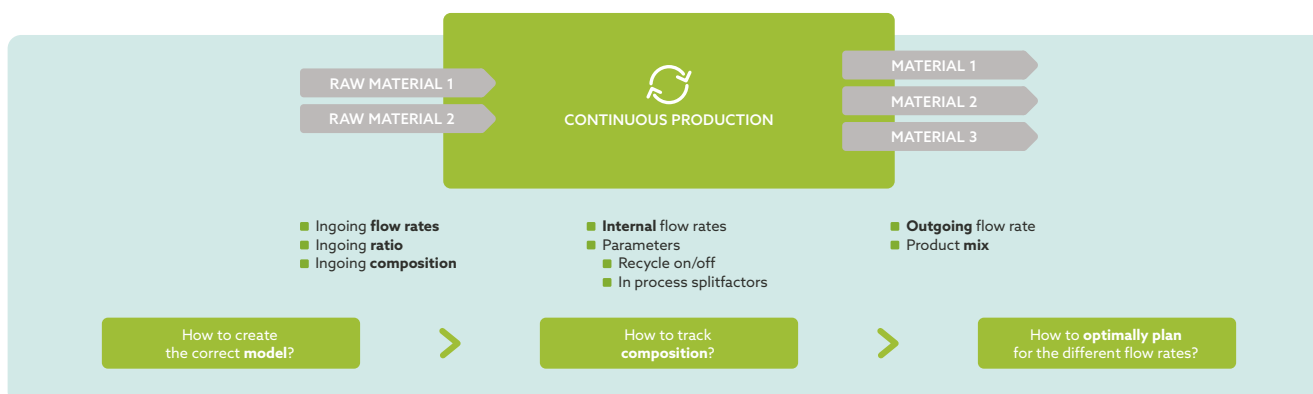
OMP FOR CHEMICALS

OMP's digital supply chain twin includes support for continuous production processes in the chemicals industry, giving companies full end-to-end visibility. This means that production can be fully optimized for increased revenue and better sustainability.

Continuous production is a planning challenge

Continuous production processes are common in the chemicals business where a typical plant runs 24/7, consuming huge volumes of feedstock, and demanding a relentless focus on process stability. As a result, any interaction with the associated supply chains must be planned carefully. Even minor changes can have a huge knock-on effect. Think about issues with feedstock availability, product quality, shutdowns, and production limitations.

The challenges faced by planners do not end there. Chemical companies are constantly looking to optimize processes to maximize the value of output products while meeting quality requirements, customer expectations, and environmental regulations. This involves steering continuous production towards the more profitable value chains and finding appropriate outlets for the less valuable co-products and by-products.



Integrating continuous production processes within the digital twin

OMP changes the game. Continuous production processes are now fully integrated within OMP's digital twin for its chemical industry solution. With this remarkable solution fully supporting complex processes, planners have complete end-to-end visibility and control through a real-time visual representation of the continuous production

processes, including conversion and separation processes, recycle flows, operation bottlenecks, and detailed product properties. Planners can navigate easily through this continuously changing environment to make the right decisions in line with their company strategies.

Benefits and value

- Full **end-to-end visibility** through a digital twin incorporating continuous production processes.

- **Reality-based planning** taking full account of actual constraints in the production process.

- Simple & effective **graph-based data maintenance** of the digital twin in the OMP datahub through a user-friendly interface.

- **Reduced waste and improved sustainability KPIs** through managed recycling flows.

How it works

Graphical representation of continuous production

An interactive graphical representation of the continuous production process is integrated within OMP's digital twin.



Easy interactive end-to-end optimization

Users can interactively adjust continuous production process parameters within the tolerances specified for the plant. Users can, for example, change the reactor temperature and pressure, the production rate, and flow compositions. The model then recalculates the flows and compositions. Because the whole model and its flows and outputs are integrated

into the OMP's Unison Planning™ end-to-end solution, users can fine-tune the continuous production process while viewing the effect any adjustment has on the entire value chain, including downstream processes. Depending on the business case, users could, for example, increase financial margins or reduce environmental impact.



Non-linear technology to accurately handle process complexity

OMP for Chemicals accurately handles the non-linear nature and complexities of continuous production, significantly extending OMP's unique process optimization framework.



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