AMFA Featured Member:

AMERICAN PRECISION AVIONICS

AMFA's featured member this month specializes in custom wiring harnesses, build boxes, and other custom wire services for the avionics industry. Founded in Duluth in 2006, American Precision Avionics has a solid history in avionics, making literally MILLIONS of connections in the sky every day!

American Precision Avionics was founded by American Precision Assemblers, an Illinois company with a 20 some year history of manufacturing wire products for industries ranging from medical diagnostics to vehicle systems to military/defense and more. The parent company launched the Duluth facility as a supplier for Duluth-based Cirrus Aircraft, a leading manufacturer of general aircraft. With assistance from the Duluth Seaway Port Authority and the MN JOBZ program, American Precision Avionics moved into a brand new 20,000 square foot production facility in the Duluth Airpark in May 2009 — timing that regrettably coincided with the Great Recession, a notable decline in the avionics industry worldwide, and significant downsizing at Cirrus Aircraft in particular.

General Manager Lynn Andrews doesn’t dwell on that period of time, saying only, “We weathered the storm.” Rightfully so, she is much more focused on sharing her enthusiasm related to current projects, system improvements, and future growth opportunities. In fact, AMFA members and guests are encouraged to attend AMFA's general luncheon meeting on Wednesday, November 4, for an opportunity to experience this enthusiasm first-hand as Lynn and others share the American Precision Avionics story, followed by a tour of the facility. (Call the AMFA office at 877.330.2632 to register for the November 4th meeting.)

American Precision Avionics currently employs 65 people on three shifts, including cross-trained staff working in production cells that enable the company to provide a number of customized services for the neighboring Cirrus facility. Cirrus takes delivery of these and other products on a daily basis. Often, American Precision Avionics is called upon to respond to rush delivery requests, so procedures have been established to enable quick turnaround without sacrificing quality.

...Continued on Page 2
As a small, nimble company focused primarily on one customer, American Precision Avionics considers its adaptability to the aforementioned procedures to be one of its greatest strengths. For example, they worked with Cirrus to eliminate a portion of the communication chain typically involved in a procurement decision. By developing the trust needed to streamline this procedure, American Precision is now more adept at responding to quick turns when needed.

The company has also invested in the development of a strong engineering team, a strategy that contributes to a teamwork approach between the engineering departments of the customer and the supplier. For example, engineers from both companies provide input during the prototype stage. American Precision Avionics currently employs three fulltime engineers (all UMD graduates) along with a rotation of engineering interns. In-house engineers interpret drawings received from Cirrus to develop process instructions, advise on inventory needs, design test boards for 100% electrical inspection, oversee documentation retention and traceability, and more.

As one might expect in the avionics industry, adherence to quality is a significant part of the corporate culture at American Precision. The Duluth facility maintains ISO certification specific to the aerospace industry - AS9100C. New products are vetted using Failure Mode and Effects Analysis (FMEA), with a cross-section of staff working as a team to create and evaluate potential “product failure” scenarios. On the rare occasion that a quality issue does arise, procedures are in place for immediate response. The company routinely conducts prototype, pre-production, and First Article runs to ensure customer satisfaction.

As their marketing material proclaims, there is almost no limit to what American Precision Avionics can do when it comes to wiring. Wire processing capabilities include measuring, cutting, stripping, laser marking, coiling, kitting, soldering, and crimping. The type of wire includes stranded or solid copper, multicore cable, insulated, coax, Ethernet, quad, thermocouple … and others as needed. They offer a range of wire and cable testing services, including IPC 620 [industry] certified inspection.

The shop floor is equipped with a variety of cutting, tooling, stripping and testing equipment. As many as a dozen different assemblies are likely to be in various stages of production at any given time. These assemblies range from the very simple five-minute coax with two connectors… to extremely complex assemblies that require 100 labor hours to complete. To ensure a manageable cycle, the production of complex assemblies is broken down into subassemblies. Lot sizes tend to range from 12 to 24 pieces. The extensive product line is probably best appreciated when you understand that one Cirrus aircraft is likely to house as many as 85 wire harnesses – with numerous variations between the components.

Complex assemblies are produced using form board as a backdrop to hold the various wires, connectors and components in a stationary position. Visualize a large form board measuring 5’ x 13’ covered with a dizzying array of wires and connectors to appreciate the company's most complex product to date; an assembly for the new Cirrus SF50 personal jet.

American Precision Avionics also provides an extensive array of value-added services and programs. JIT inventory management, KANBAN, EDI, alternate component sourcing, reverse engineering, VMI, dock-to-stock programs, pick-up and delivery, test and burn-in capabilities, and more. Last but not least, American Precision Avionics conducts its operations in a manner that is mindful of the environment by promoting in-house waste reduction, recycling, reduced paper consumption, and energy conservation. LED lighting is installed on the outer perimeter and in several interior locations.

American Precision’s steady growth over the past few years confirms that the avionics industry is on the rebound, and yet, the company is not operating a full capacity. The management team continues to explore new industry/new customer opportunities, be it full production of wire assemblies for an OEM or less demanding wire-related needs, such as cutting and stripping, kitting the cut wire, or permanent laser printing (to aid in troubleshooting).

The management team also continues its focus on ongoing corporate goals, which center on four themes: safety, quality, service and cost. A recipient of the Cirrus Supplier of the Year Award in 2008 (and reigning “Supplier of the Year”), American Precision Avionics continues to evolve into a company that will no doubt enjoy long running success in the wiring industry.

Written by: Sandy Kashmark, Executive Director
AMFA in November

AMFA Luncheon Meeting
Wednesday, November 4
Duluth - American Precision Avionics

Presentation
"Overview and Capabilities of American Precision Avionics"
Presented by Lynn Andrews, Kellen Bolander, Susan Smart

General Manager, Lynn Andrews, will introduce the audience to American Precision Avionics, giving a brief overview of APA's history and capabilities.

Recent plant and process improvements at American Precision Avionics will be the focus of Kellen Bolander's presentation. There will be a demonstration of the custom Komax/Videojet setup that measures, cuts, strips and marks.

Susan Smart's presentation will focus on quality.

Tour: American Precision Avionics
With more than ten years of wire harness manufacturing experience, APA's engineers can help design harnesses to meet specific needs and see projects through from prototyping to production. Their products: wiring harnesses, custom cables, wiring assemblies, custom laser wire marking and custom high voltage testing are made for many industries. APA's primary focus is avionics OEMs.

Click Here for more information or to register

AMFA in December

Mark your calendars

AMFA General Meeting - Wednesday, December 9th
Tour: Superior Rockbit, Virginia, MN

Final Details are pending
Students Tours held in the Duluth region

Each October, manufacturers across the State of Minnesota open their doors during the Statewide Dream It. Do It. Tour of Manufacturing to provide students, parents, and the public a chance to learn about modern manufacturing. Tour attendees are exposed to local career opportunities and come to understand how Science, Technology, Engineering and Math (STEM) skills are put into practice every day in modern manufacturing.

This year two manufacturers opened their doors to the public during the Statewide Tour event:
• Aero Design & Manufacturing Company, Duluth
• Detroit Reman – DMR Electronics, Hibbing (AMFA member)

While involvement with public Tour of Manufacturing events was limited in Northeast Minnesota, student tours greatly increased this year with over 170 high school students exposed to modern manufacturing at a record high of ten facilities located in Northeast Minnesota. A special thanks to the following companies for taking the time to impact manufacturing’s future workforce:
• Altec Hiline (AMFA member)
• BendTec Inc.
• Granite Gear Inc.
• Ikonics Corporation
• Jarden Home Brands
• Moline Machinery (AMFA member)
• Sappi
• Two Harbors Machine Inc.
• Stanley LaBounty Manufacturing
• Willamette Valley Company

Dream It. Do It. Minnesota and the Lake Superior Carl Perkin’s Consortium teamed up to provide funding for transportation and substitute teacher costs. Students and industrial technology teachers from ten area high schools had the opportunity to participate on the manufacturing tours. Congratulations to the following schools for taking this opportunity to expose their youth to local manufacturing career opportunities:
• Carlton High School
• Cloquet High School
• Duluth Denfeld High School
• Duluth East High School
• Esko High School
• Hermantown High School
• Proctor High School
• Silver Bay High School
• Two Harbors High School
• Wrenshall High School

A great deal of communication and coordination is needed to arrange manufacturing tours involving ten facilities, ten high schools, and over 170 students. On behalf of the AMFA membership, a heartfelt thank you goes out to three individuals who organized the tours this year:
• Steve Wagner, Executive Director Workforce & Community Development @ Lake Superior College
• Jim Schwarzbauer, Director Lake Superior Carl Perkins Consortium @ Lake Superior College
• Rhonda Rutford, Workforce Development Representative @ MN Department of Employment and Economic Development (DEED)

See reaction from students on Page 6

FabTech Expo 2015
November 9 – 12 in Chicago
Visit AMFA and IRRRB Booth S2133

Located in the Forming and Fabricating Pavilion, Booth S2133 will employ the following messages:
• Let us work for you!
• Ask us what our MEMBERS can do!
• Over 100 AMFA members able to meet your needs from Design to Assembly.

2015 FabTech Planning Committee:
Sandy Bryant - Chair (Hibbing Fabricators)
Mary Brandt (Advanced Minnesota)
Gary Grangruth (Trison Electronics)
Janelle Greschner (IRRRB)
Dan Larson (Hydrosolutions of Duluth)
Gary Corradi (Northstar Aerospace)
Lori Spielman (IRRRB)
AMFA-ET Awards Grants to Local Schools

AMFA-ET Grants given to Hibbing High School in 2015 have enabled them to purchase an additional laptop which will increase hands-on time for programming for FIRST Robotics. The monies helped with purchasing materials for their High Mileage Vehicle competition and supporting their robotics program too.

AMFA-ET aims for $15,000!

With year-end tax planning underway, please consider making a charitable donation to the AMFA Educational Trust. Donations are allowed as a direct write-off with the IRS.

$3,600 needed
To reach $15,000 goal

Questions?
877.330.2632
Midwest@runestone.net

AMFA-ET grants assisted Esko High School with the purchase of a CNC router to help as they rebuild their Industrial Technology program. Additional funds were used to purchase Lego EV3 kits.

AMFA Board Election

MANUFACTURERS: Impact the future of AMFA!

AMFA seeks nominations from MANUFACTURERS interested in serving a two-year term on the Board of Directors.

If you are employed by an AMFA member company, you are eligible to serve.

Nomination Deadline
November 13, 2015

Midwest@runestone.net or 877.330.2632
Grow Minnesota!:
Homegrown business is the heart of Minnesota

Businesses across Minnesota continue to benefit from the personalized assistance of Grow Minnesota!, the Minnesota Chamber of Commerce program coordinated with over 75 local chambers of commerce and economic development organizations.

The statewide program is dedicated to retaining, assisting and growing Minnesota companies.

Our fall quarterly update highlights Minnesota businesses that are growing in Perham and Waconia. The report also highlights a Grow Minnesota! success that linked Cemstone in Mendota Heights with a Norwegian company, ReforceTech. Over 1,600 Minnesota companies have been assisted since the program began in 2003. For 2015, 800 companies have been visited year-to-date; close to 275 of these received assistance. As a result of identifying and coordinating resources with many other organizations, we together have solved everyday business challenges for companies statewide.

If you know a business that would welcome a Grow Minnesota! visit, contact one of our local chamber Grow Minnesota! partners or send an e-mail to growminnesota@mnchamber.com.

Click on the link provided for more information on the Grow Minnesota! program and to access a listing of our local partners.

Thank You!

AMFA would like to thank Plant Manager, Joe Wagner, and all the people at Metal Technologies - Northern Foundry for sharing their story and allowing AMFA members and guests into their facility to see them in action. Each time a company shares their time and talent, AMFA members benefit! Thanks you so much Metal Technologies - Northern Foundry.

Hermantown High School Students had this to say about Tour of Manufacturing

"I didn't even know these businesses were out there."
-David Wabik (11th Grade)

"The Tour of Industry was very educational and provided great information on different companies in the industrial field. It definitely helped me in deciding what to do after high school."
-Hannah Ballavance (12th Grade)

"The Tour of Industry field trip was a good learning experience for my friends and I who are interested in going into the workforce right after high school. It was interesting to see the many people who can make a good living by working with their hands."
-Raymond Skoglund (11th Grade)

2015 MMA Membership Directory

The MMA Directory lists over 450 companies and additional copies are free to AMFA members. Watch for emails in the upcoming months to assure that your company’s information is accurate in the 2016 Directory.

New Member Corner

Proto.HUB Duluth
107B East Superior Street
Duluth, MN 55802

Raymond Mattison, III, Chief Geek
ray@protohub.us
218-343-3414
www.Protohub.us

submitted by KATHI SCHAFF, Director
Grow Minnesota!
Minnesota Chamber of Commerce
kschaff@mnchamber.com
When the high school student asked Joe Wagner what kind of education he needed to work at MTI Northern Foundry, the teen flinched with surprise. “You don’t have to have a degree,” replied Wagner, plant manager. “We can train you here.”

That was just one piece of information students from the industrial arts classes of Hibbing and Chisholm high schools learned Thursday while touring three local manufacturing plants. Roughly 45 students spent a portion of the day at Minnesota Twist Drill in Chisholm and Detroit Diesel and MTI Northern Foundry in Hibbing. The visits were coordinated by the Chisholm Chamber of Commerce, Dream It Do It, Arrowhead Manufacturers & Fabricators Association (AMFA) and AdvancedMN in recognition of Minnesota Manufacturers Week, which is being celebrated now through Oct. 10. Mary Brandt, coordinator/facilitator for AMFA/AdvancedMN, said the tours are a way to get students into local manufacturing companies to see what they do and to let them know that there are good jobs in manufacturing in Northeastern Minnesota.

“The students were really engaged through all three tours,” she said. “The instructors commented that it was very good for the students to see potential employment opportunities in the area utilizing skills they are learning in class.”

Chisholm instructor Tim Provinzino accompanied a group of students from his beginning and advanced metals classes to Twist Drill, where they learned about making drill bits. “It’s nice for the kids to go out and see what type of industry is actually out there, and what areas they might want to pursue when they are out of high school,” he said.

The tours were equally important for the businesses. “These students are their potential workforce,” said Brandt. “Getting them interested in the manufacturing industry at an early age is beneficial.” Wagner concurred. As the third stop for the students, he was excited to share his passion for the foundry. “We have an obligation to our youth to show them what we are about,” he said. “Foundries get a bad name, as do mines. We like to open our doors and tell people what we are about. We’re a clean environment, and we take safety seriously.” He was hoping to pique the students’ interest.

“Up in this area, you don’t see a lot of different industries available, so this is a good opportunity for them to see what is here,” said Wagner. “It’s a chance to learn what they need for education, how stay here and get a good job.”

Wagner and two others led the students through the various areas of the foundry, each explaining the processes being undertaken and the skills needed to preform the jobs. The biggest thing stressed throughout the tour was safety.

“Safety — it’s what we do and what we preach,” he said, noting they hold employee contact programs and discuss safety needs with employees. “… How do we make it safer? Having a great living is a great thing, but if you leave work with less fingers — that’s not what we’re about. It’s about quality of life, and that’s why we work. We truly believe in safety, quality and productivity.”

Twist Drill Maintenance Operations Manager Tim Ranta said students were really involved with the tour and asked several questions as they were given a close-up look at the process. “It’s fun seeing those young mechanical students learning, and seeing what industry is all about,” he added.

Manufacturing supports more than 311,000 Minnesota jobs, while contributing $43.7 billion to the state’s economy, according to the Minnesota Department of Employment and Economic Development (DEED). This output represents 16 percent of Minnesota’s gross domestic product and accounted for nearly $20 billion in state exports in 2013. “Manufacturing accounts for one in nine jobs in the state, and supports nearly two additional jobs elsewhere in the economy,” said DEED Commissioner Katie Clark Sieben in a release.

“Manufacturers are key to the overall health and growth of Minnesota, and educational events happening throughout the state this week will inform potential workers of exciting careers in the industry that pay family sustaining wages.”

Manufacturing in this state is primarily in foods, computer and electronic products, fabricated metal products and machinery. Salaries in the sector are much higher than most other industries in the state because many manufacturing jobs require high-tech skills to operate advanced technology and computer-controlled equipment, according to DEED. The average manufacturing position in the state paid $61,048 last year — which is roughly $10,000 more than the typical job in Minnesota.

Brandt said the high school instructors have already expressed interest in doing the tours again next year.

A Chisholm High School Student tries his hand at soldering at Detroit Diesel while touring the Hibbing facility Thursday, October 8.
AMFA funds trip to Productivity Oktoberfest

Every two years, Productivity Inc. hosts the Oktoberfest Tool Show. This 3-day show features the best in metalworking equipment and technologies. Held September 21 – 23, 2015, the first day of the show was dubbed “Student Day” due to attendance of some 900 students from high schools and tech schools across the state.

Transportation funding from AMFA helped make attendance possible for 26 students enrolled in the Industrial Systems Technology program at Hibbing Community College. Instructor Rick Mayerich reported that students were impressed with the clean and well-lit shop environment along with the high level of technology and robotics on display. Talking to representatives from companies that might want to hire theses students in the coming months really opener their eyes to future employment opportunities.

As someone with a long history in the industry, Mayerich commented, “I am personally amazed at the speed (spindle, positioning and tool changes) that tools are now able to attain.” “Thank you, AMFA, for helping shape the future of our youth.”

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To learn more, contact Sandy Kashmark at 800-654-5773

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Promote your Company AND Support AMFA's K-12 Connection!

AMFA supports a policy of FREE general meeting attendance for K-12 students, teachers, and administrators in the region. An increased number of educators are taking advantage of the opportunity to network with manufacturers, attend industry tours, and stay abreast of the latest and greatest in manufacturing. With more participation comes added cost. A new program makes it easy and affordable for members to provide financial support. Your company can become an AMFA Education Sponsor for just $100 a year!

Contact the office to learn more. 877-330-2632 or midwest@runestone.net

Your Sponsor Logo Here!
The “Purpose” and “Art” of Client Reviews

It seems a lifetime ago when I had introduced the concept of “Client Review” to my sales staff at the time. I recall it was met with skepticism, at first, but was in continual use for the subsequent 8 years and, from what I understand, is still in use today. I recently had occasion to be reminded of the importance of keeping in touch with your customers on a continuous basis.

The “Purpose” of doing this can be boiled down to simply keeping up-to-date with the needs and wants of those that generate 80% (or other desired percentage) of the volume along with an “excuse” to visit the Client. To be more specific, it sets you on a “pro-active” course as opposed to always being in a “re-active” mode:

Re-Active: I’ve learned that once a decision is made, in this case by a Client, it is difficult to reverse. Money and resources are spent in an effort that generally yields a result contrary to what is desired. Additionally, the adage rings true that the cost is significantly more to gain a new client when compared with the cost of keeping/growing an existing client.

Pro-Active: In many cases there is a fear that if you talk to your Client it opens the door for them to request a lower price, new feature, etc. If the world was static and never changing, this line of thinking might make sense. Unfortunately, that’s not the case and learning/changing is critical to survival.

In summary, the Client Review Process provides a structure to have a conversation, attempting to be in the forefront of Client needs. The “Art” comes in knowing when to abandon the structure in favor of simply listening and determining any unmet needs. In other words, the structure should only be used to get you started to that end.

In addition to determining an acceptable schedule, the starting structure needs to be developed. The following is a suggestion that has provided some success in the past:

- Analysis of “Where we’ve been” : short review of past volume, any highpoints
- Analysis of “Where we’re at” : short review of current status
- Discussion of “Where headed” : short discussion of clients goals, your goals and how you can be of help.

Again, active listening is the key along with knowing how to steer the discussion to a productive conclusion with concrete action plans.

Brad Connor is with Partners Funding, Inc. specializing in invoice funding, cash flow and receivables management. He can be contacted at brad@partnersfundinginc.com or 507-235-3456.
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Do you have a job opening you’d like posted? Email stephd@runestone.net and your posting(s) will be included on the website for 30 days. This is a free benefit for all AMFA members.

Grant Funding Available

Help spread the word: AMFA-ET has grant funds available to award to eligible 501(c)3 organizations in the region that meet the following criteria:

- Employment opportunities in manufacturing
- Grants to educational institutions
- Lifelong learning in manufacturing-related education

Grant application forms are available on the AMFA website or by contacting the AMFA office. Eligible proposals will be reviewed by the AMFA-ET Board of Directors on a trimester basis. The third trimester ends December 31, 2015 with awards announced January 2016.

Manufacturers Database FREE Search!

The MMA office has access to database information in the five-state area. Members are encouraged to request a “basic search” free of charge! Examples of research that typically takes just a few minutes of time: address or contact name for a particular company; list of companies in a certain city, county or state; capability search by SIC or NAICS code; and more. Call to inquire!

**AMFA Members save 20%!**

Purchase an online Manufacturing Database from MNI and save 20%! This offer is available to members of AMFA, CMMA, LAMA, and TSMA.

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Board of Directors:

AMFA OFFICERS:
Jeremy Lehman, AMFA President
Tritec Steel Fabrication
jeremy@tritecmn.com

Ian Vincent, AMFA Vice President
APEX 218-740-3667
ian@apexgetsbusiness.com

Jeff Borling, AMFA Secretary
Great River Energy
218-727-8525
jborling@grenergy.com

Mary Brandt, AMFA Treasurer
Advanced Minnesota 218-262-6785
mary.brandt@advancedmn.org

Sandy Bryant, Past President
Hibbing Fabricators 218-262-5575
sandy@hibfab.com

AMFA-ET OFFICERS
Bill Grau, AMFA-ET President
ME Elecmetal 218-626-4827
bgrau@meglobal.com

Todd Hanson, AMFA-ET V President
Productivity, Inc 218-343-5755
thanson@productivity.com

Bill Gundersen, AMFA-ET Sec/Treas
Lake Superior College 218-733-5915
w.gundersen@lsc.edu

AMFA & AMFA-ET DIRECTORS
Mike Fitzpatrick
Two Harbors High School 218-834-8201
mfitzpat@isd381.k12.mn.us

Dan Larson
HydroSolutions 218-722-7001
dan@hyrdosolutionsofduluth.com

Jim Petruga
Northern Engineering 715-394-4211
jpetruga@noengwks.com

Gary Werkhoven
Arrowhead Prod. Dev. 218-525-5210
gwerkhoven@arprodev.com

Ron Yardley
Interstate All Battery 715-392-3710
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Nonmember advertising accepted ... call the AMFA office for rate information.

Contact Steph Davis at the AMFA office for more information:
Phone: 877-330-2632 Email: stephd@runestone.net

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Midwest Mfg. Association
PO Box 150, Elbow Lake, MN 56531
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If you have comments, suggestions for future stories, or would like to inquire about advertising, please contact the Midwest Manufacturers’ Association office.

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Bob Poulter 218-727-7411  
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Nashwauk, MN  
Joe Gabardi 218-885-1280  
jgabardi@isd319.org

National Bank of Commerce  
Superior, WI  
Bruce Thompson 715-394-8930  
bthompson@nbcbanking.com

North Woods High School  
Cook, MN  
John Metsa 218-666-5221  
jmetsa@isd2142.k12.mn.us

Northeast Higher Ed  
Virginia, MN  
Bill Maki 218-471-0016  
wmaki@nhed.edu

Northeast Range School  
Babbitt, MN  
Kelly Engman 218-827-3101  
kengman@isd2142.k12.mn.us

Northern Engineering  
Superior, WI  
Jim Petruka 715-394-4211  
jpetruka@noengwks.com

Northland Foundation  
Duluth, MN  
Michael Colclough 218-723-4040  
michael@northlandfoundation.org

Northland Machine  
Grand Rapids, MN  
Kent Demarais 218-328-6479  
kentd@northlandmachine.com

Northstar Aerospace  
Duluth, MN  
Gary Corradi 218-720-2920  
gcorradi@northstaraerospace.com

NRRI  
Duluth, MN  
Steve Johnson 218-720-4312  
sjohnson@nrri.umn.edu

Plastics International  
Eden Prairie, MN  
Paul Carter 952-934-2303  
paulc@plasticsintl.com

Praxair Distribution  
Duluth, MN  
Jeff Peterson 218-624-5741  
jeff_peterson@praxair.com

Precision Points Machining  
Proctor, MN  
Robert Forrestal 218-628-2059  
precisionpoints@yahoo.com

Proctor High School  
Proctor, MN  
Nancy Litman 218-628-4926  
nlitsman@proctor.k12.mn.us

Productivity, Inc.  
Two Harbors, MN  
Todd Hanson 218-834-5508  
thanson@productivity.com

Proto.HUB Duluth  
Duluth, MN  
Raymond Mattison III 218-343-3414  
ray@protohub.us

Prototek  
Chaska, MN  
Dave Meyer 952-361-5598  
david@prototek-engineering.com

Rapids Process Equipment  
Cohasset, MN  
Brent Roering 218-999-5100  
brent@rpeus.com

Republic Bank  
Duluth, MN  
Steve Utech 218-733-6463  
sutech@bankrepublic.com

Schaeffer Lube & Fuel Additives  
Deerwood, MN  
Pete Berg 218-534-3445  
pjbergent@yahoo.com

Security State Bank  
Hibbing, MN  
Aaron Clusius 218-263-8855  
aclusius@sshibbing.com

Solutions Insurance Agencies  
Duluth, MN  
Heidi Ness 218-302-7204  
hness@solutionsagencies.com

Specialty Staff Inc.  
Bloomington, MN  
Bruce Lindgren 952-948-1101  
bjogabardi@ssigroup.net

Spooner Machine Inc.  
Spooner, WI  
Randy Quade 715-635-3220  
sales@spoonermachine.com

Sterling Payment Technologies  
Cincinnati, OH  
Bridgette Kime 888-564-9564  
bridgette.kime@sterlingbuyinggroup.com

Stone Machinery  
St. Paul, MN  
Tom Dratzkowsk 651-778-8887  
tdratzkowsk@stonemachine.com

Superior Hydraulics Repair  
Superior, WI  
Brian Seckinger 715-394-3100  
brianseckinger@wwmwin.com

Trison Electronic Design & Mfg.  
Hibbing, MN  
Jim Keranen 218-262-4402  
jkeranen@trison.com

TRITEC Steel Fabrication  
Virginia, MN  
Russ Smith 218-741-1083  
russ@tritecmn.com

Two Harbors High School  
Two Harbors, MN  
Jay Belcastro 218-834-8201  
jbelafood@isd381.k12.mn.us

UMD Ctr for Economic Devel.  
Duluth, MN  
Elaine Hansen 218-726-7298  
ehansen@umdced.com

Ursula Major  
Wyoming, MN  
Dennis Stoffels 651-462-4721  
dennis@ursamajor.net

Virginia High School  
Virginia, MN  
Shannon Malovrh 218-742-3930  
smalovrh@vmps.org

Wells Fargo Business Banking  
Duluth, MN  
Matthew Cochran 218-723-2778  
matt.cochran@wellsfargo.com

William Kelley High School  
Silver Bay, WI  
Chris Belanger 218-226-4437  
cbelanger@isd381.k12.mn.us

Wipfli, LLP  
Duluth, MN  
Bill Pank 218-740-3919  
pwpank@wipfli.com

Wisc. Indianhead Tech College  
Superior, WI  
Bambi Pattermann 715-209-7845  
bambi.pattermann@wiitc.edu

Two Harbors High School  
Two Harbors, MN  
Jay Belcastro 218-834-8201  
jbelafood@isd381.k12.mn.us

Wrenshall High School  
Wrenshall, MN  
Chris Gustafson 218-384-4274  
cjgustafson@wrenshall.k12.mn.us

ZaKobe Metal Stampings  
Grand Rapids, MN  
Teresa Barnes 218-326-5870  
teresa@zakobe.com