



A Rockwell Automation Company

Meadow Lake OSB Limited Partnership MLOSBLP —Meadow Lake Saskatchewan

The Client:

Tolko Industries Ltd. and its partners Crown Investment Corp., Meadow Lake Tribal Council and North West Communities have formed a limited partnership. The newly-formed company is called

Meadow Lake OSB Limited Partnership (MLOSBLP). The plant, designed to produce OSB at a rate of 600MMSF annually on a 3/8 inch basis, is built near Meadow Lake, Saskatchewan.

The Requirement:

MLOSBLP selected Hinz as their electrical and control consulting partner. Hinz was responsible for providing the electrical/controls engineering services for the construction and commissioning of a Greenfield Orientated Strand Board plant. The new plant is designed to produce 600 million square feet of 3/8" OSB per year. The process consists of two log ponds, two drum debarker lines, two stranders, two green bins, two hot oil energy systems, two drum dryers, two dry bins, one wax & resin system, two drum blenders, one OSB forming line, press & finishing line, and one plant wide pneumatic dust system.

Hinz' scope of work involved project management of all aspects of the electrical/controls, as well as hardware and software design. Included within the scope, was the co-ordination of equipment vendors who were supplying their own PLC programs and HMI

graphics.

The hardware design included power distribution, electrical, lighting, and control systems for all areas of the plant.

Hinz was responsible for the developing the PLC and HMI programs for the following process areas:

- Woodroom
- Wax and Resin System
- Pneumatic Conveying System
- Plant Water Distribution System
- Pollution Control System

The Design Solution:

Hinz provided complete electrical and controls engineering services. The design phase included working with the client to select major electrical and controls hardware, power and electrical design, instrumentation design, specification and supervision of control systems provided by others, HMI configuration, programming of PLC systems, and complete documentation. The construction phase included construction and commissioning supervision.

The control system configuration incorporated an individual PLC for each process area. Plant control for each area was achieved using Allen-Bradley PLC ControlLogix processors. Communication between PLC and HMI was accomplished by using an Ethernet network with a one gigabit fiber-optic backbone. A dedicated ControlNet network was used for PLC to PLC communication. Each PLC system had a ControlNet network that was used for processor to I/O rack communications. In addition, each PLC system

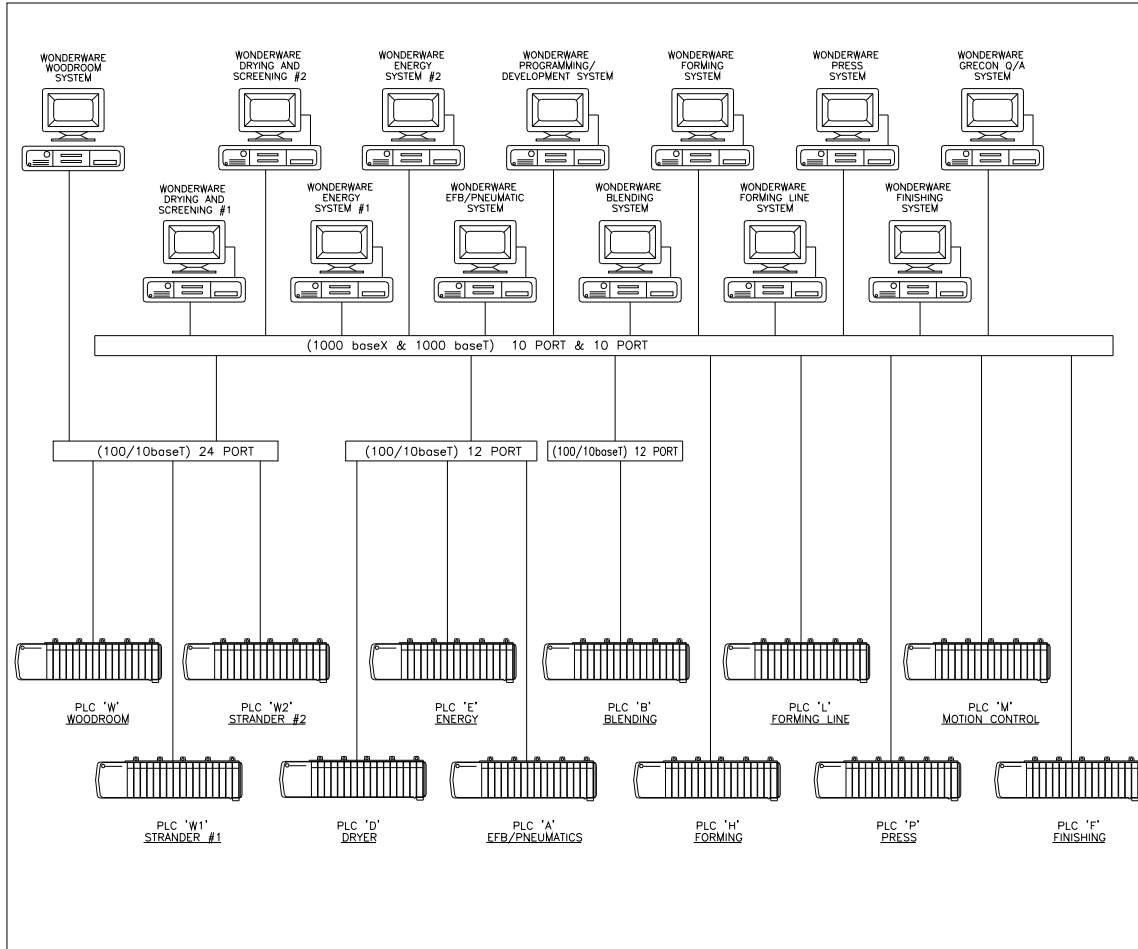
had a dedicated DeviceNet network that was used to interface to the VFDs and motor starters in the MCCs. The Human Machine Interface (HMI) is based on Wonderware's InTouch software for Windows. The plant was controlled and monitored from a central control room.

The plant has over 830 motors with a connected load of 23,000HP. The incoming 230kV power was transformed to 25kV with a 15MVA transformer. The 25kV was distributed to six 2.5MVA 25kV/600V transformers and one 10 MVA 25kV/4160V transformer. The Medium Voltage MCC contained two 1500 HP RVAT starters and 11 FVNR starters. There were 28 low voltage MCCs with a total of 210 vertical sections. All the VFDs and motor starters with the MCCs were pre-wired and configured in the factory. This task reduced wiring errors and expedited the installation process.



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System Specifications:

- 12 - Allen-Bradley PLC ControlLogix processors.
- 13 - Wonderware HMI Stations
- Plant wide ControlNet system for PLC to PLC communications
- 1 - gigabit Ethernet system for the PLC to HMI communications
- DeviceNet System for PLC to VFD and motor starter communications

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com