NESTEJACOBS

TRAINING SIMULATOR SYSTEM
ENHANCED WITH OPC UA INTEGRATION

About Neste Jacobs

Neste Jacobs provides high-quality technology, engineering and project services for a wide range of industries in the oil and gas, petrochemicals, chemicals and biotechnology fields. Long term experience in process modeling and advanced computer programs help the industry to effectively and rigorously compare different capacities and integration concepts for the most viable line-up.
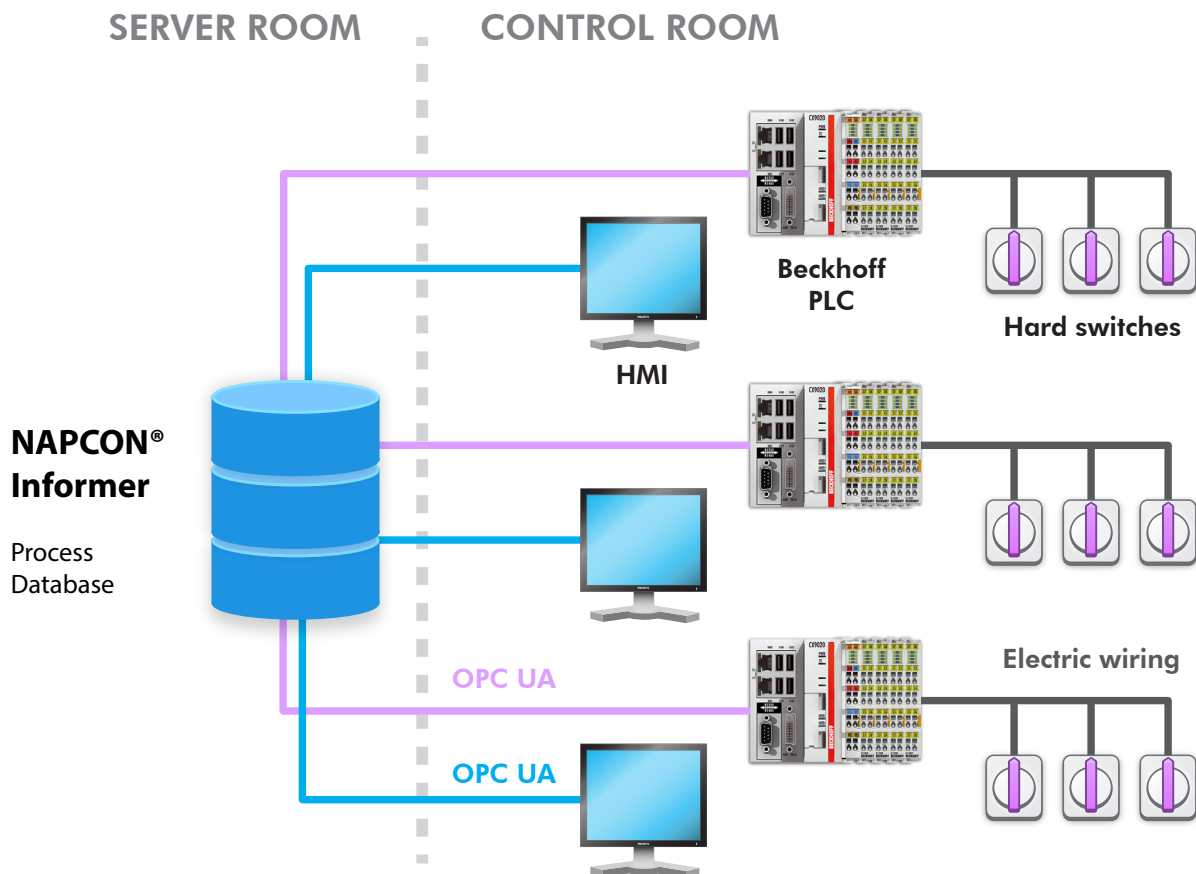
Neste Jacobs has more than 50 years of experience in technology development and industrial investment projects as well as maintenance and performance improvement in Europe, North and South America, Asia and the Middle East. Today, Neste Jacobs employs around 1 000 professionals globally.

Simulator room switch integration

Neste Jacobs wanted to expand its NAPCON® Simulator - training simulator system with hard control and alarm switches. NAPCON® Informer process database features full OPC UA capabilities, so OPC UA was a natural choice for the integration of the switches into their system. OPC UA guarantees reliable communication and easy connectivity, as well as supporting future expansions to the system.

Prosys provided the system as a turnkey solution, including everything from configuring and installing the Beckhoff embedded PC/PLCs on-site to developing the software for the project. First a prototype of the software and hardware was provided, and when it was found functional, the installation of the full system commenced. The project utilized agile methods and close co-operation in creating the system according to the final requirements of Neste Jacobs.

OPC UA integration for the system was implemented using Beckhoff PC/PLC hardware and TwinCAT PLC programming environment according to the specifications of Neste Jacobs, including an embedded OPC UA server for connectivity. It was possible to use the off-the-shelf Beckhoff OPC UA server for accessing the system, minimizing the configuration work for the project. The OPC UA server enabled Neste Jacobs to access and control switches easily, creating the needed functionality for the simulator room.

SERVER ROOM   **CONTROL ROOM**

**NAPCON®
Informer**

Process
Database

**Beckhoff
PLC**

HMI

Hard switches

OPC UA

OPC UA

Electric wiring

> _// Prosys showed flexibility and expert attitude throughout the project. The system and resources were provided as requested."_

Jyri Lindholm, Head of Automation Technology

Andreas Frejborg, Manager, Process Calculation & Information

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