The ProSoft Magazine

A PUBLICATION OF PROSOFT TECHNOLOGY, INC
ISSUE ONE | 2010

ProSoft gives NASA a Boost

ProSoft Technology's in-rack Modbus solution makes insulation easy.

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Stamping Out Downtime

"What we really needed was a radio that could communicate through a ten-inch thick plate of steel."

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Celebrating 20 years, find out what makes ProSoft tick…

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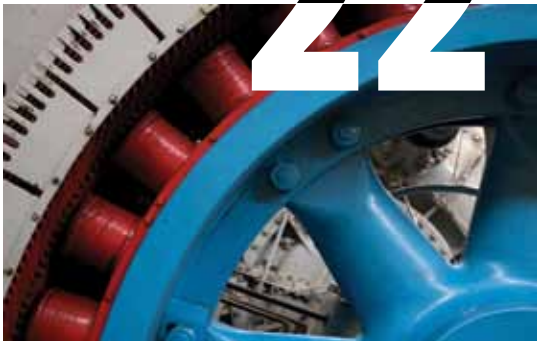

The ProSoft Magazine

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From the President

Gary Joke, President/CEO

WHY WOULD PROSOFT TECHNOLOGY PUBLISH a magazine? It's simple: to showcase some of our customers' work. After all, they are the reason we're in business. We think what our customers are accomplishing is remarkable. For example, deep in the Amazon rainforest ProSoft Flow Computers are easing the way for the Camisea pipeline along its 550-kilometer journey! In the pristine waterways of Northern Ontario, a hydropower plant runs more efficiently with the installation of the ProTalk DNP in-rack solution. To find a Modbus Interface Module, one of the first products developed by ProSoft, in the ancient flour mills of Egypt which have been converted to state-of-the-art milling systems, is affirming. When I think about all these applications I find it interesting that in a small way, our products are part of a world picture of productivity and advancement.

What drives our innovation and keeps us focused on what is important? It is the ProSoft customer. The foundation of ProSoft's mission, vision and strategy is a statement wrapped around a philosophy, penned by Doug Sharratt, which he referred to as "The ProSoft Way." We are committed to maintaining the cornerstones of that philosophy: People – Customers – Products, and driving continuous improvement through The ProSoft Way.

It is our goal to create an unsurpassed and memorable customer experience, so that we enhance their ability to compete in the industrial marketplace. The achievements of our customers are our measuring stick. We strive to be sought out by our customers and our partners because of trust and for our ability to easily resolve their communication needs. We will continue to be a factor in the building of better industrial environments, and to sustain the ideals and goals that will help shape our customers efforts.

So it is with great admiration that we present some of the outstanding work and accomplishments of our customers.

Regional Trends

ProSoft Technology's Region

Scott Sibenac
Managing Director

North America

Never say "never."

If you have attended one of my presentations, you have heard me say "When we/ProSoft look out on the industrial communication network horizon all we see is Ethernet and more Ethernet." But now I have to add that industrial wireless communication is also on that horizon.

I remember back in my Allen-Bradley days calling on a customer to introduce the idea of Ethernet on the plant floor instead of DH+ to solve some of the data transfer issues they were having. But after the conversation the customer said no thanks – he wanted nothing to do with "Ethernet".

Well, some years later, I was once again back with this customer – looking to show them some new technology. When we sat down he said "Why didn't you push Ethernet on us harder years ago? We just put our first Ethernet network in the plant and it is amazing!" I smiled and said I had something to show him that I thought would help even more than Ethernet. I opened my demo case and discussed "wireless" solutions. When I was done, he said, "Thanks for showing it to me, but we don't want anything to do with wireless at this plant."

I just can't wait to see what he says to me in a few years.

Franco Melchiorre
Managing Director

Latin America

Welcome to our first edition of the ProSoft Technology Magazine. This is our way of thanking you, our customers, particularly in Latin America. In 1999, our founder Doug Sharratt, expanded ProSoft's reach by initiating formal activities in South America. Since then, ProSoft has been serving the market with great dedication. The fruits of this labor have allowed us to continue to invest in people and infrastructure and we now have offices in Brasil, Mexico, and the Andean Region. Since our local offices thoroughly understand the customers' needs, we are able to provide them with the right products and services for their specific applications. We look at the future with optimism and a commitment to continue our goal to be the 'Best in Class' in industrial automation solutions. Future editions of this column will allow us to share our experiences with all of you.

al Managing Directors discuss industrial automation trends in their regions.

Alain Chevalin
Managing Director

Europe, Middle East, Africa

When ProSoft Technology Inc. started to expand operations outside of the North American territory, the first stop was in France in 1997. The initial idea and main motivation was to better serve and support customers locally.

Thirteen years later, our desire for a strong local presence is part of our company identity and philosophy and our organization is now global with offices and representatives all around the world.

This move to international expansion, decided in the early days of ProSoft Technology, makes perfect sense in today's business behavior where the world is our customers' playground.

Our offices in France, Dubai, Germany and UK plus our extensive partner network allow us to better serve our customers based in one of the 100+ countries that constitute the EMEA (Europe, Middle East, Africa) region.

Being close to locations where our solutions are used help us better understand customers' expectations and allow us to deliver exceptional products and services.

Lenus Hong
Managing Director

Asia Pacific

In recent years, ProSoft Technology's Asia Pacific region completed another milestone by opening a new office in Shanghai, expanding the local team by adding a Regional Sales Manager responsible for the Northern China region. ProSoft decided to move forward with the investment in China without any doubt or hesitation, putting the necessary local team in place to support the strong growing demand in China's dynamic market.

China is the most critical area in the Asia Pacific region, and has been driving the growth of the company for the past few years.

Over the years, we have shipped more than 10,000 communication modules into China. More than 50% of them are related to Modbus Communication in both Serial and Ethernet. We have had a hand in helping China transform into a modern country with a variety of industries, including Infrastructure in Airports and Seaports, Subway Systems, Water and Energy and others. The demand for our Modbus communication solution is still strong and growing. We are expecting this widely adapted protocol will stay in the industrial automation market for many years to come.

ProSoft Technology Gives NASA a Boost

By Adrienne Lutovsky and Danetta Bramhall, Staff Writers, ProSoft Technology

On July 20, 1969, Apollo 11 successfully touched down on the moon's surface and the world sat glued to their television sets waiting for Neil Armstrong and Buzz Aldrin to be the first men to walk on the moon. The unflappable news anchor, Walter Cronkite took off his glasses, rubbed his hands together and shot a boyish grin at the camera. His body language spoke volumes to the millions of people watching with bated breath to see what is considered by many to be one of man's greatest feats.

In April 1981, the first Space Shuttle, Columbia, launched and orbited the earth 37 times before landing on a runway at Edwards Air Force Base in California. It was also the first U.S. manned space vehicle launched without an unmanned powered test flight. NASA described the mission as "the boldest test flight in history."

The NASA space program has been the source of many such feats that have sparked the imagination of children and writers for the past half century. But each of these missions is preceded by years of stringent adherence to safety and production requirements.

Safety, Precision and Accuracy

After each countdown to ignition, a shuttle is propelled into space by trademark twin flames streaming from Solid Rocket Boosters (SRB). Boosters provide 80 percent of the shuttle launch thrust before they burn out, separate, and jettison into the Atlantic Ocean. NASA recovery ships retrieve the boosters and tow them to Hangar A/F Cape Canaveral Air Force Station (CCAFS) in Florida, where they are disassembled.

The refurbishing of the boosters for reuse takes place in two locations. The solid rocket booster subassemblies – the frustum, forward skirt and aft skirt – are initially refurbished at Hangar A/F then transported to the United Space Alliance (USA) Assembly and Refurbishment Facility (ARF) at NASA's Kennedy Space Center in Florida for final assembly and testing. Parachutes are refurbished and packed at the Parachute Refurbishment Facility then shipped to the ARF. The Reusable Solid Rocket Motor segments and the nozzle, which steers the rockets during flight, are transported via railcar to Alliant Techsystems (ATK) in Utah, where they are reassembled, tested and returned to Kennedy for remating.

The entire process from retrieval to completion takes approximately a year.

The Application: Refurbishment and Reuse

The engineering teams at USA's Assembly and Refurbishment Facility are bound by incredibly rigid production specifications, because anything more than a hairline deviation can severely affect the safety of a mission. Of the SRB's total weight of 1.25 million pounds, propellant accounts for 1.1 million pounds, which burns hot enough to damage the structural integrity of the boosters. One of the materials used to protect the rocket boosters during ascent, descent and splashdown, is a USA-developed thermal protection system called booster trowelable ablative (BTA). Its consistency resembles that of automotive body filler, but holds much better thermal properties, which is important because it protects the booster components from damage, enabling them to be reused time and time again.

The batch mixing of the insulation for use on the flight components are automated processes.

The batching process is handled by two functionally identical machines, using Micro Motion flow meters to release precise measures of resin and a catalyst into a mixing vessel, where a Charles Ross mixer blends them together to form the BTA insulation. The Kennedy facility sees an average of five 3000-gram batch cycles per day.

Controlling the process for each machine are a Rockwell Automation Allen-Bradley ControlLogix PAC and an SLC-500, respectively.

Solution

"We contacted Micro Motion and they pointed us to ProSoft Technology's Modbus communication modules, which integrate directly into the ControlLogix and SLC-500 platforms," explains Dan Dermody, Control Systems Engineer at USA and the machine builder for this

application. "We tested them out and quickly discovered that they provided the accuracy and precision we needed.

"The module collects flow data and feeds it directly into the ControlLogix data tables," Dermody continues. "This type of flow control system maintains all of the process parameters, ensuring that nothing goes out of specification during mixing. The ProSoft module made the architecture we wanted to use possible and we've stuck with that type of philosophy on our flow meters ever since."

Challenges

With specifications allowing for only plus or minus 2% deviation on any given batch, USA has a challenging job.

"In normal industry applications you can produce a similar product and get away with being 10-15% off and it wouldn't make any difference. But because of the environment that these Solid Rocket Boosters operate in, there is absolutely no room for error."

The initial challenge was reaching the data transfer rates required, which could not be accomplished with other solutions.

"Once we brought the information over digitally it was a night-and-day difference. Still, we were only barely achieving our goal and I knew something wasn't right with the update rate. So, we worked with ProSoft to identify a controller programming problem which essentially caused the controller to write over data within a millisecond of when I was trying to read it. We now have the performance we need."

Results

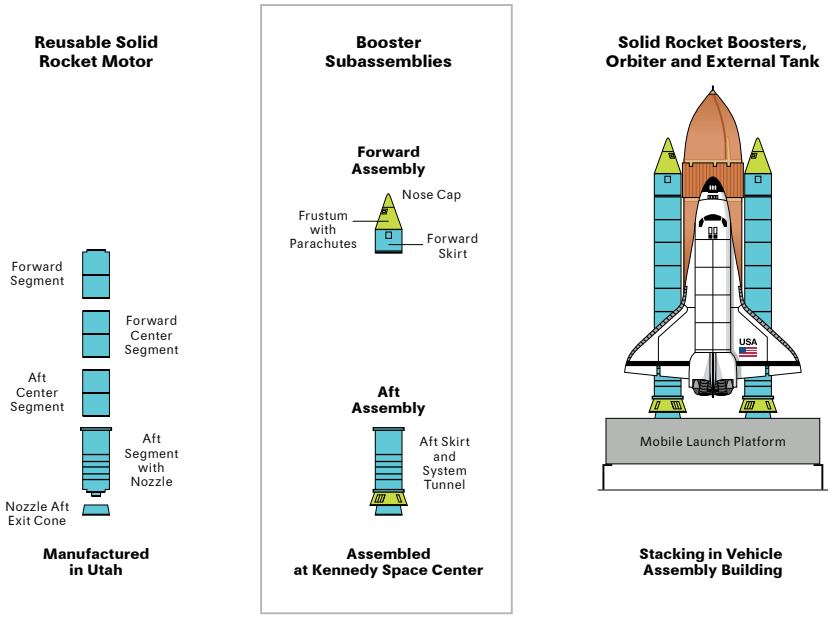
"Now we're getting millisecond update times and we can control down to the gram level in a 2000-gram batch."

Because of the level of repeatable precision USA is able to accomplish with this solution, they are not required to continually test the adhesive delivery system to prove its accuracy.

The Future

NASA and the space program are currently undergoing a major directional shift with the end of the space shuttle program.

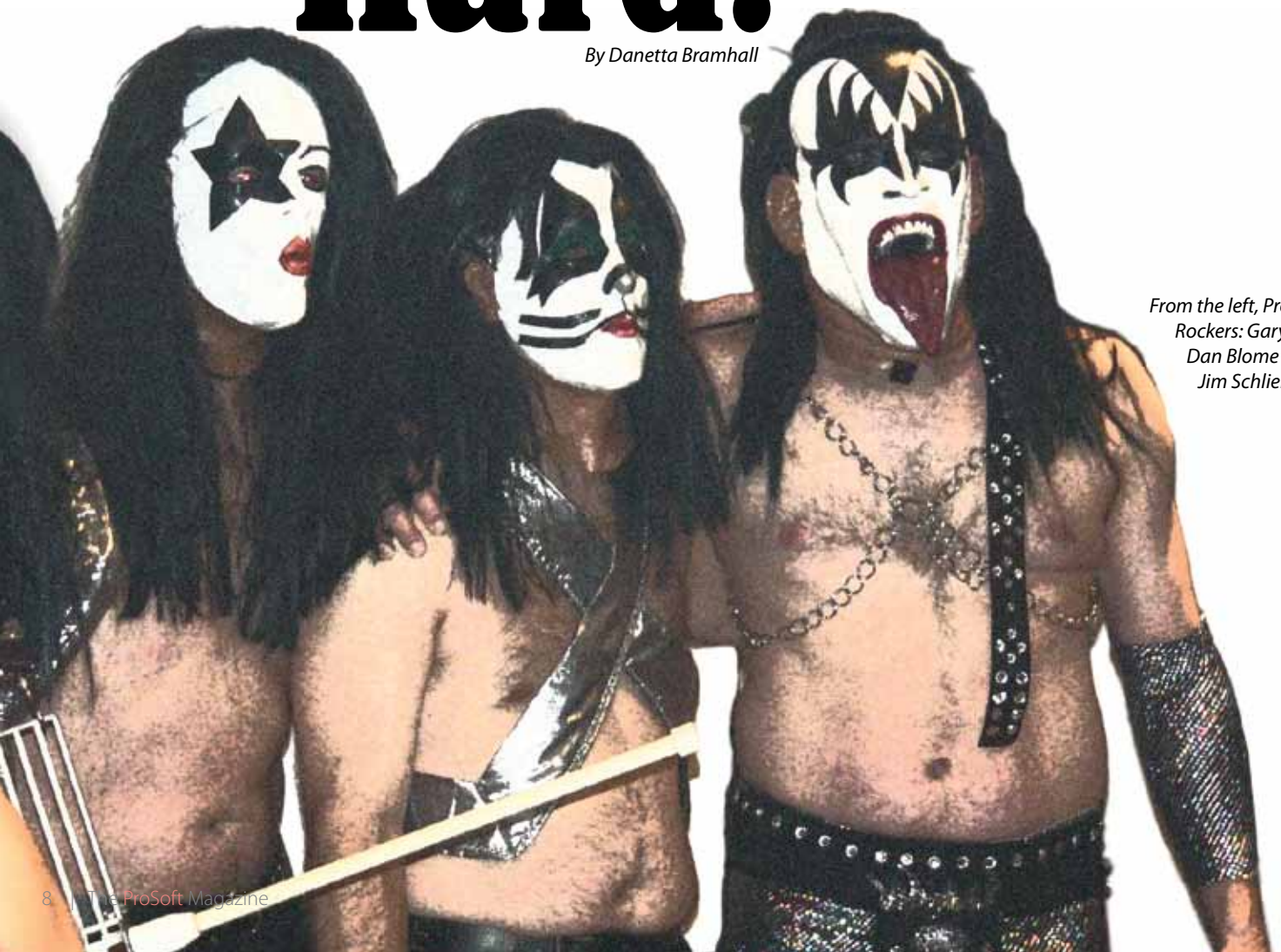
Presently, USA is building up the parts for a second test flight for the Ares Program. While there has been no official decision on the exact architecture of the post shuttle human spaceflight program, one fact will remain; the demanding environment in which rockets must perform will require materials with the highest quality standards made possible by innovative solutions.



Working Hard And Playing Hard.

By Danetta Bramhall

My boss, Ken Roslan, and I had been kicking around the idea of doing a 20th anniversary article for the first issue of our magazine. So, I sat and stared at a blank piece of paper, hoping inspiration would strike. (If you have ever written anything, you know what I'm talking about.) Obviously I could do a company history timeline telling everyone everything they never wanted to know about ProSoft…BORING. Or I could write an advertorial about how wonderful our products are…TRUE, but also BORING.



From the left, ProSoft Rockers: Gary Enstad, Dan Blome and Jim Schliem

Then it dawned on me what I was looking for…a personality…a company persona that if described well enough could tell everyone what a unique company ProSoft is. But, how do you describe the "personality" of a company? Well, let's see…

I guess the best place to start would be at the beginning…of ProSoft, I mean. When Doug Sharratt went into his garage over 20 years ago and started writing code to allow his Allen-Bradley processor to talk to a Modbus device, I'm sure he had no inkling where that idea would eventually take him. That idea went from his garage to the board room at Rockwell Automation and needless to say, the rest is history.

From that humble beginning, ProSoft, as with most entrepreneurial companies, took on Doug's personality. He didn't mind getting his hands dirty to get the work done. And he started hiring people of like mind when he couldn't do it all himself. But he was careful to hire the "right" people…self-starters and independent thinkers.

When I first started at ProSoft, I remember introducing Doug as my boss to some of my friends. He corrected me the next day saying he was my co-worker, not boss. He thought of us as all in the same boat and he would take his turn at rowing along with everyone else. Doug's humility affected all those who went to work for him and in a large part the personality of the company as a whole. Being a small company, we've all had to be extremely flexible and wear many hats, so everyone knows there is no such thing as an unimportant job.

Erik Syme, Technical Support Manager for North America, is a perfect example of hiring the "right" person for the job. "Since I joined ProSoft over 10 years ago, the company has launched hundreds of new products… so there is always something new to learn how to break…and then learn how to fix. This keeps someone like me who likes playing with new products constantly challenged."

One of the really great things about working at ProSoft is that the company is large enough to be able to have an impact on the automation industry, but small enough that everyone still feels the thrill of being a part of every success. That's a hard tightrope to walk for most companies. How does ProSoft keep that balance? If I had to "put the cookies on the bottom shelf" as my grandmother used to say, I'd say it had a lot to do with an unwritten motto at ProSoft: "Work Hard and Play Hard." And I do mean HARD. I know of ProSoft engineers who have worked until midnight, not because they had to, but because they were on to something and didn't really realize what time it was. I know ProSoft salespeople who routinely put in 18-20 hour days because they are so excited about some new product. I personally have been on many a tradeshow floor at midnight, wearing torn jeans and tennis shoes, wondering when the last time it was I ate, and feeling sticky from dried sweat. But it didn't matter, 'cause that was "my" tradeshow.

In between tech support calls Kentaro Seki plays a little b-ball from his desk.

I think it's that feeling of "ownership" that pervades everyone at the company. Whatever their position or job, each employee is empowered to "own" their piece of the pie which gives them enormous pride in seeing a job well done.

The flip side of all this hard work is the 'Play' side. It is not uncommon to hear laughter in the hallways at any ProSoft office. The kind of laughter that comes from enjoying what you do for a living and the people you're doing it with. The kind of laughter that comes from that satisfied feeling when you look your co-worker in the eye and you both think…"yeah…we did good!"

Small, start-up companies usually have this type of personality. Everyone enjoys being on the front lines and the feeling that they are "making a difference." But as a company grows, the thrill of start-up usually wanes. That hasn't happened at ProSoft.

"I remember when we first started, we would get really excited when an order came over the fax machine," says Janice Hungerford, the first full-time sales person hired at ProSoft and now the Managing Director for Product and Customer Strategy. "It was like 'WE GOT ONE'!"

Twenty years later, ProSoft has eight full-time Customer Service Reps (CSR) around the world who take orders. "It really makes me feel good that I can get our customers what they need, when they need it," says Julie Romano, a CSR in the Bakersfield office.

"I like it when repeat customers call and ask for us by name," says Adrienne Summers, another CSR in the Bakersfield office. "It makes you feel as if you make a difference."

Tom Lenigan is a fairly new employee in our Technical Support Division. I asked him why he wanted to work at ProSoft. "This is an eclectic group of intellectually hungry, insane people. With no two days that are ever the same, how could one get bored!"

Continued on next page.

Danetta Bramhall setting up on the tradeshow floor…torn jeans, makeup gone and lots of caffeine.

Aditi Kulkarni is also a new employee at ProSoft. When asked what her first impression of the company was she replied, "I came to ProSoft from a company of 140,000. But when I told my former employers that I was going to ProSoft they were impressed. ProSoft is a small company but they have definitely made a mark in the corners of the world. Everyone I have met in this company is a multifaceted individual and they are all VERY productive."

Something else Aditi mentioned was the feeling of "family" at ProSoft. "I was so surprised," she said, "I had not started work yet but I had 40 emails in my inbox welcoming me to the 'ProSoft Family'."

There are even employees who leave ProSoft for one reason or another and then, they come back. Bridget Blackburn worked for ProSoft when the company was very small. Then, in 2004, she decided to stay home and be mom. Last year, Bridget came back to ProSoft. "You know, I never really left," she says. "ProSoft was always a part of me."

The PLAY side of ProSoft really shines at our annual party for employees and spouses. This isn't just a "let's have dinner and drink a bottle of wine" boring kind of party. This is a PARTY! There's a DJ and a dance floor, door prizes, Vegas-style gambling and entertainment. The entertainment is always home-grown. One year, Doug Sharratt, Alain Chevalin (Managing Director for the EMEA region), Kuan Chee Chuon (Business Development Manager for Australia), Jim Weikert (Wireless Product Manager), Jason Sanders (Tech Pubs Lead) and Eduardo Giancristofaro (Country Manager for Brasil) all volunteered to dress up like the Village People and lip-sync "YMCA." Actually they didn't volunteer. They were drafted. They were asked if they would help with the entertainment. When they said yes, they were handed a costume. (There are some unauthorized video copies of this performance still floating around.) That was the year ProSoft expanded our product line to include wireless. It was Jim Weikert's first week as a ProSoft employee and his introduction to ProSoft's "playing hard."

The next year, we introduced the ProTalk line of in-rack solutions for the Schneider Electric Quantum platform. To celebrate, we had a party and held an "Air Guitar Contest" for employees to see which department could be the best air guitar players. The wireless guys from our Madison office came dressed as KISS and managed to set off the fire alarm with their fog machines.

Of all the people I interviewed in the course of writing this article, I think Scott Sibenac (Managing Director for North America) summed up the "ProSoft Personality" the best.

"There are a number of key reasons why I love working at ProSoft," says Scott. "One would be the feeling of accomplishment over my 12 years of seeing the work I have put in adding value to the company, helping us grow and become very successful. Another is the people that I get to work with—all being very committed to success while being humble, energetic, passionate, resilient, flexible and knowledgeable at what they do. It is a company with terrific 'get it done' work/fun balance!"

The passion and humility that Scott mentions is a major force inside of ProSoft. It's one of the main reasons why we started this magazine. The magazine isn't about us, it's about our customers. We realize that we're just a small, niche company in the automation industry. But whether our products are used in a water district in Shanghai, an oil field in Texas or in helping get the Space Shuttle off the ground, we are all thrilled to think we had a small part in making it happen.

So, thanks to all of you, our customers, for letting us ride on your coattails as you go about making the world a better place. And, here's to another 20 years of working hard and playing hard.

The ProSoft YMCA All-Stars. From the left: Jim Weikert, Doug Sharratt, Alain Chevalin, Eduardo Giancristofero. ProSoft annual party, 2004.

TechUpdate

ProSoft i-View Now Available on the Apple Store

Live monitoring of process data

Smart phone apps have turned these devices into hubs for managing a variety of personal and business affairs, all uniquely tailored to the individual. It is now possible to manage stock portfolios, coordinate travel, create blog posts, select a recipe for dinner, file share and search for the nearest Starbucks, all from the convenience of your phone. Smart phones, the power of the internet and cellular technologies, and the creative development of mobile applications are broadening the scope of how we access, share, and broadcast information. This trend now extends into the industrial automation community with applications that enable interoperability between smart phones and industrial control systems.

ProSoft i-View: Live monitoring of process data for engineers and plant floor operators

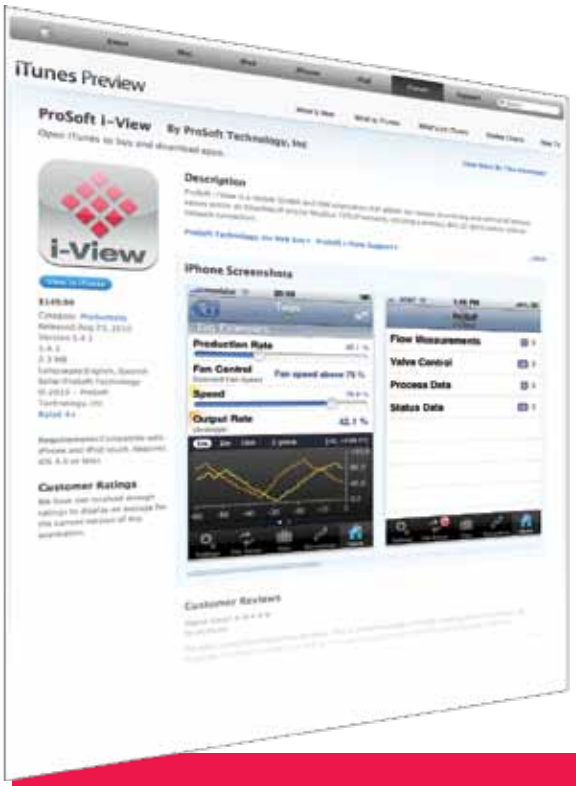
ProSoft Technology has released the first in what will be a series of mobile applications designed to improve the flexibility and convenience of process management for control engineers. ProSoft i-View transforms your iPhone or iTouch devices into mini mobile human machine interfaces to enable remote process control for engineers. With ProSoft i-View, control engineers can remotely monitor and modify live process data from their programmable automation controllers (PAC) via EtherNet/IP or Modbus TCP/IP industrial protocols. The app creates a secure cellular or 802.11 interface between the iPhone device and the control system. For 802.11 plant-floor network access, the WiFi function of the phone can be utilized. For applications with wide geographic disparity such as pipeline and well-head monitoring, or where engineers require access from distances far away, a cellular interface broadens the range of access to virtually anywhere in the world.

Real-time alarm management

Visually, the ProSoft i-View application displays live process control values in stylized lists and include user-established variance allowances and alarms. Engineers are able to monitor these variables in real time and make adjustments on the fly from an iPhone device.

Secure remote monitoring and modification of live process data

Cumulative security features are offered by both the iPhone and many industrial wireless solutions to prevent unauthorized access to the network. ProSoft Technology's Industrial Hotspot radios feature WPA2-PSK and 802.11i RADIUS security, which prevent unauthorized access and modification to the network. ProSoft i-View provides a feature upon configuration which requires the user to assign a matching security code as both a password for network access and as a Security Tag in the Central Processing Unit (CPU) of the PAC. When ProSoft i-View launches, the Security Code must match that on the CPU in order to create a connection.



For more information or to download ProSoft i-View, go to:

www.prosoft-technology.com/prosoftiview

Under the City of Shanghai, ten huge pumping stations went online recently pumping wastewater to the pre-treatment plant at Pudong. There, the waste is purified before being discharged into the East China Sea, at a rate of 1.7 million cubic meters per day through a 41-kilometer pipeline. These pump stations are part of the latest phase of Shanghai's Wastewater Treatment Project (SWWTP) under the auspices of the Shanghai Municipal Sewage Company.

In 1993, Shanghai Municipal Sewage Company conceived the development of a new wastewater treatment plant for the city. Plans were discussed and in 1998 the Shanghai Wastewater Treatment Project (SWWTP) was begun. The project was implemented in stages, over a number of year, and involved the installation of approximately 50 huge pumping stations throughout Shanghai.

Shanghai Wastewater Treatment Plant

by Danetta Bramhall

Central Control

General Electric International began the construction of the central monitoring control system, which included a centralized master control station and a total of 34 remote stations located throughout Shanghai, including Pudong.

The Master station, using Australian-developed Managed Information Technology Solutions (MITS) MOSAIC data acquisition and control technology, communicates to both Allen-Bradley and General Electric hardware. Many water control systems are PC-based and require a high level of manual intervention, but the MITS system is highly automated. While monitoring the passage of water, automatic adjustments can be made to make the most efficient use of energy and pumping equipment and pinpoint problems in emergencies.

DNP Protocol Specified

Immediately following the installation of the central control system, Rockwell Automation in Shanghai was contacted to bid on the installation of the SCADA system to control, collect and monitor data from the 10 pump stations, some of which are as far as 30 miles away from the Master station. In order to communicate with the end devices, the DNP protocol was specified.

DNP (Distributed Network Protocol) is an open communication protocol developed to achieve interoperability among systems specifically in the electric utility, oil and gas and water/wastewater industries. This non-proprietary protocol, available worldwide, was designed optimize the transmission of data acquisition information and control commands. It is a highly efficient and reliable communication protocol between substation computers, RTUs, IEDs and master stations.

DNP is also a layered protocol, featuring Date and Time Stamping as well as True Report by Exception (TRBE). A system as large and complex as Shanghai's Wastewater Treatment Plant requires TRBE. This feature allows the slave to send data whenever a change of status occurs, as opposed to Polled Report by Exception (PRBE), which only allows the slave to send data at the master's request.

Fortunately, ProSoft Technology, a Rockwell Automation Encompass partner had a DNP solution that would work with the Allen-Bradley hardware.

Integration Solution

Since both General Electric and Allen-Bradley equipment were used in the plant, a DNP interface was needed to allow them to communicate with all of the DNP compatible end-devices. Shanghai Electrical Apparatus Research Institute (SEARI), the system integrator for the project approached Rockwell Automation Shanghai for an integration solution. Rockwell engineers demonstrated the ability of the Allen-Bradley PLC-5s to communicate using the DNP protocol through the use of a special communications module produced by Rockwell's Encompass Partner, ProSoft Technology, Inc.

"Since ProSoft's DNP module has two communication ports, SWWTP engineers were able to install a PLC5 backup system as well as a redundant communication system," said Lenus Hong, Asian Regional Sales Manager for ProSoft Technology. "DNP Port 1 is connected to the Master Station via lease lines, while Port 2 allows a modem dial-up connection. If communications should go down on Port 1, the Master still has dial-up capabilities."

Dual Redundancy

Redundancy is a key issue in most wastewater system, a fact emphasized by Zhou Ping, Rockwell Automation Shanghai's Senior Sales Engineer.

"When a pumping station has gone down, it can be very embarrassing for the client," he says. "Potentially, there can be wastewater in the street. This means that the reliability of the entire control system is critical. It has to run all the time, with few maintenance or operations personnel."

The pump stations are comprised of 6 to 8 pump sets each—4 to 6 for duty plus 2 stand-by pumps. The pumps range in size from 30 kW/760 cubic-meter per hour to 145kW/2590 cubic meters per hour.

"When a pumping station has gone down, it can be very embarrassing for the client. Potentially, there can be wastewater in the street."

The control and data communications system contains a "hot backup" mode. It is comprised of two Allen-Bradley Remote I/O processors so that in the event of a failure in the primary controller, the system will automatically switch to the backup processor.

Flow and Level Control

Through a network of meters, level and flow data is relayed back to the central control station for monitoring. In order to ensure accurate control, Shanghai Municipal Sewage Company specified a quick feedback time between pump station PLCs and the central control station.

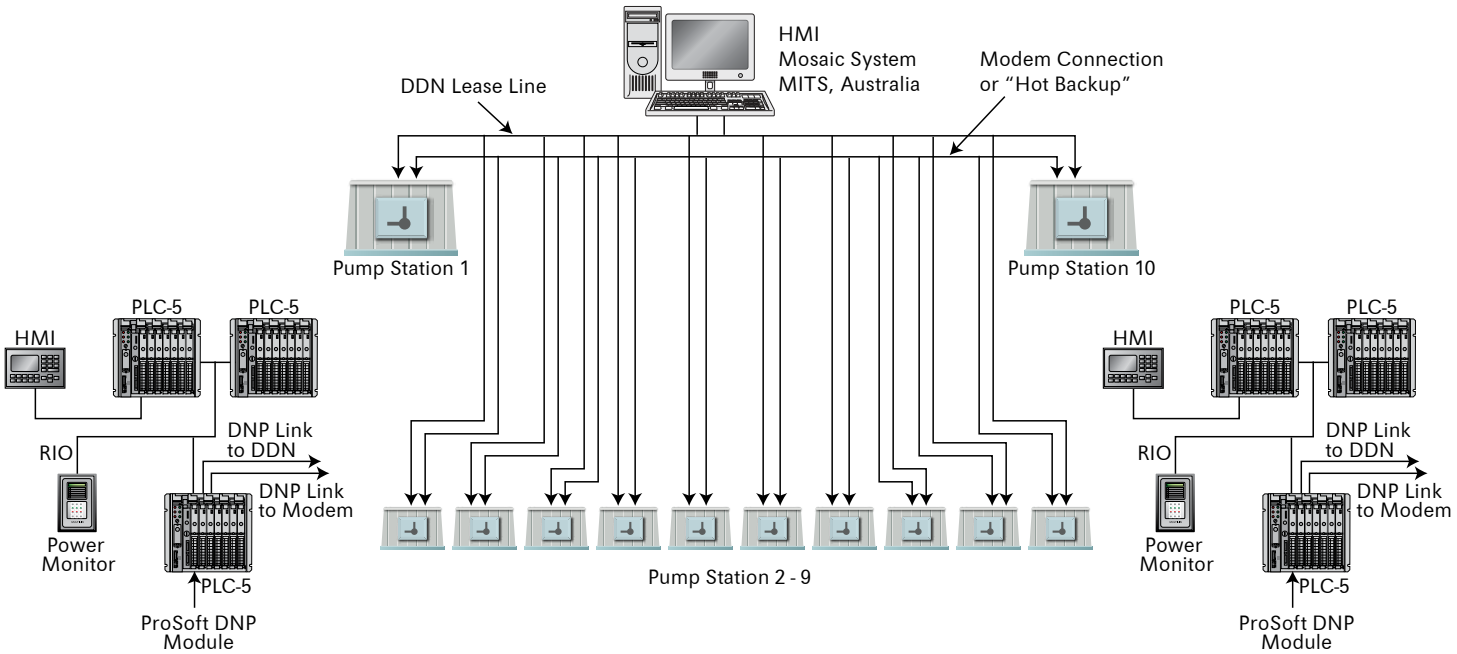
"Our client specified a system feedback time of better than 20 milliseconds," said SEARI project engineer Zhou Zhiwei. "This is why we adopted the PLC-5 series processor coupled with the ProSoft DNP modules. It's the first time the DNP module has been used in Mainland China and it's been a great success."

What the Customer Needs

When Rockwell Automation Shanghai contacted their Encompass Partner, ProSoft Technology, Inc., specializing in inter-network communication solutions regarding their DNP module, Rockwell knew it was exactly what they needed to allow their PLCs to communicate via the DNP protocol. Since the ProSoft module is designed to fit into Allen-Bradley PLC racks, it wasn't a hard decision to make.

"The TRBE feature of ProSoft's DNP module was the major factor that convinced SWWTP to award the million-dollar contract for this phase of the project to Allen-Bradley," said Hong. "When RA-Shanghai contacted us we set up a demo and immediately sent it to Shanghai for testing."

The Shanghai Wastewater Treatment Plant has been operational for several years.



Wireless I/O **Stamps Out Downtime** on Auto Press

by Adrienne Lutovsky

At the gestamp plant in McCalla, Alabama, everything is oversized. The floor is a vast concrete slab, bare but for two giant 2000-metric ton transfer presses stretching into the air. To accommodate these beasts, the ceilings are built so high that the lights above appear dimmer than usual. Nothing can be heard above the overwhelming roar of the ram as it slams into sheets of metal, molding the shape of what will soon be structural parts.

Hiss, ka-JUNK, hiss, ka-JUNK, hiss, ka-JUNK.

Then…silence.

"Alright everyone, call your wives and tell them you're going to be late tonight. By the time we get these presses up-and-running again we're all going to have to work late just to meet production requirements," Mike Mullins, the Press Maintenance Team Leader, breaks the news to his crew. "This is going to cost us."

…And this isn't the first time. Gestamp Automoción owns and operates more than 70 transfer presses and 100 progressive presses, but the two transfer presses at their facility in McCalla had been causing a ruckus. At least once a quarter, the hardwired network suffered cable degradation, and each occurrence caused the entire operation to shut down for up to two hours. Something had to be done.

Network Problems Take Down the Plant

Gestamp Automoción is a tier one Spanish-based automotive supplier, with 56 production centers located in 17 countries. They produce metal components for most of the leading automobile manufacturers in the world, from the high-end Mercedes-Benz, Porsche, Bentley and BMW to the high-volume Ford, GM, Nissan and Suzuki.

At the McCalla facility much of the production is for the Mercedes-Benz plant in Tuscaloosa, Alabama. The plant utilizes two presses which produce up to 1800 parts per hour. The presses were hardwired and faced frequent downtime from cable breakage or damage, frustrating the team on the plant floor.

"The RG-6 coaxial cable we were using cost $57 per foot and we had about 165 feet to replace each time the system went down," commented Mullins. "The cable alone cost between $9400 and $9500 to replace and that's not including the cost of the system shutdown. We once estimated the overhead costs of downtime at about $2500 an hour, and it typically took a couple of hours to replace the cable." In total it cost Gestamp approximately $14,500 each time they had to replace the cable, plus the value of the 1500-2400 parts that could not be produced during the outage.

"What we really needed was a radio that could communicate through a ten-inch thick plate of steel."

One ProSoft radio is mounted on each of the bolsters.

"It wasn't uncommon for this cycle to repeat every 2 to 3 months per press," said Mullins.

The Application

The application involves two presses. Each press consists of one ram, two dies, and two bolsters. The bolsters are mobile metal plates on which the dies are mounted. A die is used as a mold that defines the shape that the part will take. In this application each die is roughly the size of a one ton pickup truck.

During the process, a metal sheet is fed across one bolster and comes to a rest above the dies. The ram rises and drops with a force of 800 to 1400 metric tons, sandwiching the metal sheet between itself and the die to stamp out the parts. While one of the bolsters stamps parts, the second is loaded.

The Challenge

The cable wasn't as much the problem as the demands placed on it. The cable's path ran along a corner that required it to achieve such a sharp angle that the cable inevitably wore in this area.

Gestamp needed a more reliable network, but there was a question about whether a wireless system would be effective given that wireless points would need to be affixed in a partially obstructed location beneath the bolsters.

"What we really needed was a radio that could communicate through a ten-inch thick plate of steel," commented Mullins.

The Solution

Since he would be hard-pressed to find a radio that can penetrate steel, Mullins spoke with his local Rockwell Automation® distributor, who recommended using six Frequency Hopping Ethernet radios (RLX-FHE) from ProSoft Technology®, along with Gestamp's existing ControlLogix Programmable Automation Controllers (PACs).

Jim Weikert, ProSoft Technology's Strategic Product Manager for Wireless Technologies explains, "When the direct path (line-of-sight) is obstructed, a signal will reflect off of other objects, taking an alternate path to the receiving radio. Because there are multiple reflections, the signals arrive at the receiving radio at different times, so the radio needs to be able to distinguish between the different signals. ProSoft Technology's Frequency Hopping Spread Spectrum (FHSS) radios are able to work with reflected signals because of the narrow band "hops" and changes frequencies, making them less impacted by multipath interference compared to higher speed, wider band technologies such as 802.11."

This specific application shows that though the laws of physics cannot be changed, the obstacles they present can be circumvented when armed with the right technology.

The Wireless Network

Each press is automated by a dedicated ControlLogix® PAC. To replace the hardwired system, four Flex™ I/O ControlNet™ communication adapters—one for each bolster—were replaced with EtherNet/IP Adapters and a ProSoft Technology Ethernet radio. Each PAC was fitted with a second 1756-ENBT Ethernet card and an Ethernet radio.

Cliff Whitehead, Manager Strategic Applications for Rockwell Automation notes, "EtherNet/IP was designed as a media independent solution - Gestamp has been able to directly take advantage of this flexibility in their wireless application."

Harry Forbes of ARC Advisory Group elaborates, "One of the key advantages of Ethernet-based automation networks is the wide variety of solutions for wireless Ethernet bridging. These solutions can have enormous value in manufacturing applications."

Performance

"We've got a unique application here, involving large moving hunks of steel. Our initial concerns that the steel would impede the radio performance turned out to be unfounded. When the bolsters interfere with line-of-sight, the radios continuously try to read through the bolsters," comments Mullins.

This specific application shows that though the laws of physics cannot be changed, the obstacles they present can be circumvented when armed with the right technology; in this case, a high quality industrial wireless solution.

By using ProSoft Technology's Industrial Frequency Hopping radios, Gestamp has been able to eliminate the downtime plaguing its McCalla facility, translating into a savings of up to $174,000 per year, plus the value of parts produced during that time. The wireless system has been live for two years now and Mullins is still pleased with the performance of the radios. "In fact, the radios work better than expected. We've been very happy with them."

Peru's Pipeline

Making its way along Peru's Lower Urabamba River, a jaguar's whispery black shape easily blends with the darkness of nearby vegetation. Below the tree canopy, two parallel curves of the dual Camisea pipelines snake through the surrounding Amazon, winding their way through the jungle, far past where the big cat wanders and perhaps, find its prey. Along the tree canopy equipment dangles from tethered lines. Most of the equipment needed for this massive project is flown in and lowered by helicopters onto hilltop clearings.

Starting in the jungles of the Amazon rainforest, over the Andes to the Pacific Ocean, the 550 kilometer dual pipelines use Allen-Bradley processors with ProSoft Technology's in-rack Flow Computers.

From underground reserves more than a mile deep, natural gas and natural gas liquid will flow through the Camisea pipelines under the control of an integrated solution, a flow computer that will help exploit the jungle's underground resources so that much-needed natural gas can properly make its journey to Peru's coast. For the Peruvians, the pipelines' path to the sea will eventually let them see natural gas processed and sold to help create an increased standard of living. It is a long journey that will eventually lead to economic prosperity, and one that begins with understanding the solution needs of pipeline flow control.

The Challenge

Facing one of the greatest pipeline challenges in Peruvian history, ISI-Solutions, the system integrators for the project, knew the project needed to rely on a cost-effective automation solution that combined the power of control and flow computers to integrate, operate and maintain pipeline control. Camisea needed an internationally recognized name brand solution with local distribution. They needed a product line that would enable complex control over a Peruvian pipeline where failure to provide much needed natural gas and natural gas liquid could mean dire consequences for the Peruvian economy.

The Solution

The answer came when ISI discovered a simple solution: ProSoft Technology had a Flow Computer that was compatible with Rockwell Automation's ControlLogix platform. As an in-rack solution, it could easily plug into the Rockwell backplane.

Fernando Dorgan, Electrical Engineer for ISI Solutions, tested Rockwell's ControlLogix platform with ProSoft

What really made the Rockwell platform functional for Camisea was ProSoft Technology's involvement in solving Camisea's flow computer needs with their in-rack AFC Module.

Technology's in-rack AFC Flow Computer communicating across the backplane. He found such integration and compatibility a huge plus versus utilizing a stand-alone flow computer that might have provided a similar service.

Since ISI-Solutions is a system integration company that provides consulting, integration, and management solutions for a multitude of pipeline-related projects, finding an automation solution meant choosing a product line that they knew was going to work.

"We recommended the use of a Rockwell platform early on as we wanted to add a highly functional backplane and flow computer," said Dorgan. "The challenges were significant. What really made the Rockwell platform functional for Camisea was ProSoft Technology's involvement in solving Camisea's flow computer needs with their in-rack AFC Module."

"Implementation of products such as these are just part of standard development," said Dorgan. "We design pipelines, then program, then test; then we start up. This is just the way we do things. If you want professional quality on a pipeline such as Camisea, then you really have to make sure the technology fits the needs of the project."

Such challenges also included allowing the Rockwell processors to communicate via the Modbus TCP/IP protocol, where Dorgan concluded, "For that situation we found ProSoft's Modbus TCP/IP Protocol Interface module very reliable and efficient."

The Camisea project may be the most important energy-related construction project ever in the history of Peru. On a scale that rivals similar trans-Andean pipelines, Camisea is massive, with dual parallel pipelines that cross three geographic zones on a 550-kilometer journey. Its lengthy journey begins within the dense jungles of Malvinas in the Amazon rainforest. There, it soon winds its way to transverse the Andes Mountains in two parallel pipelines—one carrying natural gas and the other liquid natural gas. Both pipelines eventually hug the Pacific coastline and make their separate ways toward two destinations. Camisea's natural gas liquid (NGL) pipeline ends in Playa Loberia whereas Camisea's natural gas (NG) pipeline winds further northward toward Lurín, near Lima, Peru.

The Application

The NGL pipeline has one scraper launcher, one pumping station with mass metering system, three pumping stations without metering system, two pressure reduction stations and one receiving station at Playa Lobería, three scraping stations, and nineteen block valves sites. The NG pipeline has one pressure control station, five scraping stations, one receiving & measuring station at Lurín, four fuel gas modules for feed NGL pump stations and twenty-two block valve sites. Since fuel gas will be supplied to power the NGL pumps, a metering system will be installed to provide the final mass balance along the NG line. In addition, a liquid mass metering system will be supplied for each pumping station in order to cross check the leak detection system.

The pipeline SCADA system has two control centers, the primary control center will be the Lurín Main Control Center (MCC) at Lima City Gate (Lurín), and the secondary will be the Ayacucho Contingency Control Center (CCC), located in the surroundings of Ayacucho city. The latter will be used in case of a major problem at the MCC location, or interruption of communications to the MCC.

Local control systems will control both Camisea pipelines and bring information to the SCADA Host system at the control centers to supervise those pipelines and their associated facilities: receiving, pumping, scraping, and block valve stations.

Since the pipelines run parallel and close to each other for 550 km, in many instances they will share a common local control system (i.e.: A common RTU or PLC).

Local Control Systems will be implemented using ControlLogix and CompactLogix family of programmable controllers from Rockwell Automation.

Dorgan suggested the importance of working with one vendor and one technology in an in-rack project of such a complex magnitude. To begin with, ProSoft's AFC form factor makes for a single point of communication, tight programmable controller and flow computer integration on a compatible backplane; which all translates into an easier learning curve for Dorgan and ISI-Solutions customers. Other benefits include: the AFC Manager has an easy-to-use software utility, as many ProSoft customers know, it takes a lot of the complexity out of the set-up that stand-alone flow computers require; three-tiered password security prevents potential pipeline disaster by eliminating non-user ability to change calculations and variables; the AFC module's Log File capability is a primary factor in taking accurate accounts of measurements by archiving data with import/export functions. Dorgan explained that the Log File provides a very accurate account as it records volume, flow and other measurements that indicate what is happening within the AFC Module and pipeline at any given time.

Future Expansion

When asked how ProSoft Technology might bring further solutions to such pipeline construction and development in the near future, Dorgan said he was looking at RadioLinx as a cost-efficient, wireless solution for bridging data between pipeline block stations across South American rivers and gorges. He felt wireless technology could help decrease the cost of constructing cables between hazardous points as well as running costly cable between pumping stations that may only be ten kilometers apart, well within the range of ProSoft's wireless capabilities.

"A lot of projects are depending on this pipeline," said Dorgan. "With such professional quality in a job, we had to ensure the technology fit the needs of the overall project." When asked about ProSoft Technology's involvement and dependability in the Camisea Project, Dorgan commented, "We see ProSoft as an interface provider. We can always rely on ProSoft products and have done so since 1995."

Most of the equipment needed for the Camisea project was flown in and lowered from the air onto hilltop clearings.

Hydropower

by Danetta Bramhall

If you listen you can hear warblers and flycatchers in the undeveloped wilderness of northern Ontario, near the small town of Elliot Lake. As your ears become attuned to the solitude of this beautiful area of Canada, you will also hear another sound…rushing water, in the Mississagi Power Wells Generating Station.

Wells Generating Station is a 250 MW hydropower facility that provides power to northern Ontario. It is one of the largest facilities in Canada. Early last year Mississagi Power approached AVAD Industrial Sales for help in upgrading their SCADA system. The old GE Harris system, communicating to a remote (Ranger 10) control room, was very limited in its capabilities. It could not track alarms and give operators the information required to run the new generators. AVAD Industrial proposed implementing a Schneider Electric Quantum controller which was easily able to monitor all the points of the system and log data to the Vijeo HMI. However, in order to communicate with the new generators via the DNP 3.0 protocol, the Quantum controller needed a cost-effective connectivity option.

ProSoft Technology, Inc., a California-based automation solution provider, developed an in-rack module allowing the Quantum controller direct connectivity to the DNP network.

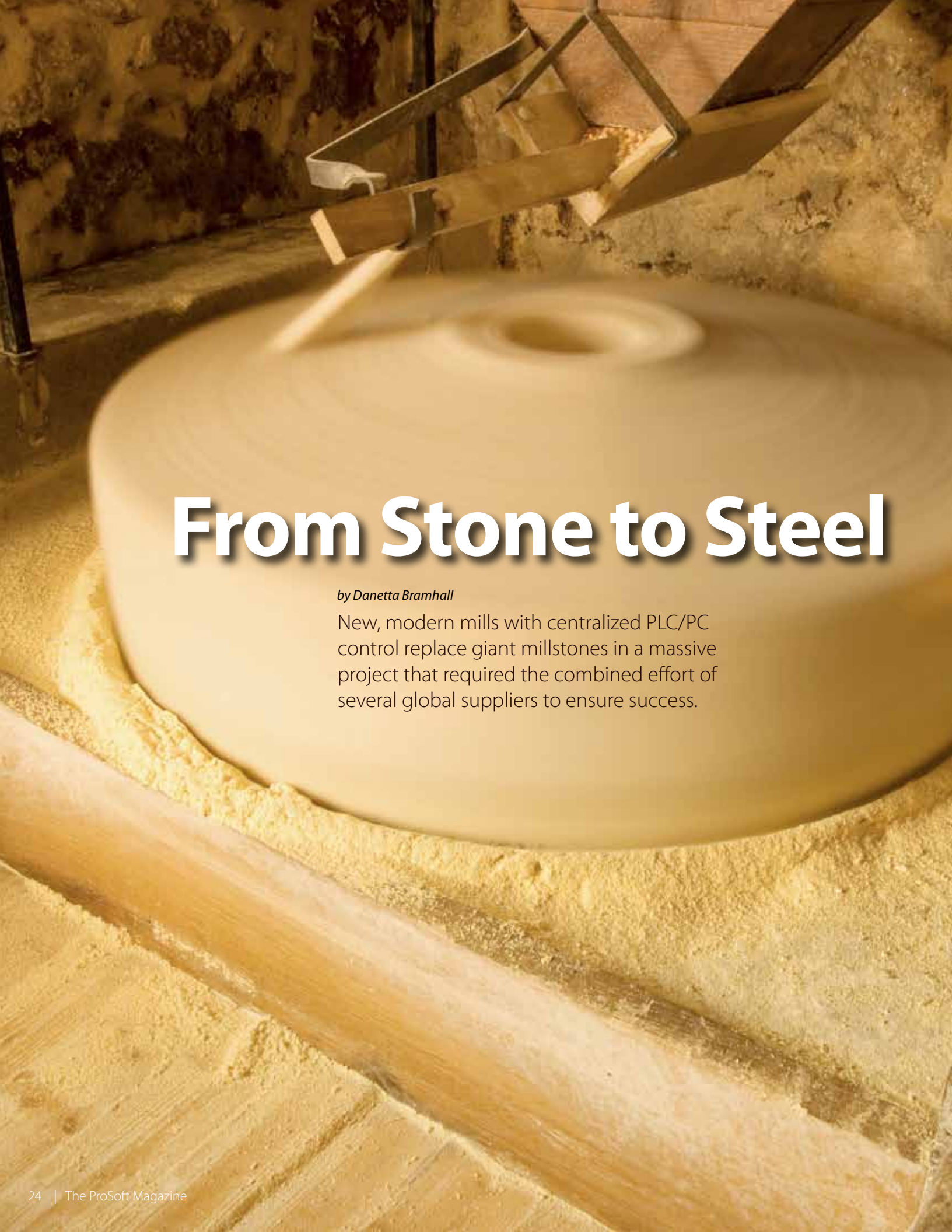
Goes Hi-tech

"The ProTalk DNP module was the only in-rack solution available," said Joe Coccimiglio of AVAD Industrial. "It was this type of quality solution, provided by ProSoft, which helped eliminate the need for a third-party "black box" converter, thus eliminating a potential point of failure. It also allowed AVAD to provide local service and support for all of the equipment."

With this new system, control operators receive all the information they need regardless of whether they are located on site or in the remote control room. As a result, the financial benefits will be represented in 'Total Cost of Ownership.' Mississagi Power will no longer have to rely on outside assistance. This new system allows the plant to run more efficiently and the maintenance crew can handle any issues should they arise.

"This solution has improved every aspect of the plant, i.e. functionality, speed and convenience. We are looking at the possibility of converting three neighboring plants to this solution. This would standardize the facilities and make the ProTalk module a very important part of the Canadian hydroelectricity market," said Coccimiglio.

"This solution has improved every aspect of the plant."



From Stone to Steel

by Danetta Bramhall

New, modern mills with centralized PLC/PC control replace giant millstones in a massive project that required the combined effort of several global suppliers to ensure success.

A hundred years ago, grain was ground into flour using two large stones, called millstones. Since then, the science of milling grain into flour has changed dramatically. Improved equipment, better transportation and particularly computerization have increased milling capacity, allowing mills to expand their production.

Four recently constructed mills in Egypt are a prime example. In an effort to cut costs and produce a higher grade flour, developers have built new, modern mills in the same buildings where giant millstones used to stand.

Old Stones to PLC Control

Danish company, United Milling Systems (UMS), designed and built four new mills in Egypt with Automatic Syd A/S as sub-supplier of the electrical system. Two of the mills, located in Cairo and Ibrahim Awad, Alexandria, were actually converted from old stone mills into modern milling plants. The other two, located in Sowahey and Moharam Bey, Alexandria, were turnkey projects, rehabilitating old roller mills.

UMS installed a total of 34 of the new Satake SRMA roller mills in three of the locations. The SRMA not only incorporates the very latest technology, such as fully electronic feeder units and a toothed belt differential drive, but is also simple and user friendly. In the fourth mill, UMS installed a short milling system based on their own developed disc mill. This new solution allows the El Tppin mill, (South Cairo & Giza Flour Mills & Bakery Co.), to produce nearly twice as much flour per day, in a substantially reduced area, compared to a conventional roller mill.

Automatic Syd specializes in the design and manufacture of electrical switchboards, control panels and the development of customized PLC and PC software. It was their job to supply a centralized control station that would allow one miller to monitor the entire plant. UMS and Automatic Syd faced a choice: they could install their own version of a proprietary system, running closed applications, or they could opt for an open communication platform.

Fifteen years ago, proprietary systems were the norm. But companies soon found that these closed systems were, in the long run, user unfriendly, making the process of integrating new processes and equipment difficult, expensive, and time-consuming, requiring diversified skills and tools. Today, these closed systems are slowly being replaced by open communication platforms.

The Modbus protocol is one of these open applications. It has become so popular, that in many instances it is accepted as the defacto industry standard. This was the network chosen for the mills.

Rockwell Automation processors were connected to the mill equipment. However, the processors were not inherently Modbus compatible. Therefore, a Modbus interface was needed.

Modbus Interface Needed

Automatic Syd contacted Rockwell Automation-Denmark for a possible solution. They recommended ProSoft Technology's in-chassis Modbus Interface Module.

The Rockwell PLC, with the ProSoft module installed in the rack, collects the data and displays it on the miller's PC using Allen-Bradley's RSView.

Centralized Control Cuts Costs

"With the ProSoft module," said Arne Sigfredsen of Automatic Syd, "One miller can easily monitor the entire plant and, in case of emergencies, temporarily take over control until another miller has reached the specific machine to solve the problem. This is a cost effective savings, since it takes fewer personnel and you get a lot of information such as alarms, stock levels, motor loads, etc. from the plant.

"The Modbus Interface Module was one of the first products manufactured by ProSoft Technology," said Alain Chevalin, ProSoft's Managing Director for Europe, Middle East and Africa. "But twenty years after its invention we are still finding new uses for it. Many industrial devices available today have implemented communications using the Modbus protocol. With our communication interfaces, users in a variety of industries are able to gather a great deal of data which can enhance the understanding of the process or, as in the case of these flour mills, allow the system to be controlled more efficiently."

The Alexandria Flour Mills and Bakery Co., located in Ibrahim Awad and Moharam Bey were the first two mills to go online, producing 150 tons and 225 tons of flour per day. A third, located in Sowahey, began operating shortly thereafter, also producing 225 tons of flour per day.

The fourth mill is located in El Tppin in Cairo. This new disc mill solution allows the El Tppin mill to produce 450 tons of flour per day.

A funny thing happened the

Generator Gone Wild!

In the late seventies, early in my career, I worked as an instrument startup engineer for a company that designed, built, and commissioned power utility plants. One of my first projects was a large oil-fired plant. The Instrument Tech and I were busy ringing out some of the instrument loops, and I was responsible for the plant computer system, which monitored the whole plant and the thousands of instruments we were setting up. During the startup process, each of the instruments must be cycled through, which requires you manually connect up to a 4-20 mA stimulator and run the instrument loop from zero scale to full scale to make sure the instrument is calibrated accurately and functioning.

One of our startup sequences was for the automatic turbine generator, which was the main output for the plant. We set up the generator megawatt loop, which measures power output of the generator, and began running our test. The instrument tech ran it all the way to 100%, ran it back down, ran it to 50%, ran it up to 100%, and we were bringing the readings into the computer system.

This particular oil-fired plant burned No. 6 crude, which is a lot like tar if you let it get cold, so the boiler system is kept at a low constant heat in order to circulate the oil through the system. At the time they were running at about 5% of the capacity of steam the boiler could generate. In other words, it was on low fire.

What we didn't realize is that they had put the boiler control system into automatic, and one of the signals they monitor to determine how much fuel they needed to release into the boiler was how much power the generator produced. At the time, the generator wasn't putting out any power, it was just generating steam and blowing it out the side, so the crews weren't paying particularly close attention to it— until we ran the generator output up to 100% and the boiler control system began dumping No. 6 crude into the boiler full throttle!

"Because the generator was on automatic, the burner control was overridden to keep it running at 5%, so when the fuel pumps kicked on to 100%, all of the safety release valves for overpressure opened up and we blew crude oil all over the place. They spent two weeks cleaning up all of this oil that had turned to tar."

Because the generator was on automatic, the burner control was overridden to keep it running at 5%, so when the fuel pumps kicked on to 100%, all of the safety release valves for overpressure opened up and we blew crude oil all over the place. They spent two weeks cleaning up oil that had turned to tar…and it was everywhere--all over the equipment.

Of course we had no idea we had done this, then all of a sudden the alarms went off in the control room and people were running around all over the place. So I called the Instrument Tech on the walkie-talkie and said, "You might want to run that back down to zero and get out of there, quick!" I don't think they ever found out what happened or why this thing went wild.

Moral of the story: Read the drawings before you try and test something. Know where everything is connected.

Ghost in the PLC

I was working as a field application engineer in a power plant, and we had a PLC that was randomly dropping off the remote I/O network. It always happened in the morning, and always randomly. We spent about nine months trying to diagnose the situation, testing this, trying that. We were eventually able to isolate where the initial fault was occurring to a remote rack out in a building onsite, but we could never come up with a pattern to isolate the actual root cause of the issue.

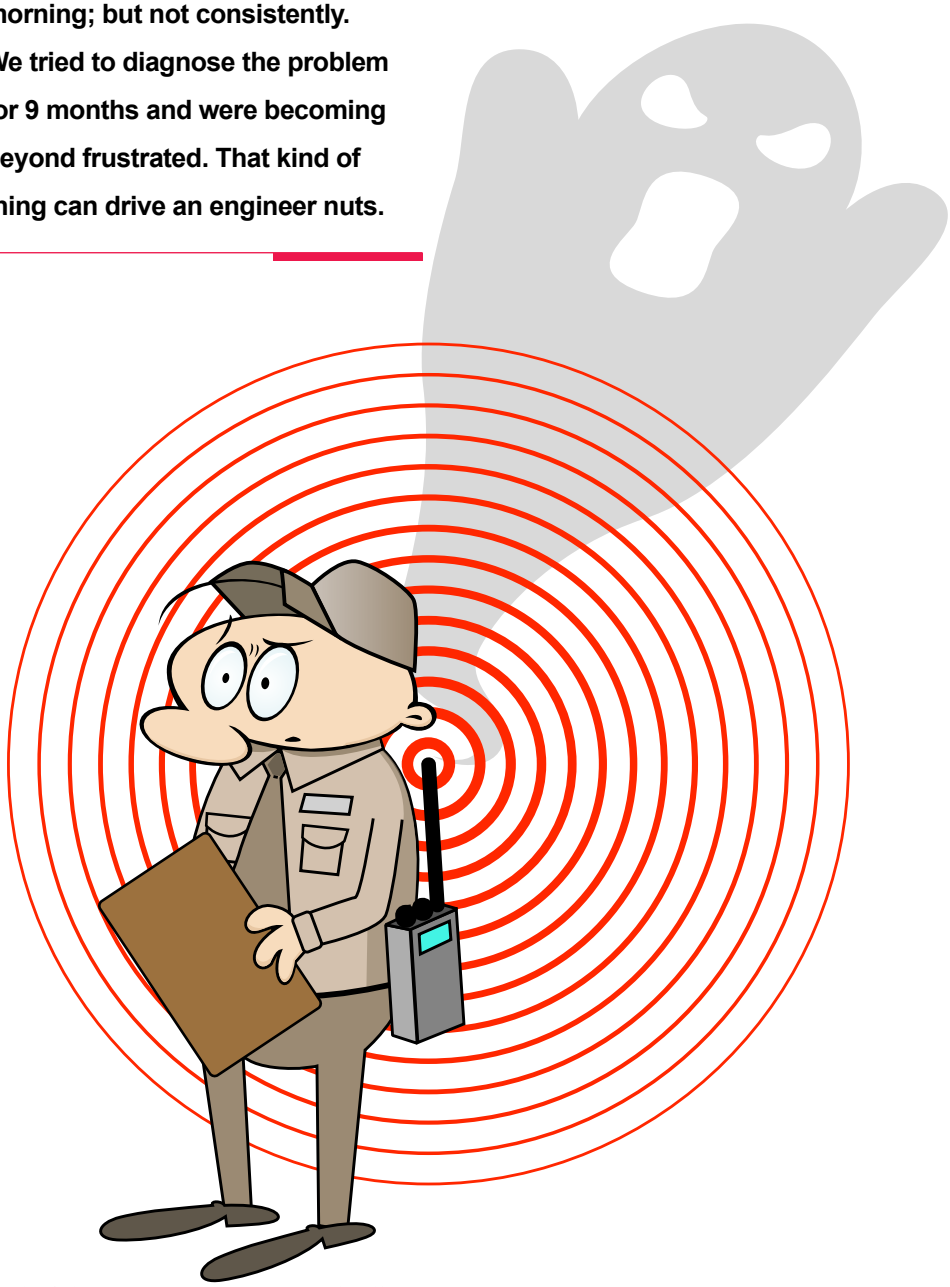
The PLC was handling the ash removal system, nothing critical, but every time it happened we had to go out to the site, start the system up, and get it running again. It wasn't a serious problem other than the fact that we would come in and sometimes it was working, sometimes it wasn't. That kind of thing can drive an engineer nuts.

The PLC always dropped off late at night; one, two, three in the morning, but not consistently. We set traps in the system trying to diagnose the problem, to no avail, and were becoming beyond frustrated. Finally one night we set up camp at this remote plant site, just kind of watching and hoping we would get lucky. As it happened, it was storming that night, raining cats and dogs, just pouring outside, lightning and all. We were literally sitting here watching this PLC, when around 2 o'clock in the morning the security guard popped his head into the building, picked up his walkie-talkie and said, "I'm in building 27 and everything is ok," then walked out.

Boom. System dies. It turned out that the security guard would come into the building if it was raining to make his call. We had been leaving the doors of the security cabinet of the PLC open, and back in those days it was enough to cause the remote I/O system to pick up the interference and trip the system out.

Nine months with a ghost in our PLC and it turns out all we had to do was close the doors of the cabinet.

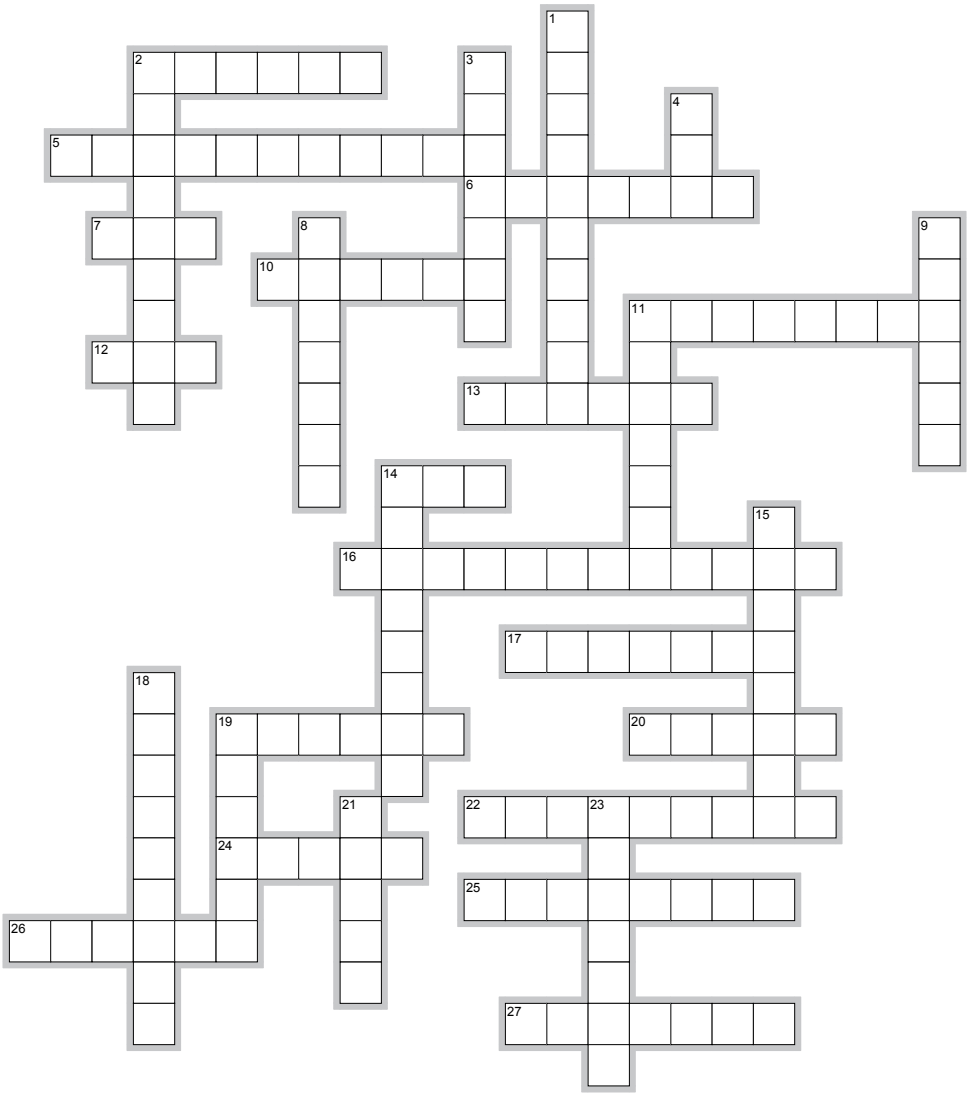
The PLC always dropped off late at night; one, two, three in the morning; but not consistently. We tried to diagnose the problem for 9 months and were becoming beyond frustrated. That kind of thing can drive an engineer nuts.



Moral of the story: Buy you an umbrella!

Do you have a funny story you would like to share? Send it in and you may see it in the next issue of The ProSoft Magazine. Email it to: dbramhall@prosoft-technology.com.

Crossword Challenge



Across

2. Type of location for wireless
5. Ethernet version of a common protocol
6. ProSoft brand for Schneider products
7. Accronym for Add-On Profile
10. Type of industry where wireless is used
11. A type of wireless that does not need line-of-sight
12. Protocol developed for power industries
13. Protocol used by Mitsubishi
14. Common acronym for a controller
16. A Rockwell controller platform
17. Typical end device that uses ASCII
19. A protocol you can find in most industries
20. Type of industry where wireless is used
22. Name of Rockwell's partner program
24. ProSoft brand for Rockwell products
25. Type of industry where wireless is used
26. A good device to use with wireless
27. ProSoft brand for gateways

Down

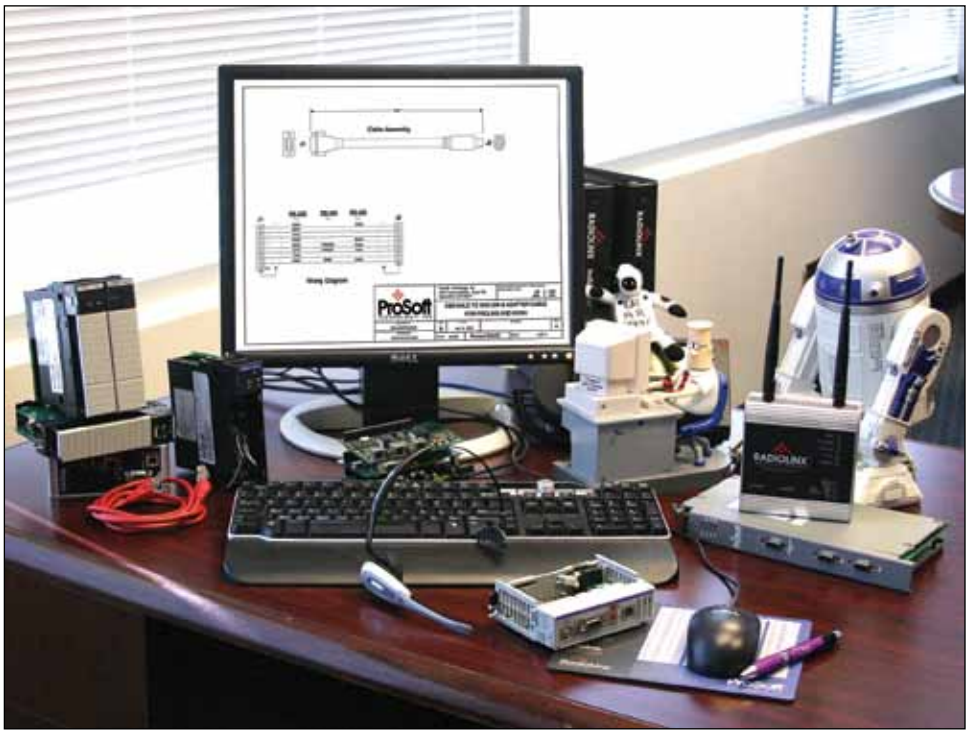
1. Rockwell's magazine
2. ProSoft brand for wireless products
3. Available 7 days a week, 24 hours a day
4. Type of industry where wireless is used
8. A Schneider controller platform
9. If it isn't Ethernet it must be ___
11. Name of an industrial automation magazine
14. Protocol typically used in process control
15. Connectivity option instead of cables
18. Type of industry where wireless is used
19. Type of industry where wireless is used
21. Type of industry where wireless is used
23. Typical application for RLXIB-66 radio

Spot the Difference

This tech support desk is a mess. Can you spot the differences? Hint – There are 10 of them.

Answers are upside down at the bottom.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



1. Gateway under radio missing. 2. Waving cow behind Dilbert. 3. Adapter & red ethernet cable missing. 4. One of the boards under the monitor is gone. 5. Added purple pen on mouse pad. 6. Stapler next to R2D2 is missing. 7. Highlight on the desk is different. 8. Different schematic on computer screen. 9. Single module replaced with dual modules. 10. ProSoft sign missing from window sill.

Were you there?

Automation Fair, Anaheim, CA 2009.

A view of the Goodtech booth (ProSoft Technology's Norwegian partner) at the Eliaden exhibition in Norway.

Customers take a break at the Rockwell Automation On The Move in Boston, MA.

ProSoft's Value Added Partner Amsol at the Automation Fair in Egypt.

Automation Fair, Anaheim, CA 2009

ProSoft's Hands-On Lab at the CAOTM in Grand Rapids, MI.

A view of the crowd listening to Tom Donato's presentation at Rockwell Automation University, Dusseldorf, Germany.

Aurelien Fabre, Sales Engineer in ProSoft's EMEA office, teaching a Hands-On Lab at Salon Lumen's annual distributor event.

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