

Bottling - Keeping control of Robinson's packaging facility

Robinson's brewery is in the middle of Stockport. The packaging plant is some three miles away and processes bright beer from the brewery and many other breweries ready for filling casks, kegs or bottles on site. The plant is effectively a multi-product facility, each product requiring special handling and finishing and provides a complete packaging operation from road tanker to tank farm to bottle or keg or cask.

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The facility has now completed a four-year upgrade project. Originally an old system was in use at the main brewery site, this was phased out when the operation moved three miles away to the new packaging site. This new facility includes a new tank farm with eleven new storage tanks installed, a new automatic computer controlled racker, new tanks for processing rough beer before racking, and a new Process Automation system. The process comprises tank farm control, beer processing to make optimum yeast count, achieved through a centrifuge, or addition of finings

system, with special attention to beer condition throughout the process.

There are five SCADA workstations networked together; three are located in the process area, one in the Laboratory and one in the Packaging Manager's office. The system is recipe based with product routing, tracking, reporting and alarm handling facilities to allow complete plant management and optimisation decisions to be made in real-time. Robinson's own production planning manager is located at the brewery three miles away, having full access to the availability of tank capacity information, thereby allowing decisions to be made affecting brewing and rough-beer distribution.

The SCADA package was selected from a variety of distributors. However, one of the main selection criteria was the need for a flexible system with the application software providing facilities for managers and operators to use recipes and change process parameters. Routing, Conditioning, CIP and other procedures had to be very flexible owing to the wide variety of beers being processed. For an example of a typical screen please refer to the Recipe Menu; here parameters such as CO2 Pressure, Holding Temperature, Rousing Regime and a variety of Additions can be changed. The Process PLCs were standardised to provide rapid control with secure networking between the PLCs and from the PLC network to the SCADA system.

A strong decision-making factor was also the quality of service and support provided by the combination of System Integrator (ABM Limited), PLC (Allen-Bradley) and Visualisation (SolutionsPT-supplied Wonderware InTouch). This was made on the basis of the packaging plant staff being confident about on-going vendor support and ABM's vast experience in



Bottling line

and dissolved sugar, making bright beer; this is then transferred over to the racking side of the plant under supervision of the SCADA system. Bottling line, Cask, and Keg line are fed on demand with processed beer through a single



Recipe management

the brewing industry.

This experience in brewing enabled a customised interface to be developed for Robinson's packaging application. The SCADA interface allows both managers and operators to control the plant with an easy-to-use visualisation of the process. The system design used a two-way process with the client having direct input during the design stages and during simulation and factory acceptance at ABM. This design methodology was key to the success of the project in that the SCADA and Automation System truly represented both the plant operation and process operator functions. Additional plant control and automation included:

Automatic Centrifuge, Routing to/from Old and New Tank Farms, Filtration, Primings Plant, Cask and Keg Racking, Cleaning-In-Place of Tanks, Pipework and Keg Racker.

fining

A particular support feature highlighted by ABM's David Littlemore is the on-line modem

connection between the plant and ABM; this has enabled ABM engineers to provide rapid help during the commissioning phases, together with support and maintenance following plant handover. It also helped in the installation and testing of software upgrades required for Year 2000 compliance. Although the plant has been operating efficiently for the last 3 years, the use of the modem link now allows modifications to be tested on line whilst telephone advice is provided at the same time - all part of ABM's service to reduce downtime and minimise losses in production.

The business advantage for Robinson's in this investment is decision making within the production period. Both Robinson's John Cookson and Graeme Hall stated that temperatures, volumes, levels etc. are now scanned almost subconsciously, thereby situations that require rapid decisions can be made quickly and accurately with reference to the exact state of the plant and the production plan. The SCADA system is a natural extension to their experience and capability, a tool that has proved invaluable. The detailed process is controlled by reference to SCADA information at particular points in the plant by process operators. The topography of the plant allows beer to be conditioned, racked and made ready for casks, kegs or bottles as if it all took place in one room, individual operators knowing that all is correct and ready at each end of the process. Product quality has been maintained throughout the full automation of the facility, including the changeover period, a good testament to the choice of suppliers and their expertise.

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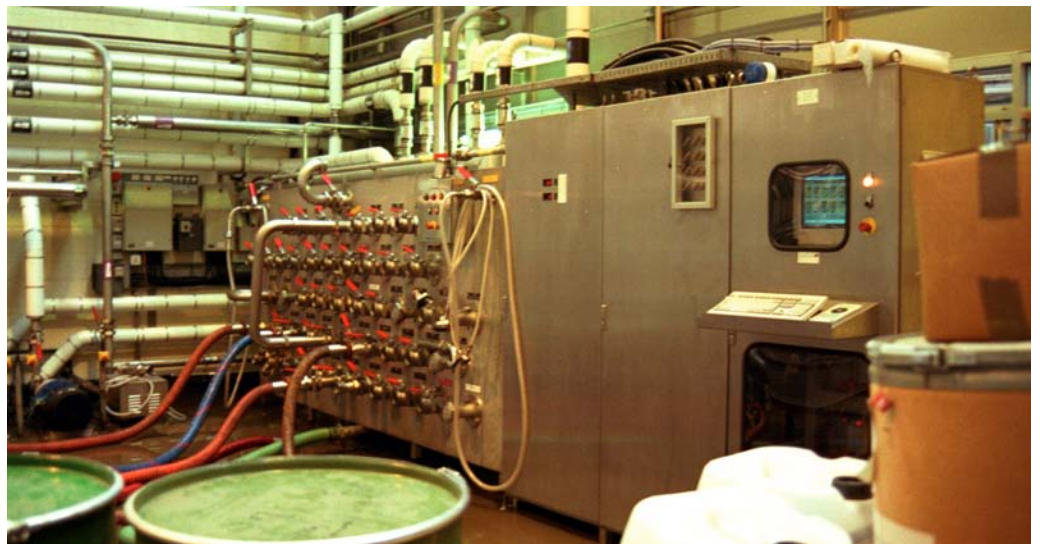
temperatures, volumes, levels etc. are now scanned almost subconsciously,



Bulk tanks



Distribution with SCADA terminal



Wonderware UK wishes to thank the following companies for their valued contribution to this success story...

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