

News on the industry & Information
for Contemporary Controls'
Most Valued Customers

NETWORK

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Contemporary Controls Completes Its Second Phase of Lean Manufacturing



In an annual survey of U.S. manufacturers conducted by Industry Week, 70% of the respondents reported lean manufacturing initiatives at their facilities and Contemporary Controls is among those manufacturers. Just recently, the company completed its second phase with additional training for employees and the modernization of equipment. For Contemporary Controls, "lean" means organizing the overall enterprise along with the managing of employees' work cells, product development and production. The intent is to become more efficient,

lower employee

interaction with the

products and automate the process to deliver a better time-to-market.

Manufacturing Engineer Neil Maloney said the company is automating their production line as much as possible to reduce the likelihood of error as the products move through the assembly process. "As more employees handle the products, there is a greater chance for introducing a problem," he said. "The essence of lean manufacturing is to pass things through quickly without any defects."

Trainers from Panasonic® in Buffalo Grove, Illinois, instructed both the manufacturing and engineering personnel on machine operation, programming, maintenance and troubleshooting. Other classes focused on Panasonic PanaPro® software training. PanaPro is designed to convert CAD data into a format that the Panasonic MPAV2B placement machine can utilize without having to do excessive amounts of hand programming. "Once again, when you manually program the machine, you increase the possibility of introducing an error into the assembly process," explained Maloney.

The equipment upgrades include the latest in lead-free surface mount (SMT) equipment such as the Panasonic placement machine as well as conveyors designed by Suntsda. The Panasonic placement machine has 60 feeders for tape and reel and allows for 40 waffle trays of components. It has access to 200 assembly programs at any one time. This machine is capable of accurately handling components as small as 0201 on tape and reel and components as large as 20 mm x 20 mm on waffle trays.

continued

Network With Us

Network With Us is the title of Contemporary Controls' NEW capabilities brochure. This document introduces you to the technologies we support as well as our expertise in design, manufacturing, and technical assistance.

Besides standard ARCNET® hubs, and Ethernet switches, we provide protocol-aware routers to meet the unique requirements of the building automation industry worldwide.

In addition to communication hardware design, the company is skilled in firmware development and is versant in open system protocols and operating systems for today.

What we design we support. Technical support specialists reside around the world in order to ensure that our customers are provided excellent assistance for their projects.

What we design we make. The company manufactures its own designs to ensure the highest level of quality while being responsive to customers' changing requirements.

The company is committed to our environment. It believes in reduced waste, the reduced amount of hazardous materials in our environment, and the use of fewer natural resources.

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The new conveyors automate the handling of the product between the stages of the assembly process. This equipment includes a bare PCB loader, inspection station, product transfer magazine loader and associated loader.

The process begins as product automatically is loaded into the assembly line from either a bare PCB or magazine loader. Solder paste is applied to the PCB from a stencil printer.

When the circuit boards come out of the stencil printing operation, they are conveyed directly into the placement machine, where components are mounted to the assembly. The boards are then placed onto the inspection conveyor where the operator is able to examine the product. Upon pressing a pedal, the boards are sent into the reflow oven. "This entire assembly procedure is completed without using any hands in the process," said Maloney. "The fewer number of hands touching the product, the better for our quality. We are working towards eliminating the possibility of error."

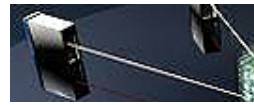
Although this is an ongoing process, we've made a major step forward. "The process will pay us great dividends once it is fully optimized," said Maloney.

Continuous efforts to reduce costs, improve quality and improve customer service are coordinated between the Downers Grove facility and our Suzhou, PRC plant as part of the company's lean initiative.

New Case Studies Prove the Success of Contemporary Controls' AI-SRVR

Two new case studies focus on the use of the ARCNET® AI-SRVR as a solution to distance problems and upgrade issues. Case studies meet the demand for information on our products, but more importantly, they prove to be good learning resources for our customers. The first case study, *Connecting ARCNET to Ethernet Infrastructures*, explains how American Auto-Matrix (AAM) used the AI-SRVR as a solution to distance issues in multi-building and remote building installations. AAM utilized the proxy mode of the AI-SRVR to extend the distance of their networks beyond 1,200 ft., while still able to maintain the system functioning with all the advanced features provided by the current architecture. AAM added that by employing the AI-SRVR, the company did not have to rush to develop a completely new TCP/IP-only architecture which would have resulted in new communication stacks to be written, software to be updated and new TCP/IP hardware to be engineered.

The second case study, *Ethernet to ARCNET Connectivity Provides Greater Flexibility in Network Deployment*, explains how physicists conducting the PHENIX experiment used the AI-SRVR as a replacement for their Sun Solaris servers and needed this product as the simplest method to access an ARCNET network. The physicists at Brookhaven National Laboratory found the AI-SRVR the ideal solution. They required a product that would allow them to continue using their large, installed base of ARCNET devices despite changes in the computing and software environment.



TECH UPDATE

Do Your Networks Interfere with Each Other

Recently, I heard about a CEO who became quite agitated when his office network traffic crawled to a standstill due to his control network.

In the field of Industrial Ethernet, a common task is protecting the control network from traffic originating in the office or corporate network. Usually the control network has equipment that must operate reliably—with control messages delivered on time and error-free. Office traffic can wreak havoc in the control network, but sometimes the situation is reversed; your control network can interfere with your office network—much to the consternation of people you'd rather not offend.

As EtherNet/IP™ and other protocols using multicast messaging have proliferated in control networks, traffic issues have appeared. End devices can create a lot of multicast traffic. It is important (sometimes crucial) to specify devices to receive this traffic to avoid overwhelming a network. IGMP snooping (available on many managed switches) can direct multicasts to only the devices needing it, but a switch without IGMP snooping will flood such messages to all ports.

EtherNet/IP join messages are handled by all IGMP snooping switches that use information in the messages to determine which ports will get the multicast data—restricting multicasts to only devices that expect them. For this scheme to work, one or more switches or routers in the network must provide IGMP queries to periodically ask end devices to subscribe to multicasts. Without the IGMP query function, IGMP snooping switches will eventually forget their multicast-handling strategies and received multicasts will flood the network. Because the IGMP query is critical to IGMP snooping, it is recommended that multiple switches in the EtherNet/IP network have the query ability.

Some people successfully use port security (aka port locking) to keep corporate traffic from the control network, but IGMP snooping is the preferred solution. Both IGMP snooping and IGMP querier functions are available on all managed switch products from Contemporary Controls. More about IGMP snooping can be found at:

www.ccontrols.com/pdf/abc9.pdf.

By Bill Greer, Senior Product Specialist

CCSI's Exhibits Focus on the BAS Remote and Ethernet Technology

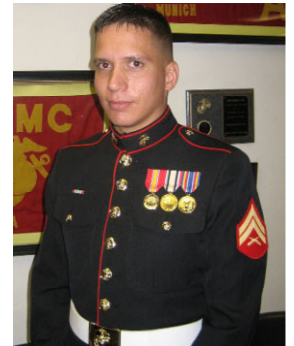
"You're right on target with your BAS Remote," said attendees at the Building Automation Conference in September. "The BAS Remote was popular because this device provides the easy and quick installation of only a few I/O points into an existing infrastructure without having to pull wiring or disrupt individuals in their work environment...it's just an easier solution," said Contemporary Controls' Sales Manager Joe Stasiek.

The ISA Expo in October provided the staff the opportunity to exhibit their Ethernet switches. "This was a good venue for us because Ethernet is growing stronger in the industry," explained Stasiek.

Research Manager Bennet Levine's presentations focused on the company's managed switches. At the Building Automation Conference, he stressed that these switches could better control the network and provide a more reliable system. At ISA Levine discussed the benefits of managed switches, specifically their functionality such as rate limiting and port locking. These features and more give way to minimize downtime, increase uptime and improve the network's performance.

Destination Bolivia

Our congratulations go to Keith Thomas, former CCSI engineering intern, who has just graduated from Marine Security Guard (MSG) School at Quantico, Va. His orders will send him for one year to the US embassy in La Paz, Bolivia. After duty in Bolivia, Keith will be assigned two more embassy locations. Five or six Marines are assigned to each of 130 posts around the world. The Marine Security Guards primary mission is to provide internal security services at designated U.S. Diplomatic and Consular facilities to prevent the compromise of classified information and equipment vital to the national security of the United States of America. The secondary mission of Marine Security Guards is to provide protection for U.S. citizens and U.S. government property. On October 1st, Keith was promoted to the rank of sergeant. Our best wishes go to Keith on his new assignment.



When in Munich Do As the Germans Do



Contemporary Controls Ltd (CCL) and Contemporary Controls GmbH (CCG) hosted their annual European Sales Meeting for distributors just outside the Munich airport in Erding, Germany. The two-date event, which was held just a few days before Munich's famous Oktoberfest, provides an opportunity for distributors to share their marketplace experiences. It also allows CCL/CCG to inform the distributors about new product introductions, trade show and advertising plans. The distributors were provided a list of product development opportunities and asked to prioritize development efforts. This feedback is invaluable to the company's planning efforts.

Missing Oktoberfest did not stop the participants from having a good time at the nearby Erdinger Brewery where the famous Bavarian Weissbier is made. This family-owned business is over 120 years old, and we were given a guided tour of the brewery process. We were impressed with the cleanliness of the brewhouses, fermentation cellars and bottling plants. They have two bottling plants with the largest filling 110,000 bottles per hour. The bottles are capped so quickly that there is no foaming. After bottling, they go to a sophisticated computerized, precisely air-conditioned warehouse for maturing. The computer keeps track of the location and aging of the entire inventory. Huge automated stacker cranes move the products in and out of the warehouse with eventual destinations around the world.

After the tour, we of course had to sample the various products and received a lesson on the proper consumption of Bavarian white sausage, sweet mustard and large pretzels. We also received a lesson in customer service and salesmanship when owner Werner Brombach came and joined us at our table to tip a few brews. Along the walls of the brewhouse are an endless number of employee pictures with their years of service identified. It is clear that this company places a high priority on both customers and associates which was a good lesson for all of us.



Werner Brombach (left) toasts Roger Züsli of Satomec, Thomas Dohmen of H+I, Peter, Jan and Jörg of Contemporary Controls.

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- More employee training and new equipment add up to meeting CCSI's goal of lean manufacturing.
- Tech Update takes a look at "Do Your Networks Interfere With Each Other?"
- The Extension Supplement explains how BACnet devices are constructed—with emphasis on the latest BACnet/IP standard.
- New case studies examine how the ARCNET AI-SRVR becomes the solution to distance problems and upgrade issues.