

Industry: Food & Drink

Products Used: Modular PLCs /// Drives /// HMIs /// Networks

PLC network saves dough in bakery

Allied Bakeries, part of Associated British Foods, is a high volume manufacturer of bread loaves, rolls, buns and pastries. It has over twenty bakeries throughout the UK producing quality goods under the brand names Kingsmill, Allinsons, Sunblest and Mighty White.



All production lines operate six days a week, fifty two weeks of the year. Once bread is produced it must be despatched the same day to ensure it is fresh when it reaches the supermarket shelves. The problem facing Grenville Granger, Allied's Electrical Projects Engineer, when he was designing a control system for a new production line at the Reading bakery, was to devise a system that would ensure continuous and reliable production.

Granger's solution is a system based on a high speed network of fifteen Mitsubishi A1S PLCs. The PLC controlled panels are linked by a Mitsubishi Electric MELSECNET/B data link system. Each A1S is connected to the MELSECNET/B and rapidly exchanges data with the master A1S PLC at a speed of 1MBaud.

Application story first released February 1997 by Mitsubishi Electric UK

The network covers the entire make-up and hot bread section of the line, as these contain the most time sensitive processes. If any process stops the packaging, those upstream from the stopped process would also halt, causing product to be spoilt. As the process takes approximately 4 hours, there can be 24,000 loaves lost if the line stops for an hour. However, it can take two or three hours to clear spoilt product from the line, hence the production lost can often be far greater.

Mitsubishi Electric was chosen as the project's PLC supplier because it could supply all the products needed for the line's control. Their compact, powerful A1S micro-modular PLCs are ideal for networking with their low cost communications modules.

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Grenville Granger
Allied Bakeries

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Allied discussed potential suppliers with the project's panel builder and both agreed Mitsubishi offered the best package and range of equipment. "Mitsubishi could supply the PLCs, MAC 50 HMIs, three phase and single phase inverters, interfaces for the factory floor and high levels of technical support throughout the project and afterwards," states Granger.