

Industry: Food & Drink

Products Used: Modular PLCs /// Networks

# Fieldbus networks save much dough

Mitsubishi Electric has supplied PROFIBUS DP fieldbus networks to Allied Bakeries' Reading bakery for the control of a new production line. Baking bread is a process that involves up to eleven different control sections. Each section is extremely time sensitive and a delay in one process can cause product to be spoilt in another.



In the past, the synchronisation of these processes was manual, but with 6,000 loaves produced in an hour, it was not fast enough. If any process stops, those upstream from the stopped process would also halt, causing additional production to be spoilt. As the process takes approximately four hours, there would be 24,000 loaves lost if the line stopped for an hour. However, it can take two or three hours to clear spoilt product from the line, hence production lost can often be far greater. In order to minimise waste, Allied Bakeries needed a control scheme in which each process could control the speed of the processes that supplied it.

The solution was to install an open PROFIBUS DP fieldbus network to co-ordinate the different processes. The 12MB network covers the entire make up and hot bread section of the line, as these all contain time sensitive processes. Each section is now controlled by a Mitsubishi Electric AnS PLC that is connected to the other sections by the network and each PLC can receive information from the other PLC's and act upon it. This enables a PLC to vary the speed of an upstream process if there should be a delay. Using a high-speed network ensures that critical information is acted upon without delay, and that valuable production is not lost.

Mitsubishi Electric believes that the adoption of open networks is key to improving the efficiency and utilisation of factory control systems, but no one network can meet all possible applications. Consequently, networks have evolved that use different topologies and protocols for the Command, Control, and I/O levels, as well as for specific application processes.

As a founding member of the PROFIBUS Working Group, Mitsubishi Electric supplies PROFIBUS products for its industrial automation equipment. In addition, it also supplies, CC-Link, ETHERNET, DeviceNet, MODBUS and their MELSEC NET networks for control & I/O networking levels.

*Application story first released December 1997 by Mitsubishi Electric UK*