

**Industry: Construction /// Manufacturing**  
**Products Used: FX PLCs /// SCADA /// Drives**

# Bridging technology

Renowned for their pedestrian bridges, walkways and gantries, Nusteel were looking for ways to automate their manufacturing processes. These Civil engineering items are getting larger and are used in increasing volumes as motorways are being widened, and airports extended.

For Companies like Nusteel, this means that they have larger workpieces (150mm to 12000 min length) to handle, and as these are steel sections and plate, efficient handling and cutting (to a tolerance of +/- 0.25 mm) is a prerequisite in the manufacturing cycle.



Until recently, this was done manually with pieces being marked out before being cut on a circular cold saw. Proprietary cut to length systems are available on the market, but none of the systems were sufficiently developed or cost effective enough to allow Nusteel to automate the input process. This, plus a general desire to automate their own processes and increase market competitiveness was why a very elegant use of Mitsubishi Electric Inverters and PLC's came to be developed in the manufacturing process.

What really convinced Nusteel to use Mitsubishi Electric products is that the compact FX PLC series connects directly to Mitsubishi's SCADA system without any other purchases. This gives a low cost interactive graphical control solution, with a comprehensive reporting system, that allows the operator to control everything from a master console and at the same time confirm visually that all is well.

The application basically consists of CAD data being fed into the PLC via bar codes. The 32 bit processing of the FX PLC quickly calculates all movement and cutting interpolations. It then moves the cutting tools (using energy efficient A140 single phase inverters) to the correct position and proceeds with the cuts. All this activity is centrally monitored and controlled via the SCADA system.

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We are pleased with the Mitsubishi equipment and very proud of what they have achieved with it

Peter Benson, Director  
Nusteel

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Using the latest technology from Mitsubishi Electric, the whole system has been automated and has increased throughput and accuracy of the whole cutting process, plus has the benefit of saving energy.

*Application story first released March 1993 by Mitsubishi Electric UK*