

## Full electrical revamp of a Cooling Bed Area in a record time

### Challenge

Project consisted in the upgrade of the cooling bed zone that was managed by a MODICON plc, an RELIANCE AUTOMAX plc was managing the axis controls and other AUTOMAX were managing power modules of the dc drives. Critical point for the customer were the minimum spares present in plant and the impossibility to find new pieces.

Project has began months in advance than the shutdown phase due to the minimum time available for the Christmas shutdown of the plant. Criticity of the project included the activity of placing the new automation system in several networks already present in plant, such as Profibus to the mill control system actually managed by an ABB plc, and MB+ network with the rest of the packing area and level 2 interface that is managed by MODICON plc's.

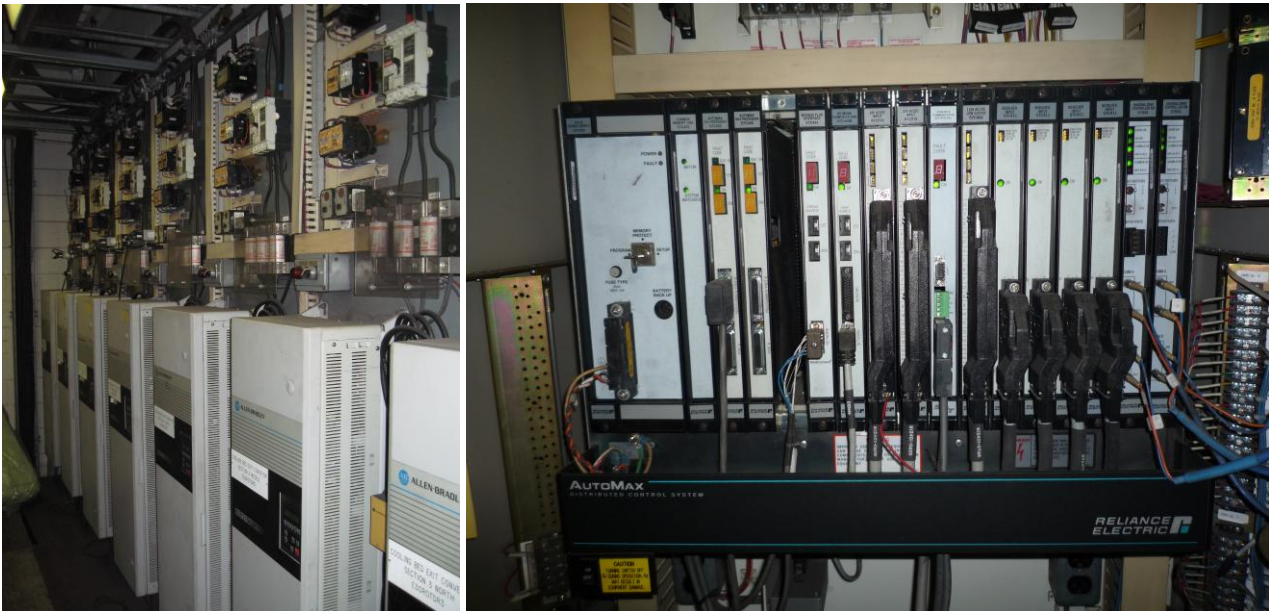


Fig. 1-2: Existing VFD drives and Automax Plc before AIC revamping



Fig. 3-4: Existing Modicon PLC and DC Drives before AIC revamping

### AIC Automazioni Industriali Capitanio sites:

- Italy (Headquarters & Workshop)
- United States of America (Sales & Service)
- India (Sales & Service)

### Solution

AIC decided to integrate the axis control and level 1 automation in a unique platform, one that could give the possibility to manage part of the tracking as well thanks to the calculation speed and the amount of memory available, moreover the connectivity possibilities with the other platforms present on the plant; that's why ControlLogix from AB was chosen.

Customer desired to have fully integration of the drives with the plc Ethernet network and the possibility to browse and change parameters using plc programming language, for that reason AB PowerFlex755 VFD drives were chosen, for the DC drives the choice went to the ABB DCS800 because of their guarantees in terms of reliability.

To speed-up the software engineering process all complete data exchange present in plant was replicated in AIC workshop at the end of panel construction to test and simulate every situation before shipping panels to the customer.



Fig. 5-6: New VFD drives and ControlLogix PLC supplied by AIC



Fig. 7: One of the new DC Drives supplied by AIC

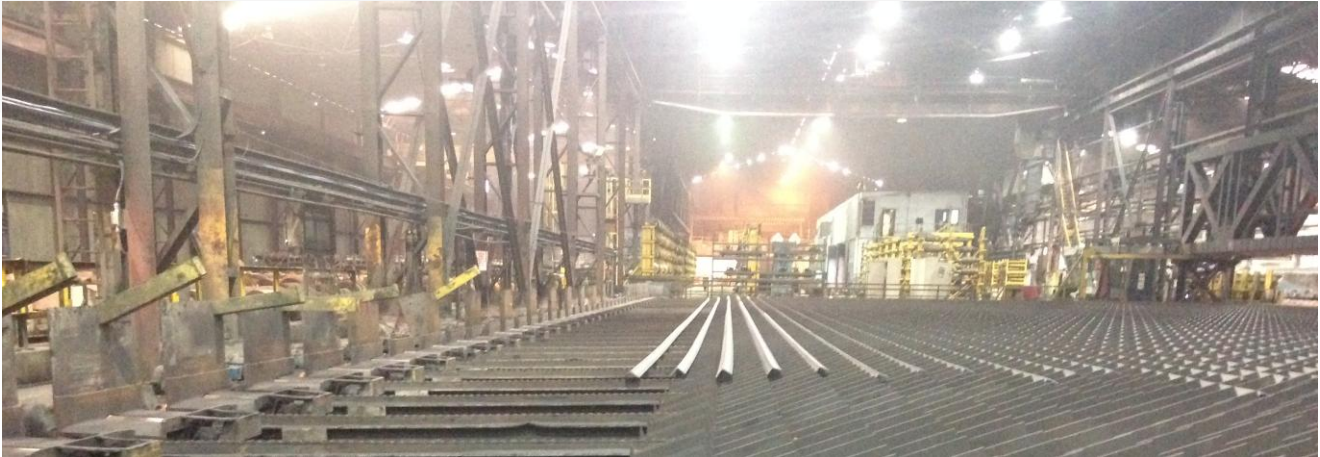
All panels supplied by AIC are certified ETL for Canada, AIC is as well approved workshop for the Canadian and USA market.

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To better integrate the new automation and drives control in the plant with the minimum changing for the operators Existing HMI's and pulpits interfaces have been completely reused, as well to assure a fast restart in production of the plant after the short shutdown.



*Fig. 8: Plant in production*

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