



A Rockwell Automation Company

AltaSteel Caster MMI Replacement Project

The Client:

AltaSteel began its steel making operations in 1955 and became the first plant in North America to adopt the continuous casting process for making carbon steel.

AltaSteel uses an electric arc furnace and ladle furnace to melt scrap steel. Then the molten steel undergoes continuous casting and is rolled to usable steel bar

products. This process is known as “mini-mill” in the industry and mini-mill producers make more than 1/3 of all the steel produced in North America today.

The Requirement:

There were 2 IDT Classmate II MMI stations overlooking the casting process: one located on the swivel platform in the pulpit (beside the ladle) and one in the foreman’s office. The two stations were communicating via the RS-232 interface to a Modicon 984 PLC which was in turn connected to a multiplexer and other control devices. The graphical interface systems were originally installed in 1987. In 1995 AltaSteel decided to upgrade the existing IDT systems to a PC-based graphical interface package, due to obsolescence and lack of adequate hardware and

software support. Wonderware’s InTouch MMI system was used as the development software, and Hinz. was chosen to do the design, testing, commissioning and operator training for the project.

The original layout of the screens was carried to the new screens, additional screens and functionalities were added to enhance the capabilities of the MMI systems.

The Design Solution:

The two MMI screens were put on a Modbus Plus Highway using two SA85 adapter cards. The two nodes were connected to an existing IBM Token Ring network using network adapters. Wonderware’s Net DDE was used to establish communication between the two stations. A master-slave configuration was implemented so that at any given time the master MMI node would update its database directly from the PLC while the slave node updated its database from the other master node via the LAN connection. If the master node failed, the role of the two nodes would reverse. If the LAN connection failed, both nodes would update their respective databases separately using the database in the PLC

Commissioning was completed successfully in stages. Hinz developed operator and maintenance manuals for

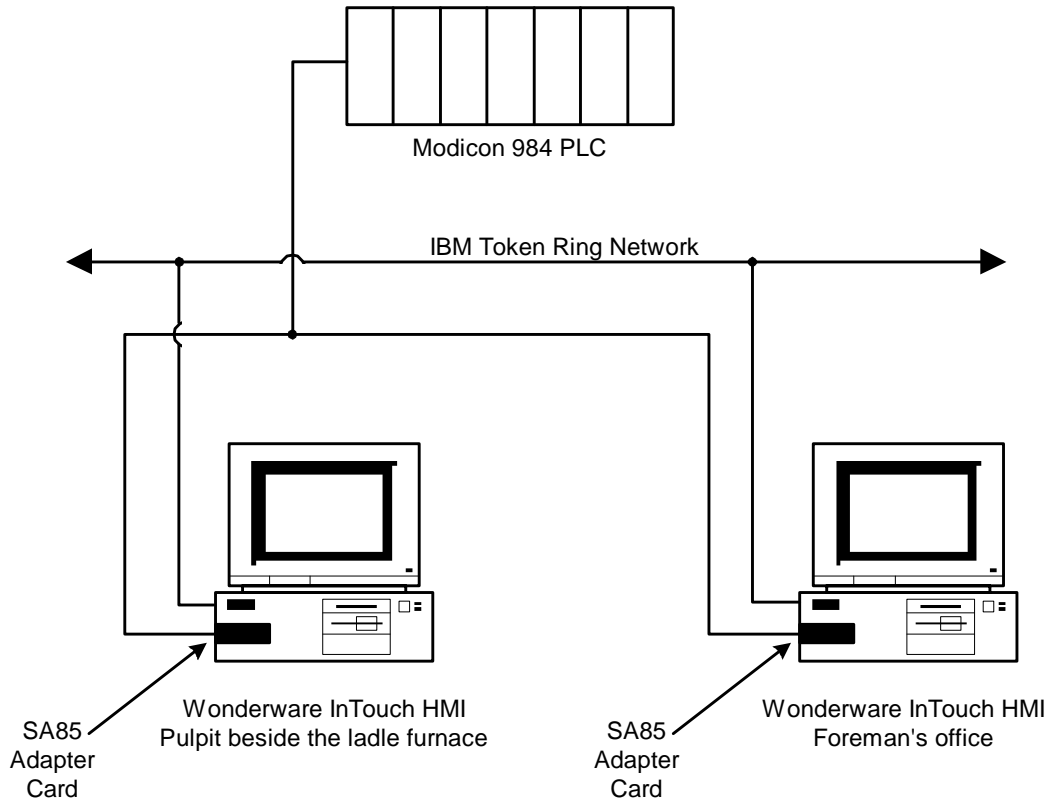
training purposes and held training sessions for the operators and maintenance crew.

Steel recycling was the most prevalent form of recycling and can be recycled indefinitely. The raw material used at this AltaSteel is 100% recycled steel scrap – 275,000 tons gathered in Alberta every year. This includes scrap automobiles, tin cans collected in the “Edmonton Blue Box” recycling program, oilfield drill bits, pipeline scrap, railroad ties, construction steel, trucks, steel containers, major household appliances, etc.



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System Specifications:

- Close to 600 discrete and 20 analog tags
- 50 graphic displays
- Two IBM compatible (clone) PCs for the 2 nodes
- 32 M RAM per system
- Windows 3.11 O/S, DOS ver. 6.2
- Wonderware InTouch ver. 5.6 for Windows
- NetDDE for Windows ver. 1.4
- Two SA85 MB+ adapters

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

www.hinz.com