

# DEHEXANIZER UNIT MPC APPLICATION SUPPORTED BY REAL-TIME PROCESS INFORMATION CALCULATION

The profitability of Neste's Naantali refinery Dehexanizer unit was significantly improved by minimizing both the quality giveaway of the main product and the energy consumption of the unit. The improvements were achieved with NAPCON Controller MPC (model predictive control) application that also stabilized the whole unit. The key to the successful optimization of the process was NAPCON Informer soft-sensor package measuring online crucial distillation information.

Engineering Solutions to Neste also contained NAPCON Informer providing process data connections, management and storage services. Seamless integration of the three NAPCON products guaranteed great results and formed a flexible platform for efficiently adding other MPC applications in the future.

With the old control system, operators were able to run the unit, but were unable to realize if there was room for improvement in terms of loss of heavies to the column distillate flow and energy consumption. Furthermore, operators are nowadays reluctant to run the unit without MPC, which clearly indicates their trust on the new application.

**Valtteri Mustonen**  
Development Manager  
Neste

Despite technological challenges - 1st time ever installation of OPC UA standard based information and calculation platform to the Naantali refinery - project was executed within time and cost estimate constraints.

**Samuli Bergman**  
Manager, New Technologies  
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## DID YOU KNOW

- NAPCON provides a wide variety of products for real-time optimization of production
- Inferential calculations provide invaluable support for MPC solutions, enhancing their performance and refining large amounts of data into useful information
- NAPCON Informer soft-sensor package provides seamless integration of rigorous and identified models including unified material and energy balance calculations