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Chairman's Corner

Grady Cope, NTMA Chairman of the Board



Four years ago the NTMA started the National Robotics League (NRL) with funding from the National Tooling & Machining Foundation (NTMF). The leaders of NTMF and NTMA realized at the time that if manufacturing and engineering were to exist in the future, they needed to find a means to attract youth to our much-maligned industry.

In the late-90's U.S. learning institutions began eliminating technical classes. It was the "new economy" and people weren't going to need to work with their hands, they weren't going to need any skills, and easy money was going to be made in the dot com and Wall Street world. The service economy mantra was being preached and the future was going to be in managing wealth, not creating or manufacturing it. Moreover, our skilled labor shortage took hold and sowed the seeds we are now reaping.



As we pull our way out of the latest recession, it is interesting to note that manufacturing is leading the way. A recent *Wall Street Journal* article mentioned that more students entering Harvard are focusing on technical degrees rather than financial degrees. Over the last several weeks more and more stories in the media are indicating the need for skilled young people to enter manufacturing and engineering.

NTMA is leading this charge to get information to the public, while at the same time we are actively engaging high school and college students in our NRL programs. We recently held the 2011 NRL National Championship competition in Indianapolis. It was my first chance to attend one of these competitions and I must say I was

very impressed! I saw robots manufactured with all of the tools of our industry and students giving interviews and describing this as their first introduction to manufacturing. The students were working on strategy, problem solving, mechanical and electrical engineering and, most importantly, they were developing and using team skills.

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A black and white portrait of Greg Ehemann, a man with a goatee, wearing a white shirt and a patterned tie, with his arms crossed.A handwritten signature of Greg Ehemann in black ink.

Greg Ehemann

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(continued from page 1)

What makes this competition so amazing is not just the battle in the arena, though that is an incredible thing to watch, it is the work that preceded the event. Many of the students have been doing this for a few years and commented on the changes in design or more specifically the evolution of the design process. These changes and innovations are unveiled at these competitions for the next generation of competitors to build on. Many of the robots are machined from some of the most highly engineered materials available today. The students, working in shops like yours and mine, learn and observe all manufacturing processes and when asked about what they saw and learned, the normal response is "it's cool!"

Some of life's most important lessons are learned during the competition. Watching the students in the Pit Area, you would think you were observing one of the labs at MIT. The concentration and teamwork is over the top. The students become very creative in repairing or in some cases rebuilding their robots after each heat. The problem solving that is learned and implemented is nothing less than what occurs in our shops everyday. Every member of the team has a role and works under the pressure of time and design constraints – sound familiar! Once they know the robot that they will be competing against, the team works together developing a strategy to win and minimize damage to their robot. The skills I saw exhibited by these young people impressed me so much that I would have hired any one of them on the spot.

Attending this event has been one of the highlights of my year as Chairman. In fact, I'm now committed to getting a league started in the Rocky Mountain Region. NPR – National Public Radio,

covered the competition. You can read and listen to the report by going to the following link: <http://www.npr.org/2011/05/31/136716245/robot-gladiators-prepare-kids-for-manufacturing-jobs>.

It is interesting to note that after this report aired high school teachers, parents, and students wanting to get involved have contacted me. I have had requests for shop tours. People are truly

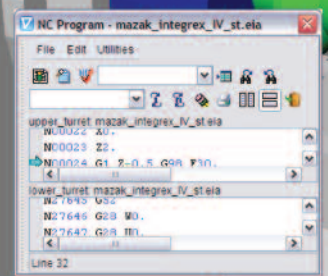
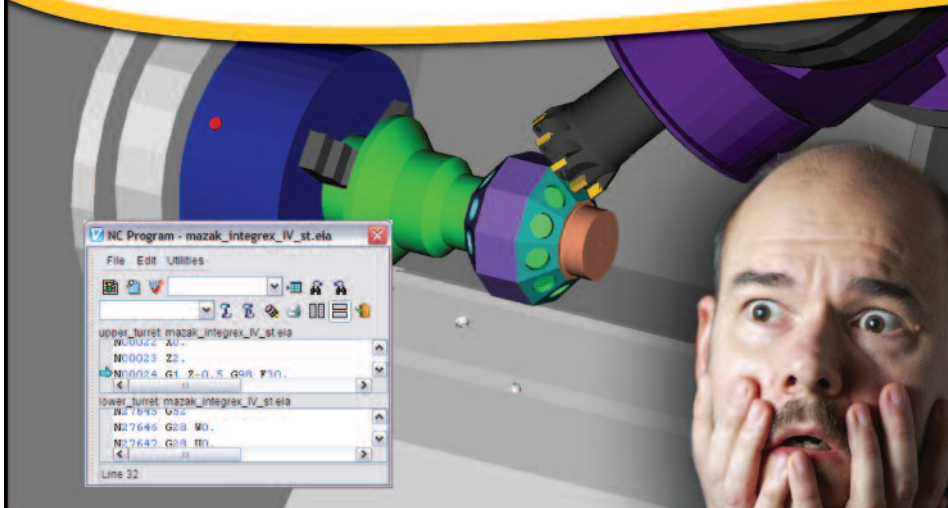
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White House Worker Training Initiatives Build on Efforts by Manufacturers to Expand Skilled Workforce

The National Tooling and Machining Association (NTMA) and the Precision Metalforming Association (PMA) today saluted a White House initiative to expand U.S. manufacturing by recruiting and educating more skilled workers. The initiative mirrors ongoing efforts by NTMA, PMA and other manufacturing groups to develop more qualified workers for the metalforming, tooling and machining industries through two main avenues: actively recruiting new workers, and developing widely recognized credentials that signal their qualifications.

Currently, there is an insufficient supply of skilled workers for U.S. manufacturing jobs despite the fact that jobs in the manufacturing sector pay an average of \$22 per hour, compared to average service-sector job pay of \$11 per hour.



"It is essential to the future of our industry that we find creative ways to attract the attention of new workers," said NTMA President Dave Tilstone. "That's why NTMA sponsors activities like the National Robotics League, which draws students to technical careers by partnering student teams with local manufacturers to build complex machines designed to do battle and test ingenuity – all while building high-tech skills. NTMA's Chairman, Grady Cope, is involved in another worthy effort: the SkillsUSA National Leadership and Skills Conference. Over 5600 technical education students compete with one another using expertise they've developed in occupations like electronics, computer-aided drafting, precision machining, and more. Events like these let students know that there may be more rewarding career opportunities available to them than an average service-industry job."

"Alongside creative recruitment efforts, the key to developing more skilled workers in the U.S. is the use of uniform, widely-recognized and industry-driven credentials to demonstrate competency in the specific industry skills needed by employers," said



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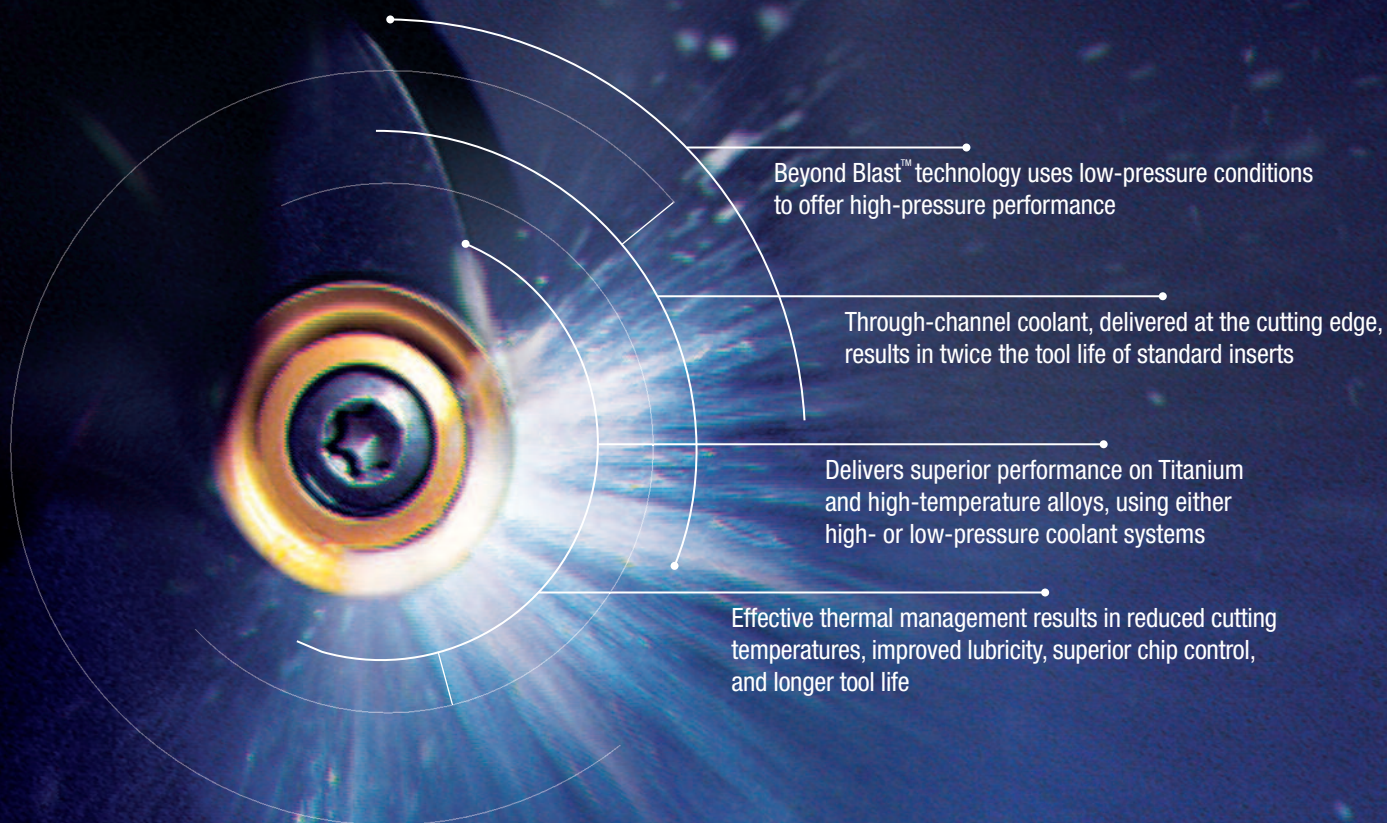
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PMA President Bill Gaskin. "PMA and NTMA have worked closely with the National Association of Manufacturers to devise a way to validate metalworking industry skills through the National Institute of Metalworking Skills (NIMS) machining and metalforming certifications. NIMS certifications offer a concrete path for students to acquire or increase specific skills, while in turn providing a set of credentials that signals employers that they're able to perform to quality standards in a skilled machining or metalworking job. Both the worker and employer benefit as a result."

NTMA

Yarde Metals Corporate Announces Expansion and Addition of Cut-To-Length Line

Yarde Metals, Inc has broken ground on a 150,000 sq. ft. expansion to its corporate headquarters located in Southington, Connecticut. The new facility, expected to be completed in the Spring of 2011, will house a Cut-To-Length Line capable of processing coils up to 50,000 lbs, 1/4" thk x 72" wide. The

Herr-Voss Cut-To-Length Line which includes Leveling, PVC and Paper Interleaving equipment will process aluminum, stainless and carbon.

"We are excited about the opportunities the addition of the Cut-To-Length Line brings not only for Yarde Metals but for our customers," stated Matt

Smith, President and COO. "We're going to see reduced lead times while providing more opportunities to meet customers unique size requirements. The expansion allows us to increase our inventory and processing capabilities to better serve our customers not only in the Northeast but throughout the U.S. and internationally."

In addition to the Cut-To-Length Line Yarde's sheet facility will house a MetalSaw, 3 shears and a 4.0 million pound capacity sheet racking system in addition to coil products.

Yarde Metals, a metals service center, is headquartered in Southington, CT with 17 branch locations throughout the Northeast, Mid-Atlantic, Mid-West and Southern United States. The company's international division is located in Connecticut. Yarde Metals stocks and offers processing of aluminum, stainless, carbon steel and brass products and is ISO:9001 and AS:9100 certified.

NTMA

Winners Crowned At National Robotics League Championship

Students' High Tech Skills on Display in Two-day Competition

With sparks flying and metal grinding, 29 robots built by 91 students from 14 schools battled for national recognition in two days of intense battle at the National Tooling and Machining Association's (NTMA) 2011 National Robotics League (NRL) Championships held May 21-22 at Vincennes University's Aviation Technology Center in Indianapolis, IN.

Bloomsburg (PA) Area High School's Pixie received the highest overall point score as a result of a combination of

points earned through the robot's performance and documentation submitted with the robot, and was declared the "2011 NRL National Champion." The school was awarded a \$500 check from the NRL to support the robotics program.

NTMA founded the NRL to help change misperceptions about manufacturing and attract students to high-paying technical careers. The program partners teams of middle school, high school, and post-secondary school stu-

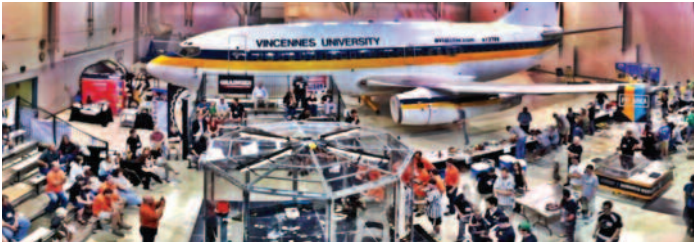


NTMA Chairman Grady Cope being interviewed by Chris Arnold of NPR.

dents with local NTMA manufacturers who work together to build machines designed to do battle and test ingenuity. The result is the creation of incredible 15 lb. robotic machines and fun and

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Competition was held at Vincennes University's Aviation Technology Center, Indianapolis, IN

exciting events, all while building high tech skills and sparking the interest of students about careers in manufacturing. The bleachers were packed with cheering fans watching rounds of metal-crunching competition in the Lexan (Polycarbonate) bullet proof arena.

A volunteer panel of three judges from the Indiana Chapter of the NTMA scored each round, with points awarded for combat and engineering. NTMA Board Chairman Grady Cope, CEO of Reata Engineering & Machine Works in Englewood, CO, presented trophies to the 1st, 2nd, and 3rd place teams.

"The large numbers of students, parents, teachers, and volunteers that the NRL brought together exceeded our expectations," said NTMA Vice President and Chief Operating Officer Rob Akers. "The NRL program is one of the best mechanisms we have found to attract students into our industry and teach them about the highly-technical, well-paying career opportunities in manufacturing."

Bloomsburg also received recognition for "Coolest Robot" (Excessive Force) by a vote of all the student participants. Competition judges awarded Fayette County (GA) Area Vocational Technical School a certificate for "Best Documentation" for their Grim Reaper III robot, and University of South Florida Robotics Interest Group's The Brain, was awarded first place in the day's competition.



University of South takes 1st Place with their robot "The Brain."

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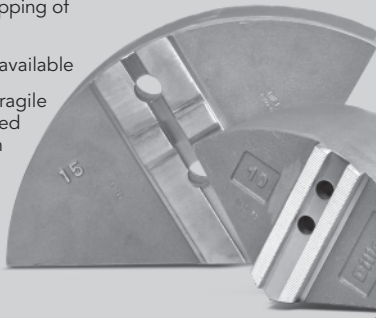




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Bloomsburg High School, PA team captures 2nd place with "Pixie."

"One of the most educationally effective components of the weekend was the professional review of the engineering documentation and personal interviews with the student teams, said Michael Bastoni, coach of the Plymouth (MA) North High School Team. "This represents 'Best Practice' with respect to project-based learning and authentic assessment and was a particularly beneficial experience for the student designers and builders."

The NRL Championship was sponsored by DMG/Mori



Venango Technology Center, Oil City, PA, battled for 3rd place finish with "Total Khaos."

Seiki, Grainger, and DS SolidWorks

The top three finishers in the robot battle competition:

- 1st Place: University of South Florida, Tampa, FL
Team: USF Robotics Interest Group
Robot: The Brain
- 2nd Place: Bloomsburg Area High School, Bloomsburg, PA
Team: Malicious Intent
Robot: Pixie
- 3rd Place: Venango Technology Center, Oil City, PA
Team: Joy Manufacturing
Robot: Khaos

For more information, photos and competition videos, visit us on [Facebook.com/gonrl](https://www.facebook.com/gonrl).

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Volatile Energy Prices

How NTMA Members can Reduce Risk

By Kathy Kiernan

This article provides information regarding electricity procurement and a way to reduce risk with respect to electricity prices. For NTMA members with operations in CT, DC, DE, IL, MA, MD, ME, MI, NJ, NY, OH, PA, and TX electricity deregulation is mature and competition is dynamic. Deregulation means you no longer have to buy your electricity from the local utility; you have a choice of competitive suppliers eager to serve you. Costs can be reduced if you can procure electricity supply at a price lower than the applicable utility tariff rate.

There are several types of supply contracts and pricing structures in the market. Contractual terms and conditions


are a way that suppliers differentiate themselves. The two primary contract types are full requirements/fixed price and index contracts with prices keyed to a variable index. Within electricity supply, there are many components that can be "locked-in" and included in fixed pricing, or they can be "passed through" to the customer by the supplier.

A "full requirements," fixed price contract provides price certainty for all components required in your electricity supply for a specific period of time. A fixed price contract provides for budget certainty and stability in electricity expenses.

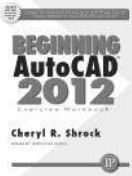
An index contract provides for two


components – an index price that changes monthly for the commodity you consume, and fixed or variable costs for other supply components. With an index contract, the customer assumes or "wears" the risk of price changes and volatility in the market. An index contract may yield overall lower costs if managed prudently, however it provides no budget certainty. This means that the actual price per kWh will change each month, possibly dramatically so. Customers with experience in other commodities markets may be comfortable with an index contract and price, but remember that index contracts require a commitment to ongoing management and the ability financially and mentally to bear and live with price risk and changing market conditions.


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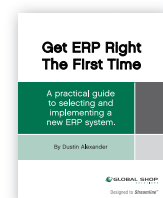
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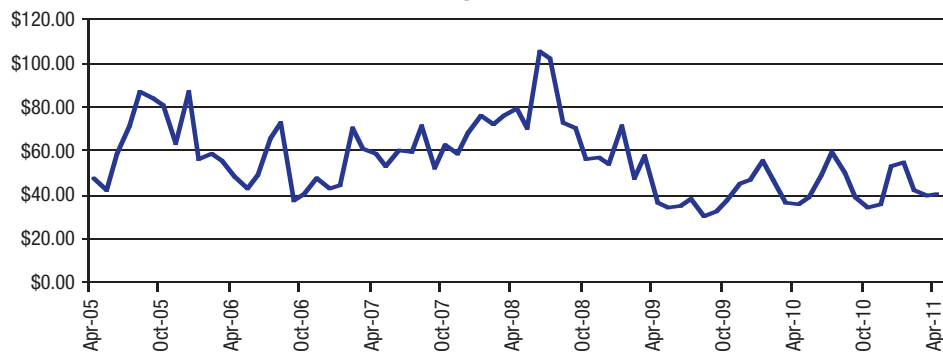


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Electricity – PJM Day Ahead Averages (\$/m wh)



Monthly PJM Day Ahead Averages as of June 1, 2011

As you can see from the graph above, electricity prices are volatile. Prices change every hour of every day. The good news is that today's electricity mar-

ket is very competitive and prices are near historic lows. Forward prices for the coming two to four years are near seven-year lows. Now is an exceptional time to

implement a fixed priced contract with a competitive supplier in a fully vetted supply contract. It might be the best solution for you if you seek to avoid risk and the vagaries of the energy market.

NTMA

Kathy Kiernan is senior vice president for Affiliated Power Purchasers International LLC (APPI Energy), an independent utility consulting firm endorsed by the NTMA and 140 other National, State, and Local Associations that helps businesses reduce and manage energy expenses. She can be reached at kkiernan@appienergy.com or 1-800-520-6685. View more at www.appienergy.com.

Family Business

How to Build a Well-Run Family Business (Or Compete with One)

By Sally Deneen

Great family businesses share certain traits: loyalty among the team, vigilance and competitiveness in their fields.

Those that pass successfully from one generation to the next have a sense of cohesion because, deep down, family members really do care about each other and they can get through the hard times. They've found ways to manage conflict – not always resolve it, but manage it. They've also figured out ways to make decisions when there are differences of opinion. Yet, real pitfalls lurk.

The biggest challenge is being insulated from the outside world says Ted Clark, executive director, Center for Family Business at Northeastern University. Another is the boundary issue—mixing up family and business, so they're making business decisions based on family issues and vice versa, says family-business consultant Jane Hilburt-Davis, president of Boston-based Key

Resources.

The payoff for family businesses that can make it, though, can be great. "When a family business works well, you can't beat it," says Northeastern's Clark, who considers publicly traded corporations at a disadvantage due to their short-term horizons. Family businesses "pull together for the right reasons, and it's not a 13-week [profit] payoff. It's for the good of the family. It's good the employees, it's good for the community, and it's long-term. "It's really hard to compete against them. You think about a business that is saying: I'm going to take my payoff next year, or I'm going to take my payoff in the next generation."

So how to avoid the pitfalls? Here are some keys:

Remember: You have Two Ears and One Mouth.

Use them proportionately, says family-

business consultant Paul Karofsky. He was a third-generation CEO of his family's wallpaper business before he sold it and eventually helped launch Northeastern University's Center for Family Business. Communication is essential, he and other experts say. While close family members tend to have insights into each other's thinking that wouldn't exist among business partners who aren't related, it's essential they hear each other out on business matters, rather than assuming they know each other's views.

"Really, the lesson is: Enhance your listening skills. Employ active listening techniques," says Karofsky, now principal of Transition Consulting Group in Palm Beach Gardens, Fla., and a Family Firm Institute board member.

During conversations, our energy tends to be mainly focused on ourselves and our own responses instead of under-

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standing what the other person is actually saying, Karofsky says. "But what we need to say is: It's OK to take time out. It's OK to listen. That, to me, is absolutely vital."

Fight Insulation by Seeking Counsel from an Advisory Board of Experts.

"I don't think you can name one long-term successful family business – and by successful, I mean of any substance – that's had longevity and not used an advisory board," Clark says. "You need an outside perspective. That's the common pitfall."

No golf buddies, not your attorney, not your accountant – they don't belong on the advisory board. (You're already paying the latter two for advice, Karofsky says. Plus, they're never going to recommend firing themselves.)

Think of the critical success factors for your company, and then choose impartial experts in those areas to be on your advisory board, Karofsky says. Example: You run a restaurant. One critical success factor is food; others are government regulation, marketing and location (real estate). "Once you get a handle on critical success factors, you then go seek the best and the brightest who have the knowledge, skill and experience in those arenas," Karofsky says.

The advisory board adds knowledge, skill and experience that go above and beyond the family members. You need people who will tell the truth because they have nothing to lose. "Otherwise, you get in a situation where the king has no clothes. Everyone's afraid to tell the truth because they don't want to cut off the gravy train," Clark says. "You need to have people around you who you can trust to tell you what's in your best inter-

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est, not theirs.”

Usually advisory board members are paid for their time. Karofsky recommends a prorated amount equivalent to the CEO’s salary.

Create a Strategic Plan.

Strategic planning means creating a plan of action which, Hilburt-Davis says, should envision such issues as: Where is the business going? What are the goals? How will we get there? Who will do what? What are the time lines?

Strategic planning is especially critical for when there’s a transition of leadership because, Karofsky says, “if you don’t know where the business is going, how do you know what’s expected of the next leader to get it there?”

Manage Conflict by Doing This...

A certain amount of conflict is healthy. Businesses need diverse opinions. The trick is to manage conflict. And you can manage it, Karofsky says, by managing expectations. There are two key pieces to this: 1) Anticipate someone else’s reaction. If you’re unable to anticipate someone else’s reaction before you say something that may be volatile or testy, then don’t just come out with it. 2) Anticipate the consequences. “I think we then move to try to give the other person the benefit of the doubt. Hopefully,” Karofsky says, “we can minimize conflict.”

In family businesses, “the relationships are more tender and deeper and the consequences are greater,” he says. For instance, if you’re rude to someone in the supermarket or in another car on the highway, that’s one thing, but if you’re rude to your sister, she’s hurt. “There’s much more at stake. The consequences are greater.”

Resist the Urge to Rush to a Solution.

Does this describe you? Every time you see a problem, you try to solve it instantly. Resist that urge, Karofsky says. Instead, try to figure out what’s really going on. When you hear about a problem, think, What caused that? Then, what caused that? Keep peeling back by trying to understand the cause. Then explore the options and talk about solutions. “It’s like peeling back an onion,” Karofsky says, “trying to get to the depth and the substance, the core.”

Coalesce as a Family, Such as by Telling Stories at Periodic Family Meetings.

Stories of current and past generations are the way to get the message through to the younger generation about values, Karofsky says.

He often told his kids about March 1, 1959: “I woke up in the morning, and my house was quieter than usual when I came downstairs. My mom told me that my dad’s business had burned to the ground in the middle of the night. It was a five alarm fire. We all got in the car and went down to see what was going on,” says Karofsky, then 16.

His dad was already there. The teen ran up to find his father standing across the street from the fire and jotting notes on a clipboard. “What are you doing?” young Karofsky asked. “Making plans to order four 40-foot trailers filled with wallpaper to fill the warehouse on Wednesday,” his dad replied. “But it burned down,” the surprised teen noted. “Well, today is Sunday. I’ll have a new location by Wednesday. And when they’re on the road, I’ll call them and tell them where to deliver it,” came the reply, as Karofsky recalls.

And so it was that the Northeastern Wallpaper Corp. in Boston got a new

home on Tuesday, and the teen would grow up to work there for more than 20 years, ultimately as CEO. Moral: Instead of issuing dry commandments, tell stories. “I can tell my grandchildren to plan, or I can tell them that story,” Karofsky says. “The story is indelible.... That’s how you get the message through about planning.”

Realize the Key Factors in a Good Family Business are... Good Business Factors.

A family business that’s successful long term has a board of advisors and a board of directors, Clark says. They communicate the goals of the family and the goals of the business, and they run the business like a business.

Tell the truth. It’s easier to remember, says Karofsky, who considers it one of his top essentials for a successful family business.

A major challenge in coalescing as a family is figuring out how to minimize the next generation’s sense of entitlement – “a brutal epidemic in this country today,” Karofsky says. “It’s critical to help try to minimize that. We need to talk about it and help our kids understand that even though we’ve given them a lot, it’s their turn to take over and their turn to earn.”

One strategy: Don’t simply give the business to the next generation. It’s “very important” the transfer involve a combination of a purchase by the younger generation and a gift, he says. “There are two kinds of ownership – there’s a material ownership and there’s an emotional ownership. Emotional ownership can come in a far deeper sense,” Karofsky says, “when it’s earned.”

At Reynolds’ Garage & Marine, which turned 150 this year, fifth genera-

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(continued from page 12)

tion president Gary Reynolds says one secret to his company's longevity from its 1859 origins of building carriages to today selling and repairing cars in Lyme, Conn., is this: Each successive generation has had to buy the company from the previous one.

"Not that my father or any of the rest of them didn't give or help me do part of it. But it was a transaction, not a gift," says Reynolds, 65, whose three children work at the garage. "I paid my father \$2,412.55 a month for more months than I care to admit. I think that's a reason that it's worked – at least you have to work for it."

NTMA

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Welcome Solar

The NTMA would like to welcome new member, Solar Atmospheres – the world's largest commercial vacuum heat treating company. Through unmatched technical expertise, equipment, and quality assurance, Solar's thermal processing produces bright, scale-free parts with minimal distortion. For clients requiring an "out-of-the ordinary" application, their in-house R&D team of metallurgists and scientists can develop innovative, custom process solutions. Serving over 18 markets, Solar's state-of-the art services also include brazing, carburizing and nitriding.

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Solar Atmospheres plant headquarters is located in Souder-ton, PA near Philadelphia. An additional facility operates in Hermitage, PA, near Pittsburgh, and Solar is celebrating the grand opening of a new plant in Fontana, California, near Los Angeles.

The team at Solar look forward to meeting fellow NTMA members at upcoming local and national meetings. In the meantime, please visit www.solaratm.com for more information.

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Partners in THINC Welcomes Quaker Chemical as a New Partner

Okuma America Corporation is pleased to announce that Quaker Chemical Corporation, a global provider of process chemicals and services, has joined Partners in THINC. "Quaker's broad industry experience, technical expertise and extensive service make them a terrific fit for the Partners in THINC program as we bring complete machine tool and manufacturing solutions to companies across the U.S.," stated Jeff Estes, Director of Partners in THINC.

Quaker is focused on one goal: creating more value for the customer. By

focusing intensely on a few areas in heavy manufacturing industries, they achieve a high level of understanding of their customers, their processes, and their needs. Quaker's history and understanding help them develop metalworking fluids and services that not only solve today's problems but help create a more profitable future.

The principal industries served by Quaker include: automotive, steel finishing, heavy equipment, aerospace, tube and pipe, and bearing manufacturing. With a focus on providing a combination

of process fluids, services, and technical expertise that helps manufacturers reduce costs, improve performance, and achieve a safe work environment, Quaker's business model is an ideal fit for the Partners in THINC concept.

Quaker Chemical products can be seen and demonstrated at the Partners in THINC facility in Charlotte, North Carolina and at the Okuma Tech Centers in Chicago and Houston.

For more information, visit www.okuma.com, www.partnersinthinc.com and www.quakerchem.com.

NTMA

No More Cuts! Tampa Bay Area Manufacturers Adding Jobs

By Ashley Glass

For the first time in recent years, leaders at Tampa Bay Workforce Alliance say they are seeing an uptick in hiring right now for manufacturing jobs, and they're trying something new to funnel more candidates into the positions.

Tampa Bay Workforce Alliance is helping to identify qualified candidates who then go on to participate in the Mobile Outreach Skills Training Program, or MOST. Candidates train for two weeks on a large mobile bus, which travels all over the country. The bus has been based in Tampa for the last two weeks.

After the two week training, each candidate is not only training in manufacturing, but is also guaranteed to be placed in a new job. Some start immedi-

ately, like Zedric Dun. "I was at my breaking point," Dun said. He had been out of work for a full year. "Everybody on this trailer is serious about working."

MOST leader, Ted Astolfi, said, "We're training this class with Workforce Florida grant money, state money, so it costs nothing for the company or the trainee."

However qualification requirements to even be considered to take part in the program are stringent. "We have great retention rates, and it's because of our prescreening and selection. There is a drug test you have to pass, a national background check, a basic education test and a behavioral interview," Astolfi said. You also have to be unemployed.

MOST leaders said most of the posi-

tions start at \$12.00 per hour, and there is opportunity to grow.

Dun starts his new job almost immediately. He graduates today, Friday, and starts his new job with a Tampa based manufacturing company Monday morning. He said, "It's kind of like I'm seeing light at the end of the tunnel."

Tampa Bay Workforce Alliance is already gathering candidates for the next time the bus comes to town, which could be in August.

If you are interested, visit the homepage of the following websites. There is a special section where you will fill out an application. Look for the section with the "M.O.S.T." within the links www.worknetpinellas.org, www.workforcetampa.com.

NTMA

Waukesha® Metal Products listed in the 2011 Future 50

Waukesha® Metal Products, an international service supplier of metalforming capabilities including metal stamping, sheet metal fabrication, and tool design/build has been awarded placement on the 2011 Future 50 list by the Metropolitan Milwaukee Association of Commerce (MMAC) and its Council of Small Business Executives (COSBE).

The Future 50 program recognizes outstanding achievement of local, fast-growing, privately owned businesses located in the seven county regions of the Milwaukee Area. Waukesha® Metal Products has demonstrated stability, growth and success throughout the past few years that earned them a spot on the 2011 Future 50 list.

For more information on Waukesha® Metal Products, visit:

www.waukeshametal.com

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NTMA Customer Value Proposition

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Grady Cope,
NTMA Chairman

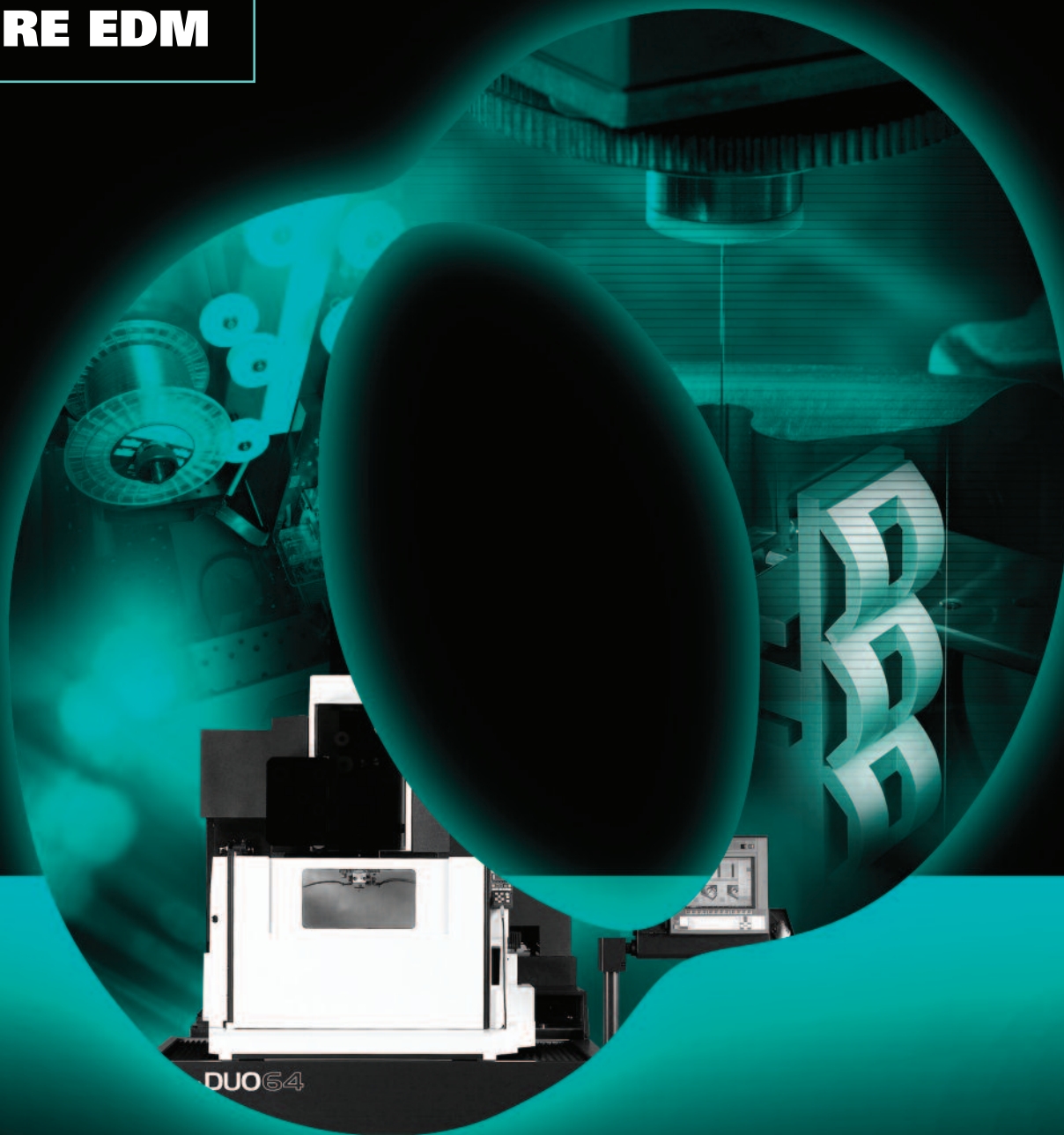
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