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CHANGE MANAGEMENT SOFTWARE AT COCA COLA MINIMIZES PRODUCTION DOWNTIME

WAKEFIELD, United Kingdom, September 26, 2008 - By introducing change management and version control software for all industrial programmable devices in its Wakefield, UK manufacturing plant, soft drink giant Coca Cola Enterprises (CCE) has minimized production downtime, therefore avoiding costly delays and disrupting delivery schedules.

The Wakefield manufacturing plant was built in 1989 as a manufacturing and distribution centre for CCE in the North of England. The plant is the largest soft drink factory in Europe, covering an area of 41 acres and has 72,000 square metres under of buildings. The warehouse has grown from a bulk storage facility housing only Wakefield-produced drinks, to a regional service centre for handling product from regions across the UK.

High-tech machinery at Wakefield enables cans to be produced faster than the eye can see. The plant is capable of producing up to 4,000 cans per minute and 3,280 bottles of soft drinks per minute across nine lines (two canning and seven PET). The factory also boasts the fastest two-liter bottle production line in the world.

In 2004, UK-based control and automation specialist M.A.C Solutions (UK) Ltd was asked by CCE Wakefield to recommend how the plant could improve its existing change management and version control process for industrial programmable control devices.

At that time, policing changes to PLC code at the plant was proving to be problematic. The original procedure included using two separate back-up systems: a 'master' and a 'working' system based on floppy disks. Technicians would change PLC code locally and then follow a set of procedures to ensure the change was recorded and backed-up.

In production plants, changes to PLC code are necessary for a variety of operational reasons. New control and automation equipment may be purchased that requires changes to the software code within the PLC. A new inverter drive, for example, may need to be fitted to a production line, in order to improve productivity or operational efficiency. A new electronic pressure control device may need to replace the existing mechanical version or the timing of a bottling conveyor line may need minor adjustments. These would all require this type of PLC code change.

If a change was unauthorized or the engineer was simply so busy that he forgot to save the change to the main back-up file, version control issues would arise. If just one production line goes down because a PLC has fallen over due to poor software version control, the plant is faced with downtime costs of around £1,000 ($1,800) per minute. Therefore, a reliable, easy-to-use change management software suite was critical.

The CCE Wakefield plant uses a range of programmable control devices, including 93 Siemens S5 PLCs, 11 Siemens S7 PLCs, 20 Allen Bradley (Rockwell Automation) ControlLogix PLCs, 31 Allen Bradley SLC500 PLCs, and 26 universal Devices (SCADA InTouch and others).

These PLCs are located on several networks across the site, including a legacy Siemens S5 H1 network, with some PLCs and devices being standalone without any connection to a network.

MDT AutoSave (from US-based software supplier MDT Software) was selected for implementation. AutoSave is an enterprise source management solution that provides a full suite of tools to protect, save, restore, discover and track changes for industrial programmable devices and documents. The system unifies plant automation software under one common user interface, resulting in a secure, well documented, controlled environment that significantly reduces the time and effort needed to manage a manual backup system.

AutoSave's 'Scheduled Compare' feature enables administrators to automatically schedule compare procedures. Automatically comparing the program in the device with a program stored in the AutoSave library can detect and identify changes between the program that may have been unknown or unauthorized. This protects that company's process, people and equipment.

When a change is made to a PLC program, the software can be set up so that designated users are immediately notified via email. Detailed, logic-to-logic and selected data table value comparison reports

are generated and users are notified of differences via email. These mailed results, generated for schedule, program, or demand compares, are viewed via a web browser that features hypertext links to detailed logic and documentation differences.

David Bryden, Technical Services Technician at CCE Wakefield comments: "The system supplied by M.A.C Solutions, MDT is very reliable and easy to use. It maintains an excellent ancestor history of all PLC program files on site. With its universal capability, the software is also used to store non-PLC files."

The system now polices itself on the networked PLCs using the software's 'Scheduled Compare' feature within MDT Software's AutoSave software suite. Reports detailing discrepancies between archived PLC code and actual PLC programs are produced, which can be viewed and checked by an administrator and discrepancies emailed to the appropriate individual at CCE.

Bryden continues: "We recently had a problem with a Siemens S5 PLC controlling our water treatment plant, where all the code was lost in the PLC, therefore stopping all water supplies used in our production process. We quickly checked out the archived copy of the water treatment plant PLC code from AutoSave to one of our Siemens field PGs and reloaded the code locally at the PLC. We were up and running with only five minutes downtime to Line Four. On another occasion, our main preparation PLC fell over, only this time we were able to immediately reload the code over the network from AutoSave – incurring zero downtime."

"In both cases, the reloaded code was up-to-date due to MDT AutoSave's 'Compared Schedule', which updates the ancestor files if discrepancies are found during the compare routines. Few discrepancies are now detected by the software, as the technicians on site now use AutoSave for checking out programs and verifying them again when making a new revision."

According to Bryden, in terms of security, functionality and accuracy, MDT AutoSave is "far superior" to the plant's original, geographically distributed PLC back-up system, which was based on floppy disks. However, as Bryden states: "Albeit, we still depend on technician discipline when it comes to standalone PLCs."

CCE Wakefield is currently discussing with M.A.C Solutions the inclusion of its new-generation Siemens S7 (version 5.3) PLCs installed on the MDT AutoSave system. CCE's Edmonton-based manufacturing plant has also now installed the MDT AutoSave system.

For AutoSave software to give optimum performance, M.A.C Solutions had to ensure that as many PLCs as possible were connected to the networks. CCE Wakefield therefore installed a number of intelligent device servers (INAT Echolink) to connect the legacy Siemens S5 PLCs to the Ethernet network. The INAT Echolinks provided by M.A.C Solutions also enable data from the PLCs to be transferred via an OPC server into the CCE line monitoring system.

MDT AutoSave fits in very well with M.A.C Solutions' own three-stage approach to helping manufacturing companies achieve true open connectivity within their organisation. As Andy Thorogood, Sales Manager at M.A.C Solutions points out: "We're helping manufacturers achieve their goal of seamless, inexpensive integration of production data with business systems [SQL databases, ERP and MES systems]. Company-wide, we're helping them capture and unify data from both new production machines and legacy production alike.

"We can then help companies visualise this production data right across the business, using presentation methods which are appropriate to each user, such as web browsers, PDF-based reports, CSV files, SMS text messaging and e-mail. So any appropriate information is available network-wide, such as machine efficiencies, machine faults, downtime and energy usage. We're also now able to help companies who wish to monitor equipment at remote locations, using the latest in industrial connectivity - secure, broadband, always-on VPN-links."

M.A.C Solutions offers a unique, three-stage solution for customers that starts with 'device connectivity', then 'OPC data connectivity', and onto 'visualisation of information'. Any customer problem, whatever the scale, can be catered for using this model.

The first step is all about physical data conversion and involves migrating existing, closed physical connections to an open physical connection. The second stage involves moving from an existing, 'closed' communications protocol to an 'open' communications protocol. And the final step, the presentation conversion, involves moving from an existing, closed method of information presentation to a truly open method of presenting this information.

About M.A.C Solutions (UK)
M.A.C Solutions (UK) Ltd (www.mac-solutions.co.uk) is a UK-based maintenance, automation and control systems provider and technical service and support company that specialises in helping customers select and source appropriate systems to help leverage their production machine and process data from existing plant control and automation systems, up to enterprise business level systems. With more than 10 years' experience in the industry, M.A.C Solutions (UK) Ltd offers a range of industrial Ethernet 'open connectivity' solutions, as well as version control software, industrial Ethernet switches, web visualisation tools, alarm management software, connectivity devices for Siemens' PLCs, Ethernet-enabled OPC servers, industrial monitors and PCs. M.A.C Solutions' clients include utility companies, food and beverage manufacturers, power generation, breweries, oil and gas, automotive, water treatment, wind farms, paper and print, electronics and pharmaceuticals.

About MDT Software, Inc.
MDT Software is a world leader in change management solutions for automated manufacturing devices. MDT's flagship product, AutoSave, empowers users to protect, save, restore, discover, and track changes in industrial programmable devices and plant-floor documents. AutoSave supports the most comprehensive range of devices and editors in the industry from Schneider, Siemens, Mitsubishi, Indramat, Wonderware, GE, Rockwell Automation and others.

For more information on MDT and AutoSave, visit www.mdtsoft.com.