The ProSoft Magazine

Manufacturing Success Page 6

A glimpse at how GMI and OLDI make ProSoft products.

The ProSoft Magazine

From the President

"Enjoy the ride!"

That's what Doug Sharratt used to say. 2011? Who didn't enjoy the ride? It was a great year for the Automation Industry and at ProSoft Technology we did enjoy the ride.

So what's coming this year? Everyone is asking that question. The economy is a topic everyone talks about. So… how do we continue to enjoy the ride?

Here at ProSoft we are upgrading Products, bringing out new Products and planning our next Products. You did see that? Product, Product and more Product. Our engineering teams are at full throttle working on Products that will make our customers' eyes light up! Our vision for the future shows another great ride in 2012.

It is an exciting time for us.

Come enjoy the ride!

Janice Hungerford, President/CEO

Editor **Notes**

By Danetta Bramhall
Editor-in-Chief
The ProSoft Magazine

Communication.

We all think we know the definition of that word. But do we?

Webster's Dictionary describes it as:
"Sending, giving or exchanging of information or ideas."

Seems pretty straightforward doesn't it? What it doesn't say is that there is a difference between EFFECTIVE communication and just plain noise.

I work for a company that makes "industrial communication products." To the engineers out there reading this, you have a rough idea of what that means. But, when I say that to people outside our industry, I get the deer in the headlights look. That's because, for them, I wasn't "communicating" effectively.

I was talking to our Strategic Product Marketing Manager, Ken Roslan, the other day. He was telling me about some conferences he has been to recently where some of the presenters seem to have a problem "communicating." Let me give you an example of something one of the presenters actually said.

"We are embracing standards to address viability and compliance agility with a holistic approach to customer intimacy supporting operational complexity to value realization."

Now, being a writer I like to think I'm pretty savvy when it comes to the English language. But, when Ken read this to me all I could say was, 'What the heck does that mean?' All Ken could do was laugh and say 'I don't know, but I actually PAID to be at the conference for the speaker to say NOTHING for 45 minutes.'

I think we've all been in that situation more than once.

As the Marketing Communication Manager for ProSoft's corporate office, I'm constantly reminding people that we are in the business of communication in more ways than one. Yes, we make communication products. But we also communicate with our customers every day through our Sales Teams, Technical Support and Commercial Marketing. That means that it isn't enough for the speaker or writer to know what they are talking about…the listener or reader has to understand it as well for it to be effective communication.

When we started this magazine, one of the things I insisted on was that it be PLAIN SPEAKING. No fancy words. No razzle-dazzle. Just plain, effective, easy-to-understand communication. I wanted people both inside and outside of our industry to be able to read our success stories and UNDERSTAND. Understand what, you may ask? Understand that our products can make a difference in how things are made, packaged, or stored in real world situations.

In the coming months you will also see more ways we at ProSoft Technology are attempting to communicate more effectively. The first will be in our website and catalogs. We started as a U.S. company so of course our website and catalogs were originally written in English. We're about to change that. Before the end of this year you will start to see our products described in Spanish, Portuguese, French, German, Chinese and Korean. (More languages will be included in 2013.) The fancy word for it is "localization." What it really means is that we will be able to effectively communicate with more people around the globe than ever before in their native language. English may be considered the "business" language of the world, but there is something very special that happens inside the listener when

you take the time to communicate with someone in their mother tongue.

The second change you will see in our communication is…VIDEOS. No longer will you have to try to figure out 'what's in this for me' when you are looking at a datasheet of a new ProSoft product. We're going to tell you about it in a 3 minute video. No hype. We're not going to try to dazzle you with our brilliance. We're just going to tell you what this product can do for you - in plain language. Oh, we'll still have the datasheet for all of you who like to study specifications. But the videos will give you just the basic facts of whether or not our product will do what you need it to do and solve your problem.

We're also working on Quick Start Videos for our new products coming out later this year. These will take you step-by-step through the setup of our products. This gives you, our customer, an opportunity to see what is involved in getting up and running BEFORE you buy the product.

So, I'm challenging everyone reading this to help keep us honest. If you don't understand what a product can do, ask us. Say something like, 'Why should I care about this product,' or 'What will it do for me?'

While you're at it, don't let anyone else get away with rattling off impressive sounding terms and acronyms that you don't understand. Noise is still noise no matter how many credentials are attached to it. Remember, there is no communication unless both sides involved actually understand.

When you need to upgrade your hardware, but can't shut the plant down to do it...

Utilize ProSoft's migration modules!

ProSoft Technology provides a full suite of migration solutions for Rockwell Automation control architectures. These modules are designed to help upgrade legacy control platforms, connecting them via EtherNet/IP to Allen-Bradley PACs.

- Monitor mode: Verify new controller code with live input data
- Easily swap back to old controller while debugging new system
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To read the whole story, visit: www.prosoft-technology.com/**migration**

MANUFACTURING SUCCESS

Quality is number one for ProSoft and GMI

By Victor Garcia

MOORESVILLE, NC ---- Many of NASCAR's biggest names call Mooresville, NC home, earning it the title of Race City, USA. Dale Earnhardt Jr., Kyle Busch and Kasey Kahne are only but a handful of the drivers headquartered in the town 45 miles north of Charlotte.

Just down the road from all the racing action is the ProSoft Technology Distribution Center. More than 2,400 miles from its corporate headquarters in Bakersfield,

CA, the ProSoft Technology distribution team coordinates production of ProSoft Technology's automation solutions with General Microcircuits (GMI).

Before you walk into GMI's facility, everyone is required to afix heel straps on their feet and wear an anti-static coat when they are on the production floor, which is already covered in anti-static material. This is one of the requirements for GMI to be ISO compliant.

The first thing you see is shelf after shelf of ProSoft products, marked "ProSoft Tested," ready to be shipped at any instant.

By the time GMI lays hands or machines on any ProSoft Technology solution, hundreds of ProSoft Technology engineering man

hours have gone into what the board will eventually become.

The production journey of ProSoft Technology solutions starts at the component level in a variety of locations. Some are manufactured in Tennessee by OnLine Development, some at plants in Asia, some by GMI in Mooresville, and some at GMI's new facility in Costa Rica, where GMI recently completed construction of a 12,000 square foot manufacturing facility in one of the top tourist destinations in Latin America.

"We found Costa Rica very positive," said Nick Harris, GMI vice-president of operations. "When people think of Costa Rica, everyone thinks of bananas and sitting

on the beach with a drink," Harris said. While it does have that, Costa Rica's number one export is electronics, Harris noted. "We've hired a good quality staff," twenty-five people strong. "If you had a crystal ball and you look at GMI five-years down the road, hopefully we will have 250 to 300 people there."

Back inside the Mooresville facility, reels, which from faraway look similar to those on an antique reel to reel camera only with pieces of metal in each square, are loaded into what are called Pick and Place machines. The reels contain each tiny widget that goes on the board. Circuit board after circuit board travels through the Pick and Place machines as the metal components are soldered on the board, before moving on to the inspection stage of the process. The inspection process, like everything at GMI, is very detail oriented. Boards go through both a machine and several human inspections.

A small GMI team performs final assembly on ProSoft modules. Inside this "ProSoft work cell", you can hear the sound of a small drill, as the outer shell of ProSoft products are placed around each finished module. Each GMI employee working in the ProSoft Technology work cell has been trained by ProSoft and use a ProSoft Technology computer system which tells them precisely how to perform final assembly, including loading of firmware and testing each module.

When the outer shell is in place, there are several quality control procedures that take place. "Once these get completed they will be moved on to shipping or they will move to our safety stock," said Ricco Sastoque, RadioLinx manufacturing team manager for GMI.

Ricco and his team take pride in the ProSoft Technology solutions they are working on, like the rest of the GMI staff.

"There are other facilities in the world that are as nice, or nicer, but for our niche, where we play and the customers we serve, we've got it pretty well going on," Harris said. "We know what we are doing," said Harris.

Before the GMI manufacturing partnership in 2009, ProSoft previously manufactured many of its products through its corporate headquarters in Bakersfield and its offices in Madison, WI. As ProSoft Technology grew,

Mildred Collins has worked at GMI for 20-years and rekindles a relationship along the way...

Lovin' every minute of it

By Victor Garcia

On just about any workday, you will find Mildred Collins, "Millie," as she is known to her co-workers, diligently testing circuit boards at GMI's manufacturing facility in Mooresville, NC. As you look a little closer you will notice that although she is standing straight and tall at her work station and there is a smile on her face, that smile has many careworn lines in it. That's because Millie is 77-years-old.

Fred Brad Tomlin, Millie's supervisor, said she is always one of the first ones at work in the morning and one of the last to leave. Tomlin called Millie an inspiration to everyone at GMI. She believes in living life to the fullest and enjoying everything she does.

"What you see is what you get. There's no put-on to it. That's the way she is every day, he said, pointing to her joyful personality. She's always friendly, always smiling and always happy, he said. "She has a willingness to go out of the way and do whatever it is she needs to do," he said.

"I'm loving every minute of it," says Millie.

Millie, listening to music on her iPod, continued to diligently test the circuit boards. Millie is a country music fan, classic country to be exact. Some of her favorite musicians include George Straight, Marty Robbins and Buck Owens.

"I still watch Hee-Haw reruns," she said.

And retire? Retiring is the furthest thing from Millie's mind. "When he gets ready to retire, I'll retire," Millie said, pointing to Tomlin, who is at least 20-years her junior. They each laughed.

Some in her family will say she's lost her marbles by not retiring. Answering them, Millie pulls out a bag full of marbles and says "No, I haven't, they're right here."

The only days Millie may leave early, after coming in early, are the days when she goes bluegrass dancing.

It seems that 62-years ago Millie fell madly in love with Thomas Earl Ashford.

"My heart went pitter-pat," said Millie.

She was 15 at the time and Ashford was in the Navy. Although she was truly smitten, her mother would not let them marry. Time went on and they each went their separate ways, but Millie still kept in touch.

Within the last few years Millie and Ashford's significant others passed away. Six months ago Millie and Ashford found each other again and started dating, after their 62-year hiatus. Ashford is a bluegrass player. Millie dances to bluegrass.

And her heart still goes pitter-pat when she thinks of Ashford.

North Carolina office is 'so ProSoft'

By Victor Garcia

Sixteen-years-ago Stacie Maynard couldn't have imagined being in a leadership position at ProSoft Technology, let alone on the east coast. Having just graduated from college, she was hired as the company's fourth employee starting out as a Buyer for all the tiny components that go into a ProSoft module.

Several months into her new job she went to ProSoft's late founder Doug Sharratt's office and said 'I don't think this is what I am meant to do.'" Doug encouraged her to stay on board, telling her 'You'll have the opportunity to grow." Over the next several years Stacie had opportunities in Marketing and Project Management teams.

Today Stacie is the company's Supply Chain Manager, overseeing production of modules, as well as shipping and logistics, in Mooresville, NC, about 45 miles north of Charlotte. When Stacie transferred to North Carolina a couple years ago, ProSoft was in its own little corner of General Microcircuits (GMI), Today, ProSoft has its own office space for management of shipping and logistics, while still being directly connected to the GMI team that handles final production of ProSoft solutions.

"Initially many people called this office GMI. However, we have all worked very hard to bring the ProSoft culture to the North Carolina office and are very proud to be a part of the development of ProSoft NC."

Stacie credits Doug with creating a culture at ProSoft of people who want to work, work hard and succeed. ProSoft's North Carolina office emulates this philosophy just as the corporate office in Bakersfield and each global location does. After all, the majority of those at ProSoft North Carolina came from the Bakersfield office and worked under Doug's leadership.

"I feel so fortunate being a part of ProSoft and for the opportunity to be a leader in a remote office," Stacie said.

Michelle Keating, ProSoft's Logistics Lead, also made the journey to North Carolina around the same time as Stacie. Michelle has worked for ProSoft for six years. Any international shipping challenges go through her to get resolved. Michelle came out to North Carolina from the corporate office via an RV with her husband, two kids and three dogs. "It was a funny and adventurous trip," she said, adding that the RV wasn't nearly big enough.

Michelle said it is different experiencing ProSoft at a small office. "It's much more intimate out here, although I miss all the people in Bakersfield," she said.

Michelle will be moving to ProSoft's Quality Control team soon.

The move to North Carolina wouldn't have worked without the support of GMI. The team at GMI was extremely helpful in assisting ProSoft employees with their relocation to North Carolina. Today the ProSoft North Carolina office is 10 people strong, not counting those GMI employees who work exclusively on production of ProSoft solutions.

"It's been a good transition, and we see ourselves as an extension of ProSoft Bakersfield in our culture and commitment to service excellence." Stacie said.

opening several additional global offices in Europe, Asia and Latin America, there was a need to expand its manufacturing base, without becoming an actual manufacturing company.

"Our products are being built in a quality environment," said Stacie Maynard, ProSoft Technology Supply Chain Manager. "As ProSoft continued to develop its relationship with GMI, it realized that GMI has many of the same customer service oriented traits that ProSoft does. Because of that it made it easy to transition our manufacturing over to them," Maynard said.

Together, with GMI and Online Development (OLDI) in Tennessee, ProSoft products are manufactured and shipped from a regional hub in the South, since OLDI and GMI are a mere five-hour drive away from each other. "The three of us form an informal partnership that I like to call the tripod," Maynard said.

ProSoft Technology is successful at shipping its products fast thanks to having a location right where its products are manufactured
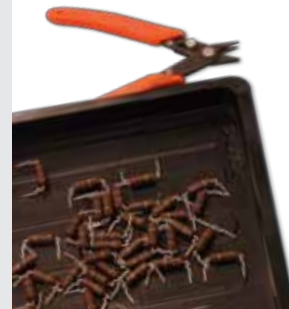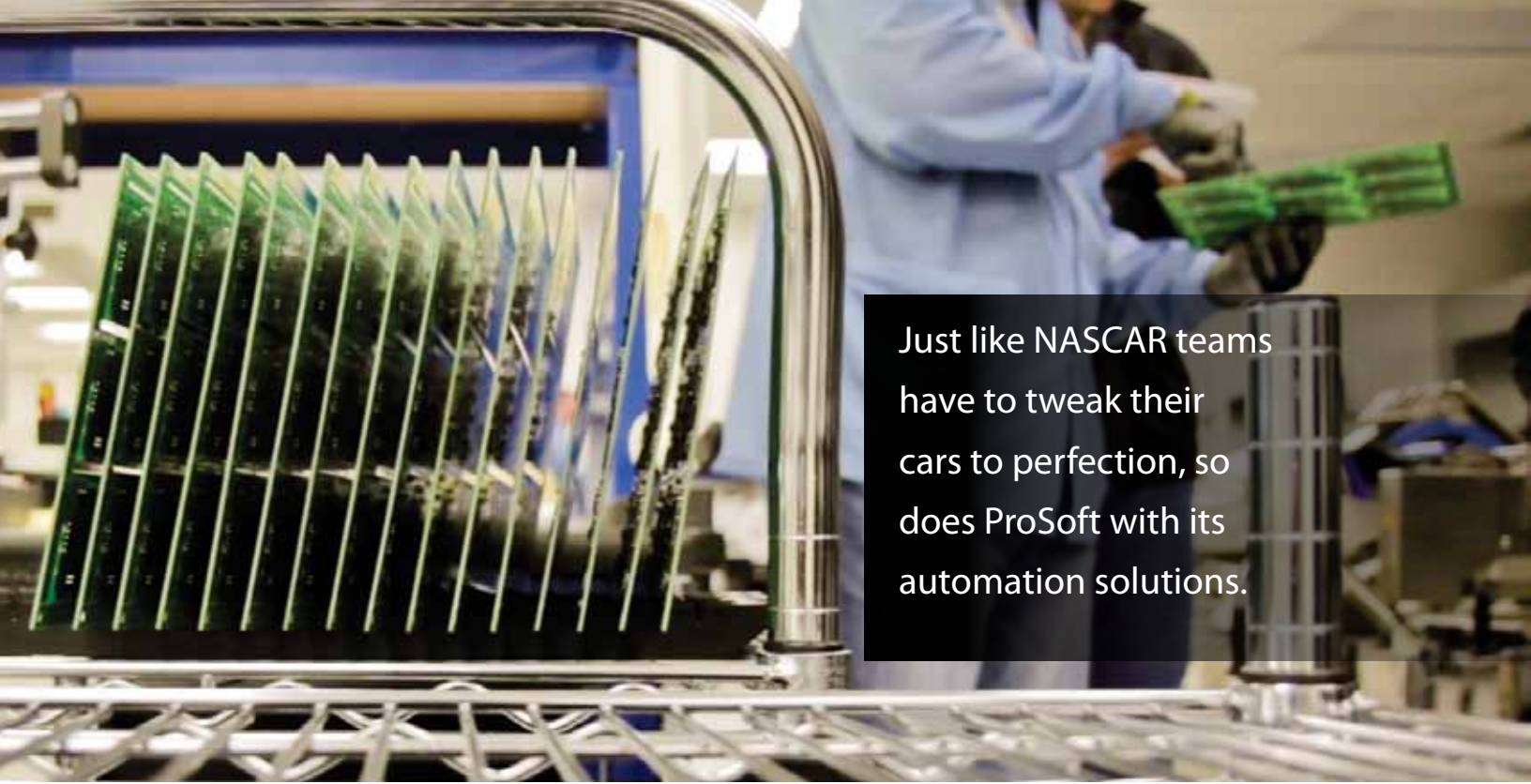
Just like NASCAR teams have to tweak their cars to perfection, so does ProSoft with its automation solutions.

and packaged. ProSoft also has a firsthand look at the final making of its products.

The process of an order

Shipping starts at the Customer Service level in either Bakersfield or Madison, Wisconsin. The Customer Service Representative (CSR) quotes the customer a ship date based on the inventory that's available.

Fifty to 85 orders are processed on a typical day. Each order generally has at least five units; meaning more than 200 units per day are distributed internationally.

Surrounded by stacks and stacks of cardboard boxes and finished products, one may think all the shipping team has to do is affix a stamp or address label to a box and ship the product. It's much more than that, though. ProSoft's shipping team prides itself in that they are the final people who touch a ProSoft product before it reaches its destination.

"As a shipping team, we are the last person on the product before the customer opens the box," Maynard said. Everything from what type of box to how much bubble wrap to put inside the box is carefully considered.

Lisa Barraza is ProSoft's Order Coordinator, who makes sure items are in stock in time to be shipped out the door. She is the liaison between the CSR and the Distribution Center.

"I do whatever I can do to get an order out on time," she said.

Tickets are created for everything scheduled to ship the following day. Serial numbers are captured for each order, which are directly tied to the warranty process and processing through the carrier. There are situations where other members of ProSoft's shipping team come in. ProSoft's Order Coordinator is the liaison between the customer service team and shipping. There is a lot of correspondence happening between the order coordinator, the CSR and the shipping department, Maynard said.

Meanwhile, Logistics Lead Michelle Keating handles any challenges that may arise in customs from international orders. More than half of ProSoft's automation solutions are shipped internationally.

Just like NASCAR teams have to tweak their cars to perfection, so does ProSoft with its automation solutions.

Quality control and certification work is also done in the North Carolina office by Quality Control, Compliance and Certifications Manager Jason Barraza. Barraza works with GMI and OLDI to maintain quality control of products, through feedback from customers. He also is responsible for making sure ProSoft's automation solutions meet Federal Communications Commission, and other world agencies', compliance standards.

Like the many NASCAR teams in Mooresville, ProSoft Technology's approach at its Manufacturing and Distribution Center is team oriented, with everyone working together to produce the best automation solution possible, while also working to ship out a quality product in a timely manner.

"We just want our customers to be happy," says Maynard. "We have a reputation for going the extra mile for our customers. Everyone at ProSoft is very proud of that."

Finished RadioLinx patiently wait to be shipped.

Wireless Communication Saves the Day…

And the Bottom Line

A global leader in the manufacture and casting of iron goods reaped a $600,000 ROI when they decided to go wireless.

By Danetta Bramhall

The overhead crane gracefully rides down 240 feet of track with its 8,500 lbs. of cargo. The material is placed into one of ten, single-channel induction furnaces and melted to a temperature of 2750 degrees Fahrenheit to make molten iron. Hot metal carriers then transport the molten iron to an automatic pouring unit. Along the way, an alloy is added which converts the base iron to ductile iron that will be made into finished castings.

The manufacturer has six plants in Wisconsin, Indiana and Tennessee. At plant #4 in Marionette, Wisconsin 1,500 tons of Ductile iron is melted every day to make castings for automotive, agriculture, hydraulics, heavy truck, material handling, power transmission, and off-highway vehicles. With over 3,600 people employed, the combined melt capacity of the six plants is over 9,500 tons of gray and ductile iron each day.

Plant #4 prides itself on using state-of-the-art technology in its production processes.

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"When we began looking at ways to improve the efficiency and ability of the melt department at plant 4 we found there were actually three main factors to look at in making decisions on how to proceed," said the project manager for the wireless automation project.

1) RECORD KEEPING: To meet ISO and customer requirements, the materials used and chemistries of the iron had to be traceable throughout the entire production process. For the melt department, this meant record keeping of the incoming charge material from the vendors and alloy used in the process, along with the amounts of each material used in a charge. The time the charge was melted, removed from the furnace, and delivered to the automatic pouring units. They found that the inventory records of what was delivered and what was consumed seldom matched.

2) ACCURACY: Many of the parts made by the company are safety critical components. The chemistries and dimensions must be exact. Following the purpose of their quality management system "To establish, document and maintain a quality system in accordance with current editions of ANSI/ASQC QS9002 and ISO/TS 16949" this problem had to be addressed. Even if the scales were in perfect calibration, the information being logged was only as good as the operator's entries. They needed to eliminate as much paperwork, phone and two-way radio communications as possible.

(3) COST REDUCTION: The company rates the production cost in man-hours per ton of iron. When the Melt department started looking at how to reduce costs, they had to look at staffing and what each position added to the value of the finished product.

"The first phase of automation was the Alloy Addition," said the project manager. "There were two people on each shift manually weighing up the alloy in pails up to a total weight of 200 lbs. They then opened up a hatch on the lid of the ladles used to transport the molten iron. With the heat and flame coming out of the hatch, they would dump the alloy into the ladles. There was a high rate of injury in this job from strains and burns. Recording what was added to each ladle was done on a clip board that later had to be typed into the system for record keeping. We were relying on the person to read and record the information into the system accurately."

The plant was able to reduce seven staff positions by incorporating an automated batching system with the alloy addition weights calculated by a PLC with information provided by the metal lab on a touch screen. The results were real time accurate weights and record keeping.

Completing this part of the project cost over $250,000 in material and labor. However, the cost savings in eliminating the six full time positions and one relief man's hours provided an annual savings estimated at $320,000.

Next they turned their attention to the charge yard where the batches to be melted are made. There, two overhead cranes with electromagnets lift material and place it on an automated shaker system. The Melt control room operator would use a telephone to communicate the required weight of each of the four items that make up a batch to the preheat control operator. The preheat control operator would relay this information to the two crane operators using a two-way radio and type it into his PC. As the crane operators would lift and place the material on the shakers, they would call down the weights of each item and the preheat operator would type that information in to the computer.

"Distractions would cause the preheat operator to miss what weight numbers were called down, and which shaker they were placed in," said the project manager. "This delayed the process of getting material to the preheat units. The total amount of material needed for each item could not be lifted at one time, so the crane operators would add the amounts in their head or jot it on a paper. If a crane operator forgot what he had said, or wasn't watching the scale display, they would guess at what was placed in the shakers and invalid information was recorded. In looking over the amounts of material used and compared with the delivery slips, the inventory seldom ever matched. If the resulting chemistry of the iron was wrong because of operator error, there was no way to backtrack the cause of the problem with any accuracy."

The company knew they needed to look at a system to get information to and from the overhead cranes automatically and eliminate the human error. Since the cranes are mobile equipment, this presented a unique problem to get a communications system to function properly. They finally decided to place a separate PLC on each of the cranes and chose Simatic S7 units which were compatible with the Texas Instruments 505 series that was already running in preheat control.

"One of our other plants had in place a Profibus radio system that looked promising but we found it wouldn't handle the volume of information we wanted to transmit and receive," said the project manager. "In speaking with our PLC vendor, Professional Control Corp., they suggested we try using wireless Ethernet radio for PLC to PLC communication. There was some concern there may be cross-talk with the wireless bar code readers on our forklifts already in use. Also there was concern the 4.5 million watts of power used in the melt department might somehow interfere with the signals.

"The first step in testing was to hardwire the Texas Instruments and Siemens Ethernet cards on a bench test to verify the ability to communicate the database information. Our PLC vendor made arrangements for ProSoft Technology, the wireless Ethernet radio manufacturer to loan us a couple of units for testing. Testing proved out that the wireless Ethernet solution would work. We already were using the Ethernet port on the preheat control PLC to talk with the server, so we simply added another Ethernet card available from C.T.I. to the PLC rack in the Preheat control room. This card then connected to the Master radio."

An S7 PLC with Ethernet and the other I/O cards needed and the ProSoft radios were installed on each crane. Mounting the touch screens in the cab of each crane on swing arms made it possible for each operator to position them comfortably.

"We were impressed with the ease of setting up the wireless Ethernet radios using the
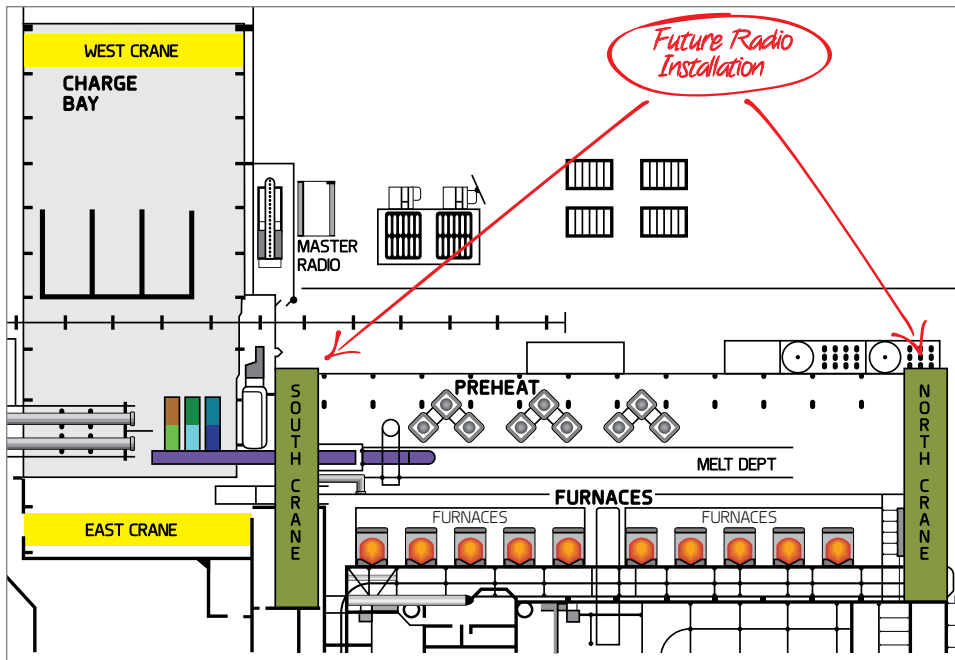
The plant was able to reduce seven staff positions by incorporating an automated batching system with the alloy addition weights calculated by a PLC with information provided by the metal lab on a touch screen.

provided software that gave us the signal strength information for the best mounting location," said the project manager.

The time saved not having to relay the information verbally allows them to make up to six batches in advance instead of three previously. This allows for smooth transition between the different chemistries needed for production. Crane-to-crane communication allows both cranes to see what the other has already added to batch, speeding up the process and preventing duplication errors. Parts and labor cost for this portion of the upgrade was $22,887. Total annual savings were $173,380.

With the success of the first wireless Ethernet installation on mobile equipment under their belt, the plant addressed another problem: their hot metal carriers, or HMC's. Over 950 feet of monorail loops through the facility on which the HMC travel. The HMC drivers were also using two-way radio communication to exchange information with the metal lab, melt control room operator and each other. The amount of time between receiving the alloy, filling the ladle, delivering the treated iron to the pouring device and getting the iron poured in the sand mold is critical. Once the iron is treated in the ladle, it has to be poured into the mold within 25 minutes or the chemistry will change and the iron in unusable. It must then be removed from the pouring device. This is called "pigging".

Depending on the chemistry and the job specifications, "fresh" treated iron may have to be added to the pouring device and possibly pigged to flush the vessel. Iron that has been pigged has to run through the whole melt process again, thus twice the cost for melting and treating the same amount of product poured. The cost of iron at the spout is about 19 cents a pound so reprocessing an 8,000 pound ladle of iron cost us an extra $1,520.00. If the chemistries weren't within specifications there was uncertainty as to the cause.

"We identified some of the problems as being missed communications between the Metal Lab, Melt Control Room Operator and the HMC drivers," said the project manager. "Other problems were taking the wrong iron weight, getting iron from the wrong furnace number and delivering iron to the wrong pouring unit."

Putting PLC's and Wireless Ethernet Communications on the HMC's wasn't as easy as in the crane application. One of the major hurdles to overcome was power loss on the power rail distribution. If the rails loose power because of a collector shoe arcing, or for any other reason, the HMC's will switch to diesel power to drive the hydraulics. If the PLC were to shutdown they were right back to having the same problems as before.

"We solved this problem by adding another

12 volt battery on the HMC next to the diesel starting battery," said the project manager. "This battery is kept charged with a "Float" type charger powered by the 120 volts on the unit. The 12 volts is then brought to an inverter to convert it back to 120VAC. This system is only used to filter and keep power on the PLC, Ethernet Radio and the operator touch panel in the cab. It gives us up to 48 hours of run time so repairs can be made to the electrical distribution system."

Another problem that had to be overcome was that the HMC's were not always in Line-of-Sight of the Master radio. To overcome this problem, they placed one repeater unit out in the plant. The HMC's communicate with the repeater and then to the Master unit. The Metal Lab, Melt Control Room, the Alloy Station and the three metal carriers exchange information in real time.

By adding an incremental encoder to an idler wheel on the drive, they were able to track each carrier throughout the plant with an accuracy of ¼ inch. Mapping out the monorail locations of each furnace pour spout and pouring device receiver location resolved one of their major issues. Now if any HMC stops in the wrong location while taking or delivering iron, an audible alarm sounds on that HMC, the Lab and the Melt operator's screens indicate the alarm is active.

"In tracking the time and frequency of the alarm going off, we found there were 14 times in the first month of recording data that, had it not been for the alarm, there may have been chemistry problems in the final product," said the project manager.

"Probably one of the biggest lessons learned from completing this project was the amount of data we thought was good was actually bad," he continued. "Now whenever there is a mistake involving human error, the problem is addressed by making it error proof using technology if possible."

Annual total savings at one plant totaled $600,000.

The company is currently making plans to use ProSoft Technology's wireless radios instead of underground fiber between their power generator building and their main plant.

Three Tim

ProSoft Technology's industrial wireless network transforms order-picking for ELKO AS.

nes Faster

I n the massive warehouse, a forklift zips down the box-laden aisle. The driver stops and pulls a box from a pallet to the forklift. The instant the driver is back behind the wheel the lift is off again. This is a scene that is re-enacted millions of times a day in warehouses around the world.

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...key to this mobility was the reliability and security of the wireless network. For that, Goodtech recommended ProSoft Technology's 802.11 Industrial High-Speed Ethernet Hotspot radios.

Order fulfillment is probably the most labor-intensive function in any warehouse or distribution center. So, in order to increase efficiency and reduce these labor-intensive costs, it is only natural that companies look for ways to automate this process. ELKO AS, a leading manufacturer of installation equipment, wiring devices and telecommunication products in Norway, wanted to do just that…improve their processes through automation.

The Need

ELKO contacted Goodtech Products, the Norwegian distributor for ProSoft Technology. Some of the main objectives ELKO needed were to have the ordering system "smart enough" to be able to define, and adjust in real-time, the best route for picking the goods from the warehouse, as well as to "know" when restocking was needed. Avoiding the need for printing-out the pick-lists (one per order) of goods to be taken from the warehouse was also essential. The final objective was to have workers receive information digitally, at the right time and in the right sequence, on their way between the shelves.

Key to this improvement was the mobility of handheld devices for each operator; and key to this mobility was the reliability and security of the wireless network. For that, Goodtech recommended ProSoft Technology's 802.11 Industrial High-Speed Ethernet Hotspot radios.

The ELKO warehouse contains a lot of steel and concrete, and long distances.

"The signals from a traditional wireless network, like the ones commonly found in Norwegian homes, do not work here," says Jonathan Braende, Account Manager at Goodtech Products. "And if the signals do not do their job, the customers do not receive their goods – and ELKO loses money. We need wireless signals that reach the site from a reliable wireless network – regardless of the working conditions."

The Solution

Twenty industrial routers were installed from the ceiling beams in the production hall and warehouse. They transmit the wireless signals – regardless of any obstacles, and can tolerate intensive use for long periods of time.

The work of moving goods from the shelf to the forklift is now much easier. Workers no longer need to manually track which goods they have to retrieve, and where and when they have to do it because they receive real-time instructions wirelessly via their hand-held PDA.

A computer system calculates the most efficient sequence in which workers need to take goods off the shelves. Stacks of paper containing pick-lists have been replaced by simple messages. These messages are updated and refreshed in real-time. The warehouse workers are now able to pick three times more goods during the day than they did before the new wireless system was introduced.

"It's faster. It's easier. And I find it more motivational to work than before," says one of the workers.

"We are very pleased with this system," says Stig Nerland, Systems Consultant for ELKO. "The routers are reliable and the system works. We save time and money."

Cumberland takes off the training wheels and goes wireless.

Not every company knows how to take off their training wheels and ride into the streets of wireless industrial automation. Shed the wheels of network cables and a company can potentially get more flexibility than ever before while moving data securely. Sure, industrial wireless security needs to be cost-effective and reliable. Buying the right modems and keeping up-to-date with the latest high-tech wizardry in wireless know-how can loosen the cables that bind applications and devices to costly networks. Nowadays, the idea of being wireless, secure and cost-effective means companies can escape the thought of wiring across miles and miles of uncharted terrain. Just ask what the Clinton Utilities Board did when wanting to move data through remote substations.

The Clinton Utilities Board had to route data through thirteen substations with two of them tucked away in the Cumberland Mountains. They knew laying ground wires in such an operation with remote locales would not be cheap. Wires would have to be installed over vast distances or laid locally. In order to access data, staff would have to visit hard-to-get-to areas. And who has that kind of time?

As an electrical distributor, The Clinton Utilities Board serves upwards of 29,000 customers in Clinton, Tennessee and the surrounding area. In 2002, they installed a SCADA system through Survalent Technology, then set up an Ethernet network using fiber optic cables transporting DNP 3.0 over TCP/IP to poll the RTU's in each substation. That was only in 11 out of their 13 electrical distribution substations. The other two substations located in extremely isolated mountainous terrain simply were not cost-effective toward installing fiber. Both remote substations are outage prone with the furthest an approximate a one-hour drive through winding mountain roads. Clinton Utilities Board realized that there would be huge benefits if communications could be established to these two stations.

Continued next page.

Surrounded by rugged terrain at two remote substations, Clinton Utilities Board decided to improve data management by exploring various data-gathering methods.

They researched options such as leased phone lines, licensed radio, unlicensed radio, and even satellite. After a thorough evaluation they concluded unlicensed radio offered a cost effective, reliable, and secure solution. They then used ProSoft Technology's industrial grade RadioLinx brand of radios. ProSoft Technology stood apart from the competition with the ability to intermix radios such as serial, Ethernet, and Ethernet with an embedded serial server; all within the same robust network. Todd Loggins of the Clinton Utilities board recently agreed: "Because of the rugged terrain in parts of our service area, installing a wireless network has proved to be a challenge. However, the benefits that have resulted from it have far outweighed the installation difficulties. We have been able to save numerous man-hours by being able to remotely monitor and control devices that normally would take us hours just to get to."

The two Cumberland substations presented major obstacles in trying to obtain line of sight communications back to the Clinton Utilities Board's main offices. ProSoft Technology's technical support personnel helped develop

a path study that identified locations along mountaintops where repeaters could obtain the desired path. The first repeater location posed no problem. The Board had already set up a mountaintop radio repeater for licensed voice communications to company vehicles. The second repeater location made for a difficult challenge. The proposed remote mountain site was located using a GPS unit. Inaccessible to any ordinary vehicle, the Clinton Utilities Board hired a local grading contractor to transport a 60' wood pole to the site to install using a bulldozer. ProSoft Technology used a solar repeater kit and necessary antennas to complete the project.

ProSoft Technology installed RadioLinx Frequency Hopping Ethernet radios with serial servers in both substations. "We are pleased with ProSoft Technology's wireless equipment. Instead of having to install separate networks, we have been able to build a single wireless network to meet the needs of our Ethernet equipment, as well as our serial equipment," says Todd Loggins.

In the first substation, one radio monitors station-loading from a Schlumberger Q1000 meter using DNP 3.0 protocol. The meter has an RS-232 connection to the radio's serial port, and is directly polled from the SCADA master station using the IP address and port of the radio. The old feeder breakers in this station have been replaced with new Cooper VSA breakers and Form 6 controls, which provide Ethernet connectivity. The new electronic controls are connected to the ProSoft Technology radio through an additional Ruggedcom Ethernet switch, thus prohibiting the need to ever install an RTU in this station.

The second substation has a Schlumberger Q1000 meter connected to the serial port of the radio, while a Cooper Form 6 control connects to the Ethernet port of the radio. Both are polled using DNP 3.0 over TCP/IP directly from the SCADA master station. Future planning will upgrade the regulator controls within the station to Beckwith M2001C controls that also have available Ethernet ports and use DNP 3.0. An additional Ethernet switch or hub is needed although only requiring a single radio and no RTU.

The Clinton Utilities Board has begun the second phase of their SCADA system installation: communications with pole top devices (i.e. reclosers, regulator controls, automated switch controls, capacitor controls) located on distribution lines. The primary method for communicating to these devices will be with ProSoft Technology's RadioLinx radios. Currently RadioLinx radios have successfully connected to, and are communicating with Cooper Form 4C recloser controls, Cooper Form 6 recloser controls, and S&C Model 5801 automated switch controls. The only protocol available for the Cooper Form 4C control is Cooper 2179, which is not available on the SCADA master. The communications path to these Form 4C controls comes off of a com port on a substation RTU, hits a serial radio, then hits the same repeaters that are used for substation communications, finally ending up at a serial radio connected to the control.

Within the next couple of years the Clinton Utilities Board plans to connect to approximately 10-15 additional Cooper recloser controls, both Form 4C's and Form 6's. The 4C's will be connected to a serial radio and polled from an RTU, whereas the Form 6's will be connected to a Ethernet radio and polled directly from the SCADA master. There are plans to upgrade 15-20 regulator controls with Beckwith M2001C controls that provide Ethernet connectivity

and are polled directly from the SCADA master. Because S&C automated switch controls only have serial ports available, plans to install additional controls require RadioLinx Ethernet radios with embedded serial server. Connectivity through the required radios allows the controls to be polled using DNP 3.0 over TCP/IP directly from the SCADA master, without the need of an RTU. Finally, there are also plans to use ProSoft Technology radios for communications to capacitor controls for the purpose of power factor correction.

Again, the Clinton Utilities Board appreciates the ability to use the same radio network, therefore the same set of repeaters, no matter which type of radio (serial, Ethernet, Ethernet with embedded serial server) that they need to install. The Clinton Utilities Board originally installed 23 radios, which they hope to double within the next six months. With such robust integration in their remote networks, any installed radio can then become a repeater for future radios.

Follow up

Since the original installation, Clinton Utilities Board has indeed expanded their wireless network. "We now have the original 23 radios, plus the addition of 11 Ethernet units, 26 Ethernet with Serial Server units, and 25 serial units—all frequency hopping—installed in the field. These products are all working great for us," comments Todd Loggins.
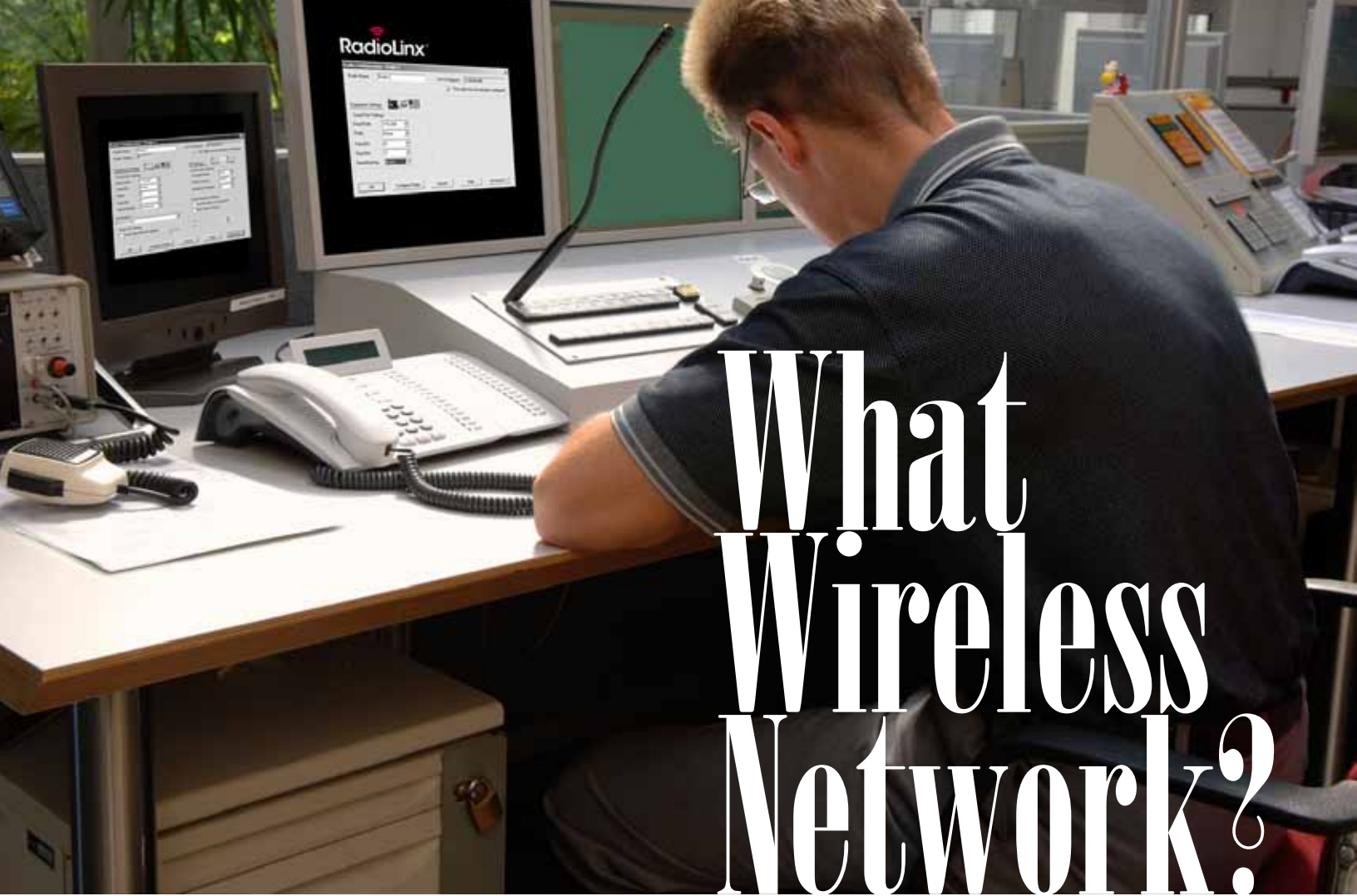
What Wireless Network?

By Adrienne Lutovsky, ProSoft Technology, and
Chris Deakin, Boss Automation

The Cockrell Ranch Waterflood project is an ambitious enhanced oil recovery project, located in the Texas panhandle. Cano Petroleum uses state of the art technology and methods to successfully recover oil from wells that would have once been considered 'tapped'. The waterflooding process uses pressurized water to move through the formation, driving raw crude oil out of the ground from wells.

Boss Automation of Spearman, TX was brought in to design and install the discrete automation platform and a control network to monitor pressure and flow of this water into the wells. With their experience in automation, control and process optimization, the project evolved into the design and implementation of a new, fully automated, self-monitored SCADA system. The system was designed to gather, assemble, and transmit data from the wells and injectors and ultimately bring it back to a Master Station. This allowed the day-to-day operation of the field to be monitored and controlled from these sites, and allowing the collected data to be used to produce detailed production models.

Considerations for the system included: reliability, maintainability, ease of use, as well as the ability to obtain local support. With the aid of Rexel, the local Allen-Bradley distributor, Boss Automation decided on a winning combination of Allen-Bradley hardware, Rockwell Automation software, and ProSoft Technology

Cano Petroleum uses state-of-the-art technology and methods to successfully recover oil from wells that would have once been considered 'tapped'.

wireless communication solutions. Boss Automation's familiarity and past success with these automation products made them confident in the combined solution.

The SCADA system consists of one ControlLogix at a Main Master Station tied to four ControlLogix slave sub-stations and over one hundred custom-built Remote Terminal Units (RTUs), each comprised of an Allen-Bradley MicroLogix 1100 Programmable Logic Controller (PLC) and a ProSoft Technology Industrial Hotspot radio. The Main Master Station and four sub-stations represent the backbone network of the project. Each of the four sub-stations acts as a Master for its respective sub-network. All communication from the wells and injectors to the sub-stations, and from the sub-stations to the Main Master Station, is handled wirelessly using ProSoft Technology's Industrial Hotspot solution.

Paul Brooks, Business Development Manager for Rockwell Automation notes, "For this application, ProSoft's wireless technology was the backbone for the integration of this system. They created a reliable, industrial and transparent network which allows Cano Petroleum to successfully monitor their process data remotely."

At the Main Master Station, a Human Machine Interface (HMI) application for the system was developed using Rockwell's RSView 32 software. The graphical interface screens have proven to be user-friendly, and the Messenger Pro feature provides the operators with detailed information about alarm conditions in human voice, by automatically calling the cell phone of the person on call. ProSoft Technology's RadioLinx OPC Server is used on the remote access computer to monitor the status of the radio network.

An impressive amount of data—over 3500 discrete Input/Output as well as 1000 analog points—is gathered and moved across the wireless network at about 11 Mbps to the Main Master Station where it is then assembled into data log models, then interfaced by Cano's own proprietary modeling software.

Rexel was instrumental in providing logistical as well as technical support for the project. With respect to this large-scale wireless network, ProSoft Technology provided engineering support throughout the length of the project.

All communication from the wells and injectors to the sub-stations, and from the sub-stations to the Main Master Station, is handled wirelessly using ProSoft Technology's Industrial Hotspot solution.

...a well-designed wireless network can deliver data in a SCADA system with very high reliability, in fact so high that end users forget about it.

Gary Enstad, ProSoft Technology Wireless Engineer comments, "From the technical side of the project, the main reason this is a success story is because of the planning and care taken before starting the project. We probably spent close to 80 hours all told working with Boss Automation Control Engineers on a Path Study using ProSoft's Pathloss software. We worked very closely together, before and throughout the installation of the project, not only on the layout of the network but on the strategy for PLC messaging."

The overall network covered approximately twelve square miles with the longest link being only about two miles, and a bulk of the radios were positioned in an area of about 3 square miles which presented a concern. "In a radio network of this size it is imperative that care be taken in setting up the PLC messaging," said Enstad. "If all radios are trying to communicate at the same time, you can quickly swamp your bandwidth with RF collisions and retries."

Enstad continues, "This in mind, we discussed the need to create a polling style network rather than having all the radios trying to communicate at the same time. It takes a lot of planning up front to successfully install a radio installation of this size, and ProSoft's Technical Support group provides an excellent planning resource."

Chris Deakin of Boss Automation comments, "The process is incredibly reliable, consistent and makes for an essentially self-managed site. From the main SCADA monitoring station, the operators are able to see virtual diagrams of the wells and what is going on within them, as well as all the data collected by the RTUs and control units."

The project went live in spring of 2008, and has since had near zero downtime. "The wireless network works so seamlessly and reliably that it is virtually transparent to the user," Deakin elaborates. "When all was said and done I asked the customer how they liked the wireless network. Their response: what wireless network?"

Harry Forbes of ARC Advisory Group notes, "The Cockrell Ranch Waterflood project illustrates 3 important points about industrial wireless. First, wireless is indispensible for this kind of SCADA project to be cost-effective. Second, end users need to select hardened, industrial, field-proven products to provide a lifelong, reliable wireless solution. Thirdly, a well-designed wireless network can deliver data in a SCADA system with very high reliability, in fact so high that end users forget about it."

ADA County Landfill:
Technology Talks Trash

Wildlife and vegetation aren't the first things that come to mind when most people think of a landfill, rather, large areas of barren land with heaping piles of trash.

The 110-acre Ada County Landfill located in Southwestern Idaho defies traditional wisdom.

In closure and post-closure areas, where an area reaches its limit for dumping, the landfill is a natural hilly landscape where vegetation and wildlife are able to thrive.

ProSoft Technology's Ethernet wireless radios play a critical role in monitoring and extracting the gases beneath the vegetation.

"Our wireless radio network is invisible," said Jim Ralston, wireless product manager for ProSoft Technology. "All power and water lines for the landfill are buried underground which complements the County's desire to make this area as visually pleasing as possible. With the real-time

access to landfill data provided by ProSoft's radios, the County can make informed decisions affecting the safety and health of Ada County residents and landfill employees."

With more than 200,000 Ada County residents, including those in Boise, dumping an estimated 850 million pounds of trash each year at the landfill, designing the picturesque environment at the landfill took careful planning and initiative.

After 40-acres of the landfill reached its capacity, the global engineering and construction management firm CH2M Hill installed a gas extraction and irrigation system that could be managed using an industrial wireless radio network. One master and one repeater radio were used to integrate the landfill closure, final cover construction, landfill operation, organics recycling, hazardous waste management, waste screening and engineering.

"ProSoft's wireless network which controls and monitors the landfill was a cost-effective solution for Ada County," Ralston said. "It requires little human intervention, operates on the license-free 2.4 GHz frequency and can be expanded in the future."

Through the use of 14 metering stations on the surface and soil sensors that measure ground moisture, wireless radios maintain irrigation of the special soil and vegetation, preventing water from permeating the landfill.

As trash decomposes, underground gas is created that must be extracted. This is easily maintained with the industrial wireless radio network that can withstand the changing nature of gases and extreme hot and cold

Sea gulls flock to landfill enclosures at the Ada County Landfill.

temperatures. These gases, including methane, carbon dioxide and oxygen, are sampled at multiple locations. The data is sent wirelessly back to the Solid Waste Department's computer network. Gases are pumped through pipes below the ground to two enclosed flares to be processed and burned. Wireless access allows real-time monitoring of what occurs beneath the landfill surface.

This careful extraction keeps the landfill gases from flowing to nearby cities.

Expansion has been prepared for through 3D-modeled path studies that establish future well and piping layout. The 2.4 GHz radio bandwidth requires line-of-sight paths that include projected topographical contours of the landfill site so that each 8dB Omni Antenna can properly transmit data.

Efficiency was also considered in installing the ProSoft wireless system.

Ethernet cables spread across hillsides aren't as efficient or as resilient against the elements of landfills, where differential settling can cause point-to-point networks to vary.

"ProSoft's wireless network which controls and monitors the landfill was a cost-effective solution for Ada County," Ralston said. "It requires little human intervention, operates on the license-free 2.4 GHz frequency and can be expanded in the future."

The wireless communication system is also secure from interference and hacking. Spread spectrum Ethernet radios with enabled encryption allow for an extremely secure setting in a carefully maintained and balanced landfill site where failure is not an option.

The Ada County Landfill serves as a model for helping sustain the environment while continuing to meet the needs of a growing population and is indeed defying traditional wisdom.

*Ada County Landfill's gas extraction system is managed using a ProSoft Technology wireless radio network.*

NORMAL:

Not Your Typical Water Department

By Danetta Bramhall

In Normal, Illinois, population 46,000 home of Illinois State University, the 28 employees of the Normal Water Department were scrambling to meet the needs of their consumers. The treatment division's responsibilities included the operation and maintenance of fourteen wells, a lime softening treatment plant, three booster pumping stations, four elevated tanks and one ground storage reservoir. The distribution division was charged with operating and maintaining 170 miles of water mains, reading and maintaining more than 13,000 services and the installation and repair of water mains, valves and hydrants.
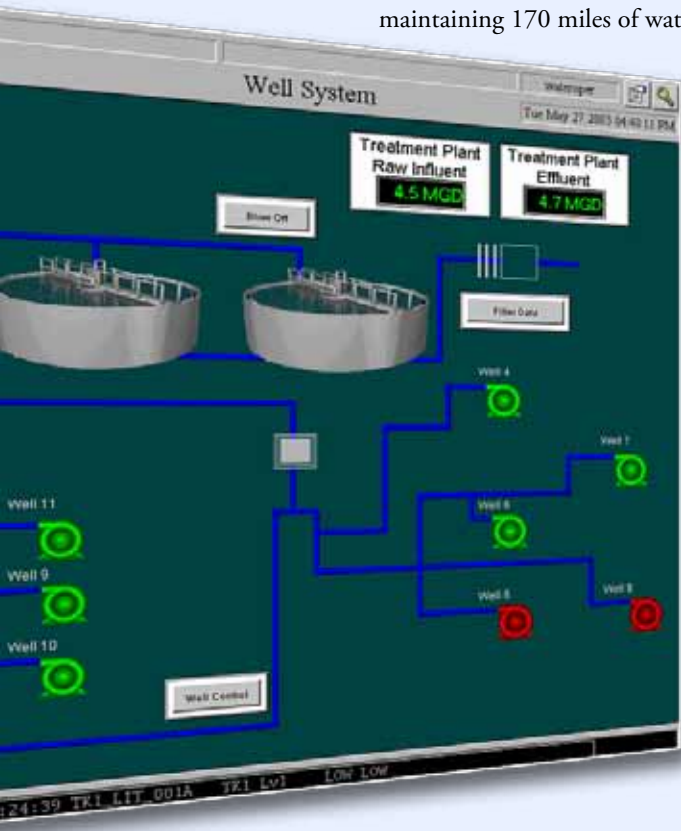
All of this furious activity was being accomplished with an outdated system containing remote terminal units (RTUs) which performed only minimal SCADA and licensed-frequency radios which sent data at a mere 300 bits per second. Overall the system was complicated to understand, expensive to service and difficult to repair.

Normal Water turned to SCADAware, a system integration firm in nearby Bloomington, expressing their desire for a new system, built from the ground up. In an effort to control costs, and allow Normal to create, install, maintain and repair its new system with minimal outside help, SCADAware president Rick Caldwell recommended a PC-driven, license-free, frequency hopping spread spectrum solution.

Normal's new system now uses a primary and secondary server within its water treatment plant for HMI and PC-based control. The computers collect and monitor data from all of Normal's wells, tanks and lift stations via a ProSoft Technology wireless serial network, with data rates of 57,600 bits per second. Programmable Field Couplers allow water treatment personnel to make adjustments and activate controls. A SIXNET Ethernet-to-Serial is used to convert the incoming serial data to Ethernet, allowing the data to be accessed on the plant's LAN.

"The monitoring of wells and tanks using the wireless network cut down on drive time and time away from the department," said Jim Ralston, Wireless Product Manager for ProSoft Technology. "The sophisticated software alerts water department employees of problems, reducing response times."

Although justifying upgrades of this nature can be very challenging for municipal departments, the team at Normal felt that this upgrade would have an immediate, positive economic impact on performance and efficiency. They were right.

"The easily administered SCADA system and the wireless network allowed Normal to have the flexibility to upgrade and change their system as the need arises," said Jim Ralston, Wireless Product Manager for ProSoft Technology. "Future expansion has now become more affordable for the Normal, Illinois Water Department. The present solution has also become much more efficient and less burdensome to maintain."

The Normal, Illinois water system has been up and running successfully since December, 2002.

Tech**Update**

ProSoft Technology has allowed many PROFIBUS module users to reduce setup time through its PROFIBUS Autoscan feature introduced in 2011. The Autoscan feature is part of the ProSoft Configuration Builder Software that is used to build the configuration needed for a PROFIBUS installation. Instead of having to know the node ID and the I/O configuration of each device on a PROFIBUS network the Autoscan feature allows users to find each of the devices and their configurations automatically. It's as simple as going into the ProSoft Configuration Builder, clicking the "Online" tab and click "Scan Network." The module then goes out on the PROFIBUS network and searches for valid devices. When a device is found, it then issues query message to the device obtaining the actual device configuration. Not only does Autoscan drastically speed up the configuration process, reducing engineering time, but since it reads the configuration directly from the slave devices it avoids addressing errors that can easily occur when setting up a PROFIBUS network.

Autoscan is now available on all ProSoft PDPMV1 devices.

> Not only does Autoscan drastically speed up the configuration process, reducing engineering time, but since it reads the configuration directly from the slave devices it avoids addressing errors that can easily occur when setting up a PROFIBUS network.
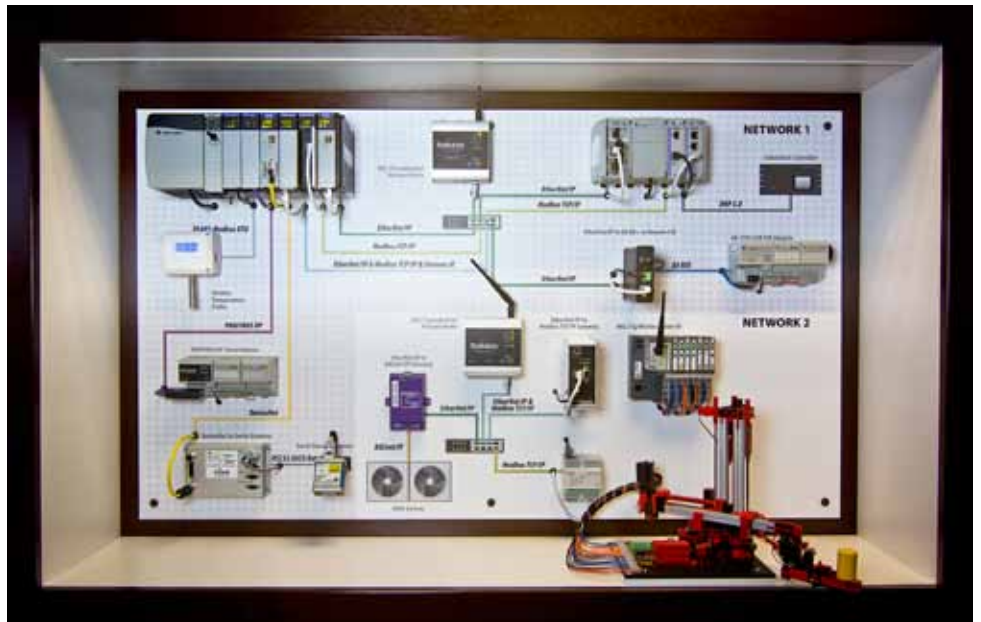
Spot the Difference

This is a live demo of ProSoft products in our corporate office in Bakersfield, California.

There are nine differences between the two pictures. See if you can find them.

Answers are upside down at the bottom.

1. _____
_____

2. _____
_____

3. _____
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4. _____
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1. Key on Allen-Bradley PLC turned 2. Door open on in-chassis gateway 3. Cable on DeviceNet to Serial Gateway move 4. Antenna addeded to 802.11n Industrial Hotspot Radio 5. Antenna turned on 802.11g Industrial HotSpot Radio 6. Cable moved on Modbus TCP/IP 7. Modbus TCP/IP and DNP 3.0 cables switched 8. Wires moved on 802.11g Wireless Point I/O 9. Cylinder on robot pushed down.

The Funny Pages

Stop The Rotation, Stop The Radar

A military runway cut through the middle of a street on a base that I was working at more than a decade ago. Crossing arms went down if a plane was about to land. But police had something up their sleeves when the crossing arms went up. Can you believe they had set up a speed trap on the other side of the runway using radar, and would catch people as they sped across when the crossing arms went up? The radar was linked to a giant rotational antenna on the base. Well, I had a plan to put a stop to this speed trap. As one of the wireless experts there, I stopped the antenna's rotation and pointed it at the car, jamming the radar gun. Looking from afar, my buddy and I saw the dumbfounded look on their faces as their radar gun jammed up. They never figured out that we were jamming it. Needless to say, cars were able to move more freely when the crossing arms went up in the future. They never used that location as a speed trap again for as long as I was there.

--- Mr. SpeedTrapStopper

Hello industrial wireless gurus and those who wish to rid themselves of the meters and meters of expensive wires they are wrapped up in. Wireless guy, _Fred the Frequency Hopper_, is here to save the industrial automation plant floor's day. Looking for a way to reduce the cost and unwrap your network from the constraints of the dreaded wire? Well never fear Fred is here to tackle any of your wireless questions. Ever since I decided to ditch my clunky tool belt full of splicers and crimps for my antenna helmet, cape and tight pants, I knew that my future was headed at the right speed, and immediately realized that I put the frequency in _frequency hopping_. I could immediately see which industrial strength radio could defeat the costly wired villain. Have a question about going wireless, _I have the answer_. Just go ahead and _tweet_ at me whenever you wish at _@prosofttech_, and I will be there on my mobile device, PDA, personal computer, laptop, or, well, you get the point.

ProSoft Profiles

> "Every day I put my skates on my feet I felt more inclined to push my abilities to the next level."

P roSoft Technology is about quality - quality people producing quality automation solutions. From Bakersfield, California to Madison, Wisconsin, to Europe, Asia and Latin America, ProSoft Technology has people with a variety of experiences, making for a diverse workforce.

An example of this is Richie Velasquez, ProSoft Technology's web specialist. Richie is based in Bakersfield, but grew up in Brooklyn, New York. Richie is also known as the "Skater Web Dude." His passion: inline skating. Inline skating was a way to steer clear from the negativity on the streets, he said.

"Every day I put my skates on my feet I felt more inclined to push my abilities to the next level," Velasquez said. "Eighteen years later, my hobby/career has taken me to places I would have never been, experiences I would never imagine and relationships I will cherish forever."

Richie's accomplishments include, among others, winning the Gravity Games and participating in the X-Games.

Richie has worked for ProSoft for about three months. The work environment at ProSoft, he says lends itself to the quote 'Do what you love, give it your best, work as a team, and be a leader in all that you do." That quote was from Velasquez's father and has resonated with Velasquez, he said.

In Madison, Wireless Support Engineer Eric Lockman, a.k.a. the Master Microwave MythBuster, is compassionate toward at-risk youth. Lockman is currently building two CNC machines to teach kids basic machining and manufacturing concepts. Eric previously led a youth ministry in his church for three-years.

He has worked for ProSoft for two years. "ProSoft has a great team-oriented environment," Eric said.

Look for more profiles of ProSoft Technology staff online and in upcoming additions of The ProSoft Magazine.

Were you there?

Higher Education at Abu Dhabi

ProSoft Technology was among the industrial automation professionals at Rockwell Automation's Automation University at Abu Dhabi in November.

Attendees enjoy relaxing in the beautiful surroundings.

The wireless demo station was a big hit with attendees.

ProSoft Technology's Feby Mohammed speaks with a customer at Rockwell Automation's Automation University in Abu Dhabi last November.

Rockwell Automation On The Move in Modesto, CA on February 8

ProSoft Technology had its RadioLinx Radios on display by Rockwell Automation at Rockwell Automation On The Move in Modesto on Feb. 8.

HOTT training in Argentina

Prosoft Technology participated in the HOTT (Hands on Technical Training) event held in December in the seaside town of Pinamar, Argentina.

ProSoft cap visits Chicago's Sky Deck

Juan de Sousa from Caracas, Venezuela visited the ProSoft Technology booth at Rockwell Automation Fair last year and liked his hat so much he sent us this picture of him on the highest building in Chicago.

Rockwell Automation On The Move in Anaheim, CA on February 15th

ProSoft Technology's Chuck Clark and Bobby Maxwell assist attendees at the Rockwell Automation On The Move event in Anaheim Feb. 15. More than 600 people were in attendance at the two-day tradeshow.

Need real-time data without breaking the bank?

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