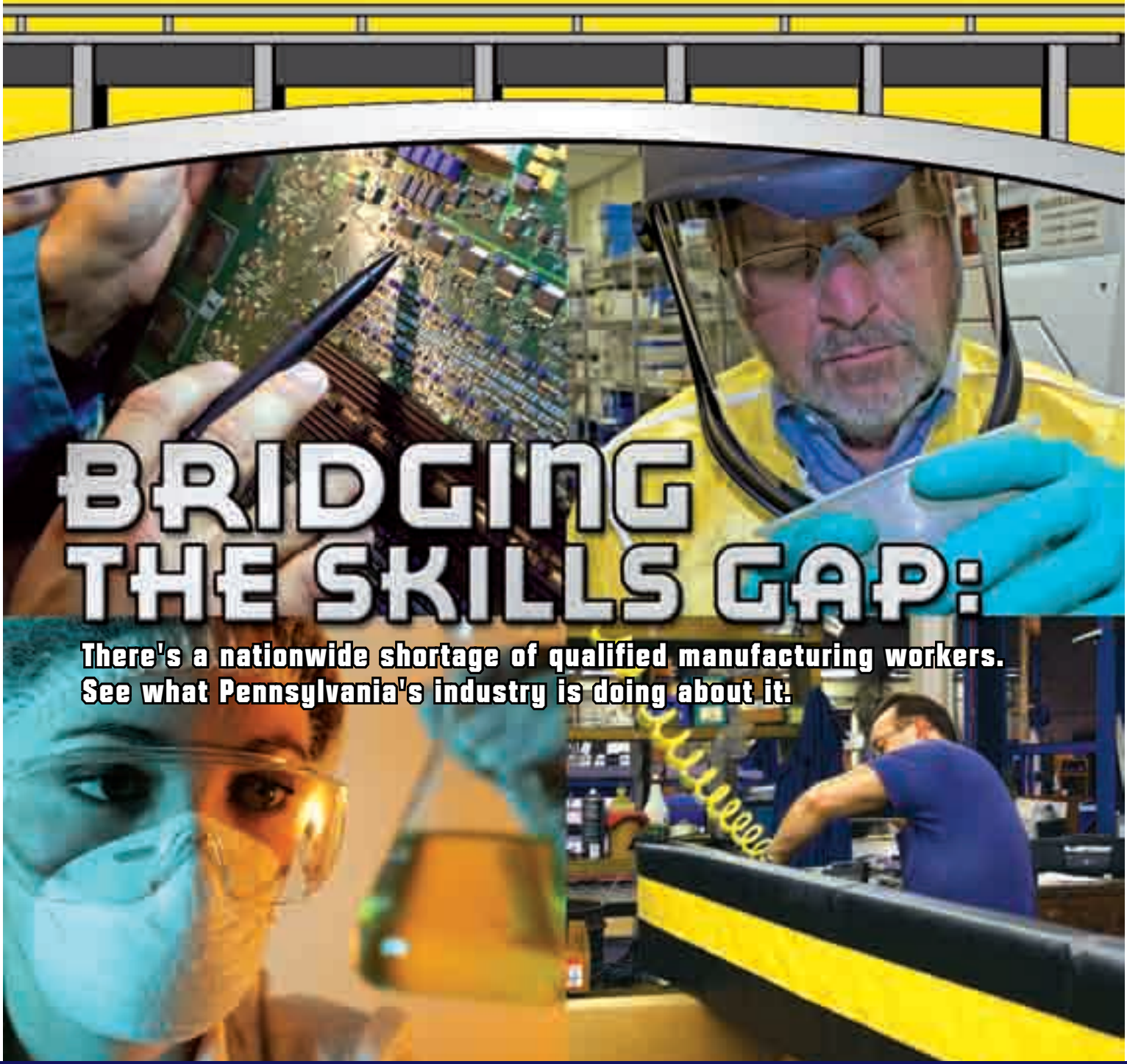
VOLUME 4 • NUMBER 2 • 2006

# PA MANUFACTURER

A PUBLICATION OF PENNSYLVANIA'S INDUSTRIAL RESOURCE CENTERS



## BRIDGING THE SKILLS GAP:

**There's a nationwide shortage of qualified manufacturing workers. See what Pennsylvania's industry is doing about it.**

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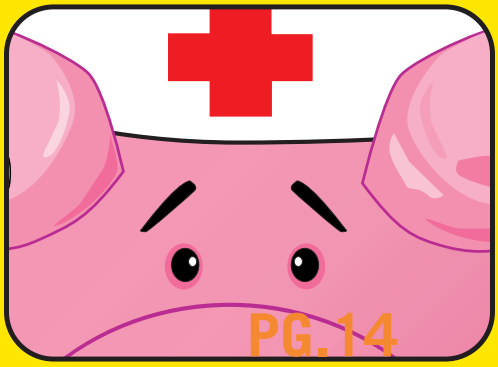
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PA Manufacturer *is published by the Commonwealth's seven Industrial Resource Centers, including DVIRC, IMC, MANTEC, MRC, NEPIRC, NWIRC and Catalyst Connection.* PA Manufacturer *is published three times per year, covering manufacturing issues, trends and developments affecting Pennsylvania manufacturers.*



*This project was financed in part by a grant from the Commonwealth of Pennsylvania, Department of Community and Economic Development.*

*Send all changes of address, undeliverable copies to Circulation Department:*
***PA Manufacturer***
***2000 Technology Drive, Suite 100***
***Pittsburgh, PA 15219***
*Please include a mailing label with corrections.*

*RATES: $12.95 per year. Out-of-town and foreign subscriptions are available at regular rates, plus required postage. Letters, comments, and suggestions are welcome and should be submitted to:*
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*Pittsburgh, PA 15219*
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*This program is one of the nation's largest in manufacturers' assistance and brings: new economy tools to Pennsylvania manufacturers, including the acceleration of state-wide activities to encourage the use of electronic content in traditional products and the development of an original equipment manufacturer/supplier training initiative.*

**TO APPLY FOR ASSISTANCE CONTACT YOUR REGIONAL IRC.**

# THE NEW WORKFORCE

*By Jim Shillenn, IRC Network Director*

Developing and maintaining a high-quality workforce continues to be one of the most challenging issues for manufacturers. Even Henry Ford, a master of manufacturing productivity had workforce problems. Ford was a productivity leader where in 1914, 13,000 workers at Ford made 260,720 cars. By comparison, in the rest of the industry, it took 66,350 workers to make 286,770 cars.

There was, however, a price to pay to keep assembly-line workers - Ford had to hire 963 workers for every 100 workers that were needed to work. Henry Ford understood the monotony of this kind of unskilled work and once commented in frustration, "Why is it that whenever I ask for a pair of hands a brain comes attached?"

Ford's solution to the worker turnover problem was to raise the minimum pay to $5 per eight-hour day, which was nearly double what they could get in other factories. Ford realized that retaining employees at a higher wage would lower costs in the long run as a result of lower turnover and the higher productivity that results from having an experienced workforce.

With globalization, Ford's business model of hiring and retaining low or unskilled workers by paying them well is no longer a viable business model for U.S. manufacturers, whether they are larger or smaller firms. Workers in other countries are paid well by their countries' economic standards at hourly wages that are a fraction of U.S. minimum wages.

This drives U.S. manufacturers to a model that consists of producing specialty products for local or regional markets or competing nationally or internationally by having highly skilled employees producing high margin non-commodity products and services.

Both business models, especially the latter, will require what has been referred to by the late Peter Drucker as "knowledge workers" - people whose jobs require formal and advanced schooling. For manufacturing, he envisioned a workforce of "knowledge technologists" who would have formal education as well as continuing education throughout their careers to continually upgrade their skills in response to the changing technology and changing demands of their profession.

However, the National Association of Manufacturers Skills Gap Report observes that there continues to be a growing disconnect between the U.S. workforce and the employers' approach to recruiting and retaining workers. The article on page 6 provides readers with a more in-depth summary of the findings of this report, as well as resources that manufacturers can tap to bridge the gap.

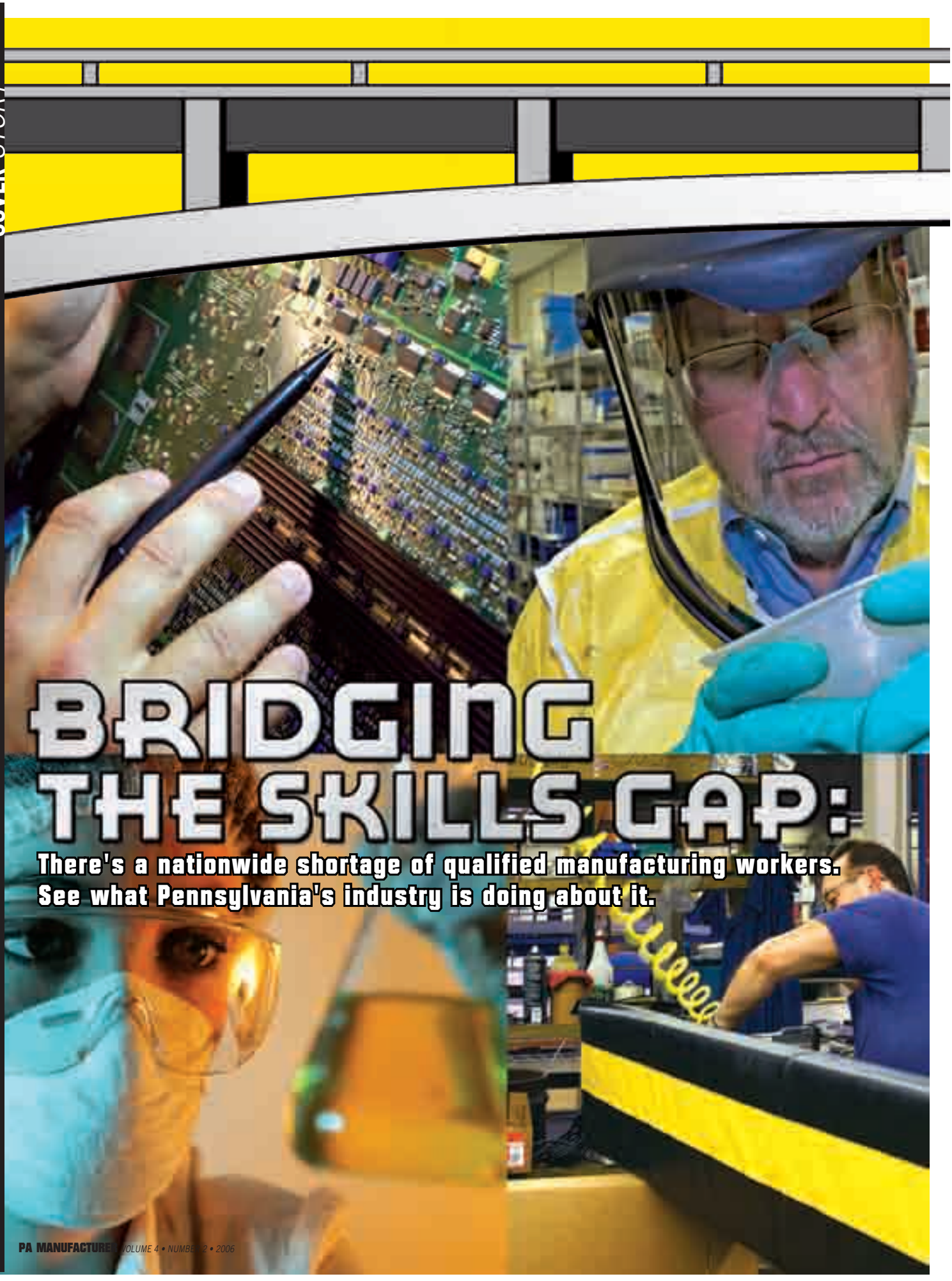
For manufacturers to be competitive, they will need to make a transition from the 19th and 20th Century, labor-intensive, command-and-control workforce model to the professional "knowledge worker" model where self-directed professionals will drive both the companies innovation strategy and product lines.

How you view and reward your workforce may be an indicator of whether or not your company is effectively making this critical transition or even understands what needs to be done. Finding and retaining qualified employees will continue to be a chronic and worsening problem for your company if one or more of the following apply:

- Your profitability and ability to compete depends upon a workforce that consists of mostly low-skill or non-skilled labor.
- You believe pay and benefits are your only tools to attract and retain employees.
- You don't invest in training your employees because it costs too much or you're afraid they will find another job after you train them.

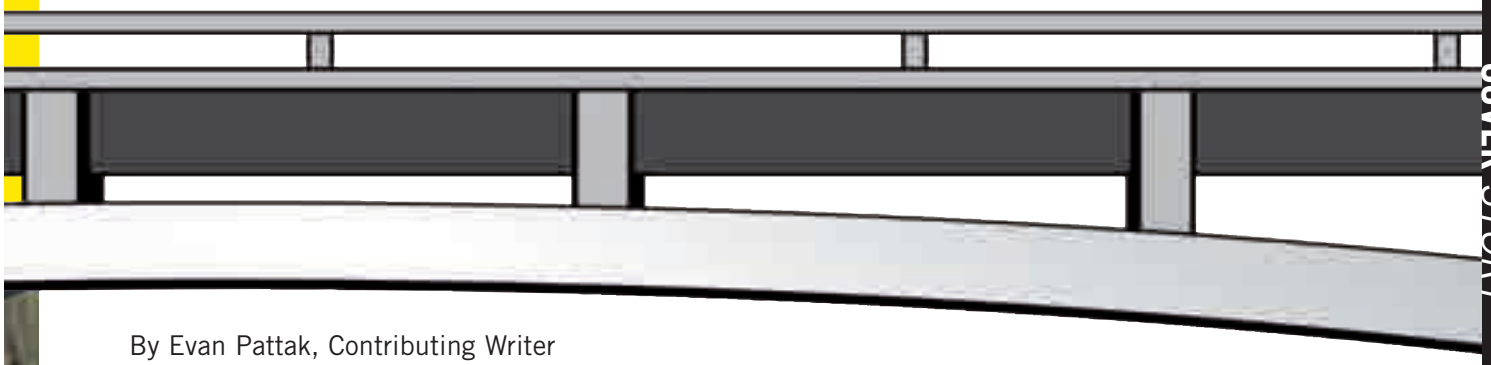
Like it or not, the world of manufacturing has been forever changed. Just like Ford's Model T is obsolete, so is the economy and the workforce model that produced it. These global changes do not mean the end of American manufacturing, but provide progressive manufacturers with the opportunity to take advantage of the new knowledge workers who can contribute more value to your company both in terms of skills, products and productivity.

**"How you view and reward your workforce may be an indicator of whether or not your company is effectively making this critical transition or even understands what needs to be done."**



# BRIDGING THE SKILLS GAP:

**There's a nationwide shortage of qualified manufacturing workers. See what Pennsylvania's industry is doing about it.**



By Evan Pattak, Contributing Writer

For well over a decade, the National Association of Manufacturers and its partners have been studying the state of the art in America's manufacturing sector and arriving at a similar conclusion with each survey: the gap between the skills manufacturers need and the talent available is broad. But with its 2005 Skills Gap Report, NAM sounded a particularly shrill alert:

"The Skills Gap Surveys have recorded an alarming trend: The largest manufacturing country in the world can barely find the skilled employees it needs to remain competitive in a global economy."

Just in case anybody missed the point, NAM restated it in even starker terms:

"Plainly said, unless solutions to the skills gap issues are acted upon with great focus and determination, this country will likely be left behind in the global competitive race."

The survey, undertaken by NAM in association with Deloitte Consulting LLP and NAM's think tank, the Manufacturing Institute's Center for Workforce Success, spanned more than 800 manufacturers and uncovered the continuation of tendencies first noticed many years before. For one, manufacturers are struggling to find skilled workers:

". . . 90 percent of respondents indicated a moderate to severe shortage of qualified skilled production employees . . . Skills shortages are having a widespread impact on manufacturers' abilities to achieve production levels, increase productivity, and meet customer demand."

Moreover, the scarcity of qualified candidates is just as acute at the entry level, where manufacturers can't seem to engage people with the most rudimentary skills. Notes the survey:

" . . . more than one-third of respondents also claimed shortages of unskilled production employees . . . the most frequently cited concern is inadequate basic employability skills, including attendance, timeliness and work ethic."

Identifying and hiring the right people - at the top and bottom levels - is such a severe problem that at least 10 percent of the total positions at participating companies remain unfilled.

Compounding these difficulties is employers' stubborn reliance on traditional methods of worker satisfaction, such as wages and benefits, rather than more contemporary tools, including training, challenging positions, career paths and empowerment.

"There is a growing disconnect between what today's workforce wants and what employers traditionally offer," the report says. "The phrases used to describe the disconnect are familiar - lack of employee management, loss of company loyalty, and the need for a new employer/employee 'deal' . . . Against this backdrop, it is somewhat surprising to note that only 13 percent of respondents indicated that one of the reasons they provide training to employees today is a way to attract new workers."

To add insult to injury, the report notes that workforce investment boards, created by a 1998 act of Congress to help bridge the skills gap, have had limited impact:

" . . . a very large percentage of respondents either has never heard of the government workforce programs or has never been contacted by workforce investment boards."

None of this is particularly fresh or eye-opening. But, Stacey Jarrett Wagner, Managing Director of the Center for Workforce Success who designed and managed the survey, observes that while the findings of recent research haven't changed much, the world has. The emergence of China and India, in particular, with massive, well-trained workforces that can undercut the prices of U.S. competitors, is particularly significant.

"It's like getting fat," Wagner says. "You eat a little bit too much, you don't pay attention to your cholesterol, the next thing you know, you have a heart attack. We've seen the same sort of thing in the last 10 or 15 years of Skills Gap surveys. We didn't start dieting five years ago when we needed to. Having a smart, innovative workforce continues to be our strong suit, but the new entrants into the workforce offer few technical skills, and they're driving prices down."

**"Plainly said, unless solutions to the skills gap issues are acted upon with great focus and determination, this country will likely be left behind in the global competitive race."**

Part of the problem is the quantity and quality of training, both in-school and on-the-job. We're not doing enough of it, and what we're offering may be passé.

"My golly, a lot of what gets taught in skills these days is for right after World War II," Wagner says. "More sophisticated skills - analytical abilities, problem-solving, communications in the written and spoken word, technical skills - are becoming the baseline.

"We need to find ways to work and learn at the same time. That can mean training at the work site, training at local community colleges or technical schools. We have to include training in the business strategy. There's a lot of research that shows that if you offer employees more opportunities for training and advancement, they are very likely to stay with you."

Not helping at all is the lingering image of manufacturing as a dead-end career

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played out on dimly lit, hazardous stages. It's a funhouse picture that persists despite the infusion of advanced technology into much of the manufacturing base.

"A lot of images about manufacturing are wholly outdated," Wagner says. "It's not dark, dirty, dangerous. You won't wear a hair net on the floor. It's not like that anymore. There's a stronger use of technology, nicer, well-lighted environments, more emphasis on personal responsibility, career ladders. But we haven't conveyed that."

The situation in Pennsylvania mirrors the national scene, but the state is attacking the problem on a number of simultaneous fronts. Says Fred Dedrick, Executive Director of the Pennsylvania Workforce Investment Board:

"We are clearly cognizant of the fact that we have to do a lot more to make sure our manufacturers have the workers they need to be competitive in the future. We're doing a lot. We need to do more. But Pennsylvania's manufacturers are an incredibly impressive group. I think we've turned the corner to helping our companies understand how they can compete on a global basis."

The NAM report recommends these approaches to narrowing the skills gap:

- Provide more incumbent worker training.
- Develop partnerships that include the public, private and education sectors.
- Sharpen curricula in elementary and high schools, community colleges and career-oriented institutions so that schools are preparing students for the most essential positions.
- Shine and buff manufacturing's dreary image.

Here's a look at the state's efforts in these key areas:

**INCUMBENT WORKER TRAINING**

The Skills Gap report indicates that, while the nation's manufacturers are allocating more time and money to training current workers, they're not completely sold on the potential. Seventy-three percent of respondents offer training because it's a "business necessity," but only 13 percent see it as a tool for attracting new workers.

There's no such uncertainty about training in Pennsylvania. Through Gov. Ed Rendell's Job Ready Pennsylvania package, the Commonwealth is providing $15 million to support incumbent worker training programs. For the most part, these funds are targeted to industry clusters, where joint efforts among groups of manufacturers can produce more bang for the buck. But the efforts of single companies to improve the skills base of their employees won't be ignored.

"If there's a group of employers working together to improve their competitive situation, and they identify a skills gap within their own company, we have a program to address that," Dedrick says.

Manufacturers these days are running so lean that removing workers from their tasks for training purposes can have adverse short-term consequences, such as the inability to meet production goals and customer needs. To ameliorate that problem, the state offers ready-made training modules that can minimize worker down time. Says Sandi Vito, Deputy Secretary for Workforce Development for the Pennsylvania Department of Labor & Industry:

"[Participating manufacturers] don't have to create training programs on their own. They may lose some production time, but they don't need full-fledged HR people to develop and implement the training. Also, there's the ability to send one or two people at a time as opposed to shutting down the whole line."

**INDUSTRY PARTNERSHIPS**

Most state-supported incumbent worker training programs involve such partnerships - and the relationships can extend far beyond that. In southwestern Pennsylvania, for example, the state is working with four workforce investment boards, Duquesne University and economic development organizations on a strategic plan to support manufacturing in a 10-county area.

The Food Processing Education and Training Partnership, based in the south-central portion of the state, includes more than 15 food processing companies from a 10-county area that are collaborating to align their training needs with educational resources.

The Central Pennsylvania Workforce Investment Board has pulled together a consortium of modular/manufacturing housing and plastics producers to focus on a comprehensive worker retention strategy. In Lancaster, the workforce investment board has undertaken a similar initiative for the food packaging industry.

As these nascent partnerships grow, they'll reach out to include the educational community.

"As we put together these partnerships," Dedrick says, "we will better understand workforce needs, and therefore, we'll be better able to communicate to our education partners what occupations they should focus on."

**MORE RELEVANT CURRICULA**

Here, the state is aiming high. It wants to transform the way people are prepared for manufacturing careers.

"The days of a linear education path, where you move from school to an employer and up the career ladder, are gone," Vito says. "We need a system of lifelong education. It's as true in manufacturing as it is in business and financial services. . . Pennsylvania remains one of the few states that doesn't have standards around what types of math and science skills one needs to graduate. We need to fix that."

Among the most potentially far-reaching initiatives is Project 720 - so named because students typically spend 720 days in high school. Participating students receive not only strong academic preparation, but they also spend a generous amount of their time on-site with business partners.

"We want to totally revamp high schools, hold them to much higher

standards," Vito says. "We hope to pilot innovative ideas in each participating district and expand to more schools."

The state recently pumped an additional $4.7 million into Project 720 to double the number of school districts involved to 80, and it introduced a companion $2 million program to provide schools with grants for equipment updates.

**A SHARPER IMAGE**

"What we need," Dedrick says, only half-jokingly, "is a Hollywood producer to create a CSI of Manufacturing. What CSI has done for science and biology is tremendous. It's a fascinating thing. That's really the way to educate people. Only a small percentage of our kids ever see the inside of a manufacturing facility. We have to get the message out differently."

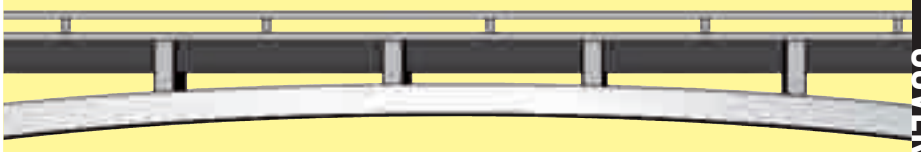
Even if Hollywood doesn't come calling, the state is working on a script, so to speak. In Philadelphia, Kensington High School and Mastbaum Tech are among institutions that have partnered with Lockheed Martin on an initiative that brings students to the plant - and trains young workers for the company. Students spend part of their school days at the factory and become candidates for Lockheed jobs. If the company hires them, it will finance their ongoing study for degrees, whether associate or baccalaureate.

"It's exposure combined with education," Vito says. "Parents learn to become more comfortable with it. The face of manufacturing looks much different to them. The more we can expose students and parents to the new world of manufacturing, the more likely we are to change the old image."

With so much activity on so many related fronts, it seems likely that Pennsylvania will, at the very least, narrow the skills gap in manufacturing. But the clock, Stacey Jarrett Wagner reminds, is ticking.

"Manufacturing really was the job for anyone who wanted it," she says. "It was the creator of the American middle class. It was Norman Rockwell. Now we're understanding that we have to learn to speak three languages and be very flexible. It's difficult psychologically. We all would like it to be the manufacturing of the 1950s, but it's not that. In fact, it's way better, but we have to make people understand that.

"There is a sense of urgency. Now we need to capitalize on it." P



# IN THE DELAWARE VALLEY, 2+2+2 = 2,000

Narrowing the skills gap is challenging, in part because of all the moving parts. To create a steadier flow of job candidates with the right skills, you must interest those candidates in manufacturing careers, prepare educators to teach in new ways, integrate fresh approaches into curricula, enlist business and educational partners, train and motivate your existing employees. And somewhere along the way, you need to identify funding for interdisciplinary projects that typically are beyond the purview or interests of any one government agency or foundation.

It's a daunting task, but in the Philadelphia area, the Delaware Valley Industrial Resource Center (DVIRC) has coordinated a program that covers most of those bases - and turns out a steady stream of qualified, eager job candidates for manufacturers in the region.

When the project began five years ago, it was called the Manufacturing Technicians Program. It struggled for enrollment, perhaps because of the stigma associated with the M-word.

"You get no mileage fighting that," says DVIRC Executive Vice President Tony Girifalco, who changed the initiative's name to Applied Engineering Technology Pipeline Project (AET). With its spiffy new handle, the program began to soar.

AET uses an educational model known as "2+2+2." Juniors and seniors take college-level, skills-oriented courses in their final two years in high school. Those courses earn them credits toward an associate's degree at a two-year college. The final two years are spent at a four-year institution, which awards appropriate credits for all the previous work. Delaware County Community College and Drexel University were initial partners in the program, but AET has grown so substantially that it now includes seven four-year institutions, three community colleges and 17 high schools and technical schools.

"That increases the options for students," Girifalco says. "They like that freedom and flexibility."

To generate interest in careers, AET sends manufacturing executives to high schools for presentations, and it stages engineering summer camps at such participating institutions as Penn State University and Villanova University. For the professional development of teachers, AET collaborates with West Chester University on master's-level courses.

Funding has been particularly tricky.

"There's no state or federal program that funds the work that we're doing," Girifalco says, "so we had to be creative and coordinate funding streams."

Financing from the state, the U.S. Department of Labor, the Lenfest Foundation and a number of workforce investment boards and business and educational partners has enabled the program to thrive.

And thrive it has. AET has funneled 2,000 job candidates into the pipeline. Girifalco hopes to double that number by next year and reach 10,000 by 2010.

"That still won't be enough," he says, "but if we were any more ambitious, people would think we were crazy. What we create is a steady, predictable supply of people for businesses here and an economic development asset that gives us a competitive edge over other regions."

Girifalco hopes AET will serve as a model for other programs throughout the state. The challenge is considerable, the stakes high, but AET has demonstrated that the skills gap can be bridged.

"The feeling here is that we have only one chance to get this right," Girifalco says. "This is our window of opportunity. We need to attack this thing on all fronts and make sure we do a good job." P

# CONTRACTS 101

## THERE CAN BE MANY PITFALLS WHEN ENTERING INTO A CONTRACT. BE SURE TO GET IT IN WRITING.

*By Gregg D. Michael, Eckert Seamans Cherin & Mellott, LLC*

**What constitutes a legally binding contract?**

A legally binding contract is an agreement between two (or more) parties containing "promises" from each party to the other. For example, in a service contract, the service provider agrees to provide certain services to its customer and the customer agrees to compensate the service provider for such services. The legal concept is called consideration. Of course, contracts can take many forms, the most common of which is a written agreement between the parties spelling out the details of the contractual relationship. These agreements may be very short or very long depending on the intended contractual relationship between the parties and how the parties wish to detail their relationship.

**What pitfalls do small businesses often encounter when they enter into a contract?**

There are a few pitfalls worth noting, especially with respect to technology contracts involving both small and large companies. One issue that comes up over and over again is ownership of the finished work product. Unlike physical goods, technology developers and their customers have a major disconnect regarding the intangible "goods" that are the subject of the contract. On the one hand, the customer believes it should own everything developed by the service provider. On the other hand, the service provider is likely using its developed knowledge base to "build" the intangible goods.

Many technology providers simply sign the "work made for hire" clauses proposed by their customers without knowing that they are, in essence, giving away the store. Adding insult to injury, they may sign on to the same terms for similar projects over and over again and that can create a real mess when several customers seek to assert their ownership rights. The best way to address this issue is head-on. The customer generally knows that it's hiring the service provider based on that service provider's knowledge base and the service provider should always seek to maintain its ownership of the same. The solution is usually what could be called a bifurcated ownership and license relationship where the customer owns the unique intangibles developed by the service provider, and the service provider maintains its ownership of the knowledge base (e.g., its software or Web site development tools and methodologies).

To the extent the customer needs to use the knowledge base tools, the same can be licensed to the customer for its use with the portion of the deliverables owned by the customer. I should also mention two other common pitfalls. First, make sure the description of the services or deliverables are specific enough that each party can point to the same to determine whether the work is complete. Second, pay attention to the "boilerplate" language that usually makes up the back end of the agreement. Provisions regarding jurisdiction, venue, assignment and other similar terms are very important because they can impact the contractual relationship if or when things go awry. The boilerplate provisions are just as important as the "front end" of the agreement that set forth the parties' obligations, representations and warranties and other risk allocation provisions.

> **"A legally binding contract is an agreement between two (or more) parties containing "promises" from each party to the other."**

**What are the best ways to protect your company in a contract?**

Other than describing the bargain (who gets what for how much) between the parties, risk allocation is one of the primary functions of a contract. Parties, in one way or another, assume certain risks in any relationship. A contract is an excellent device to define, allocate and limit those risks. Service providers primarily use what are known as limitation of liability clauses to limit the amount and type of damages to which they may be exposed in the event of

a breach of contract claim from a customer. Typical limitation of liability clauses limit damages to a specific amount, often to the fees paid for a particular product or service.

Additionally, these clauses contain disclaimers of liability for damages other than direct damages, by excluding liability for consequential, special, indirect and incidental damages because these types of damages can expose a service provider to an inordinate amount of risk. On the other side of the equation, customers are looking for some protections from their vendors. These protections usually come in the form of warranty and indemnification obligations. Each of the parties to a contract should be very precise in the risk allocation portions of the contract. One more very important issue for each party to a contract is confidentiality. In many cases, parties are exchanging confidential information that may be trade secret information to the disclosing party. Confidentiality provisions or some type of confidentiality agreement is necessary in order to maintain trade secret protection if a party is disclosing that type of information.

**What about oral contracts and are they enforceable?**

Oral contracts usually are a Pandora's box for both parties. There are specific state laws governing what types of oral contracts are enforceable, but as a rule of thumb I strongly advise clients to get their agreements in writing. Other than the enforceability of the oral contract itself, proving the existence and terms of an oral contract can be very difficult. Additionally, if it's an oral contract for the sale of goods, the default provisions of the Uniform Commercial Code (or the "UCC" as it's commonly known) kick in, and those provisions are generally far and away more favorable to customers than they are to vendors. The long and short of this is get your contract in writing. Although preparing or negotiating a written agreement may seem costly to small organizations, those costs pale in comparison to litigation over an oral contract. A written contract can be an ounce of prevention that goes a long way.

**What happens when a contract is breached?**

A whole plethora of things can happen when a contract is breached by one of the parties. In some cases, a contract will allow a breaching party a period of time to cure a breach. Additionally, the contract may govern certain claims like a breach of warranty and proscribe the non-breaching party's remedies under the warranty. In the absence of defined remedies and/or if the breach is not cured or not subject to a cure, then, generally, the non-breaching party has a breach of contract claim against the breaching party. A legal claim can play out in many different ways, but many times I encourage clients to engage the other party in discussions to settle the breach and the remedies for the same.

Litigation can be costly and time-consuming, but the threat or actuality is a powerful tool that should be part of the calculus of dispute resolution. One other important note: Over the last decade or so, some parties have been inserting dispute resolution provisions into their agreements requiring private arbitration. Many lawyers are divided on the subject for reasons such as cost (it may not be less expensive), confidentiality (you may want the right to sue in open court because the threat of a public lawsuit may give a party leverage to force a settlement), and evidentiary and discovery rules (courts have them while arbitration tribunals may be somewhat more loose).

PHOTOS BY TONY ESPOSITO

*Gregg D. Michael is a member of the Business Division of Eckert Seamans Cherin & Mellott, LLC. Gregg handles information technology matters, financing transactions, mergers and acquisitions and other general corporate and contract matters. To discuss the topics in this article, please contact Gregg at 412-566-1207 or gmichael@eckertseamans.com.*

# HEALTHCARE SAVINGS ACCOUNTS

# Slowly gaining acceptance in Pennsylvania, HSAs can be an affordable alternative to traditional coverage

BY TIM HAYES, CONTRIBUTING WRITER

The first thing most people associate with the Medicare Modernization Act is the prescription drug benefit for seniors, but another provision in that legislation is proving to be more popular and easier to understand and use - Healthcare Savings Accounts, or HSAs.

Under an HSA, interest-bearing tax-free accounts can be opened by anyone who purchases a low-premium, high-deductible insurance policy. The insurance policy itself covers unseen medical catastrophes. Meanwhile, the money put into the HSA account can be used for routine health expenses - from contact lenses to office visits - with unused savings accruing from year to year.

HSAs put healthcare choices back into the hands of consumers. What's more, they're designed to lower the cost of insurance for many Americans who otherwise could not afford medical coverage. The basic idea is to give individuals a tax break while deregulating the market for health insurance.

## A NEW TYPE OF COVERAGE

While the marketing appeal of HSAs remains strong, acceptance has been spotty across Pennsylvania, lagging behind adoption of the new plans nationally.

At least 3 million American consumers currently receive health coverage through high-deductible health insurance plans offered in conjunction with HSAs, according to preliminary results of a recent study by America's Health Insurance Plans (AHIP). According to the study, enrollment in the new insurance policies eligible for HSAs has roughly tripled since March 2005, when a similar AHIP survey found that slightly more than 1 million people were similarly covered.

The study was based on aggregated responses from AHIP member companies, which represent nearly all the health insurance plans offering HSA-eligible options. The preliminary findings also show that the market for HSAs is becoming broader, with companies offering HSAs in more markets and to a wider array of large group, small group and individual customers.

"HSAs are one of the most important innovations in the history of American healthcare," asserted Sally C. Pipes, President and CEO of the Pacific Research Institute. "Indeed, they have the potential to eliminate the uninsured crisis while drastically cutting medical costs and improving service.

"About 40 percent of plans are being purchased by individuals who were previously uninsured," said Pipes. "And while early critics worried that HSAs would be used only by the young, healthy or well-to-do, the numbers don't bear out these fears. About half of HSA buyers are over 40; a fifth are over 50. Twenty-nine percent of account holders earn less than $50,000 a year. Evidence suggests many new HSA buyers have chronic health troubles."

**"HSAs are one of the most important innovations in the history of American healthcare, asserted Sally C. Pipes, President and CEO of the Pacific Research Institute. Indeed, they have the potential to eliminate the uninsured crisis while drastically cutting medical costs and improving service."**

## A SLOW START

"Acceptance and implementation of HSAs is going slowly in Pennsylvania because of the dominance of the Blues," noted David E. Edman, Managing Partner of Risk Management Partners LLC, an insurance consulting firm in suburban Philadelphia, referring to the traditional healthcare insurers like Blue Cross and Blue Shield. "The Medicare drug bill held a hidden gem, enabling creation of HSAs because they put individuals in charge of their own cost containment, not employers or HMOs.

"It's a very different way of funding healthcare," Edman said. "There's a learning curve involved. The newness of it scares people a little - the financial end of it more than the medical."

"In the local market, HSAs have been very slow to be accepted," said Carol Hadlock of the Pittsburgh Technology Council's Employee Benefits Group, referring to the greater Pittsburgh region. "It's been very small employers and sole proprietors who are taking advantage of the benefit and savings. Nationally, we see it taking off more than here. Where we see it being adopted locally, it's been a total replacement of current healthcare coverage.

"In the mid-to-large market, we have clients planning to add HSAs over the next three years," Hadlock explained. "They want to learn more about it before totally switching over. They're taking the time to educate their employees. They are introducing higher deductibles, but not quite at the level of an HSA-qualified plan, and keeping their office visit and prescription drug co-payments."

"This slow acceptance has nothing to do with the Blues in the Pittsburgh market," said Hadlock. "Highmark offers qualified plan options. I think it is more a matter of employees being spoiled with that first-dollar benefit, and what's needed is a change in their mindset. It could be that they're worried about that up-front period, where they could be sitting with a big claim that has to be met as part of the deductible, before their HSA is fully funded."

Truth is, people have become accustomed to having full healthcare coverage, with first-dollar coverage for hospital stays and other healthcare services, and perhaps a co-pay for trips to the doctor's office, emergency room or to specialists. Adopting an HSA turns that model on its ear, so to speak. You're moving into a new concept, a system where coverage doesn't start until you reach a deductible. And a fairly high deductible, at that. So, why would an employer or an individual want to switch?

**"Under an HSA, interest-bearing tax-free accounts can be opened by anyone who purchases a low-premium, high-deductible insurance policy. The insurance policy itself covers unseen medical catastrophes."**

### THE ABCs OF AN HSA

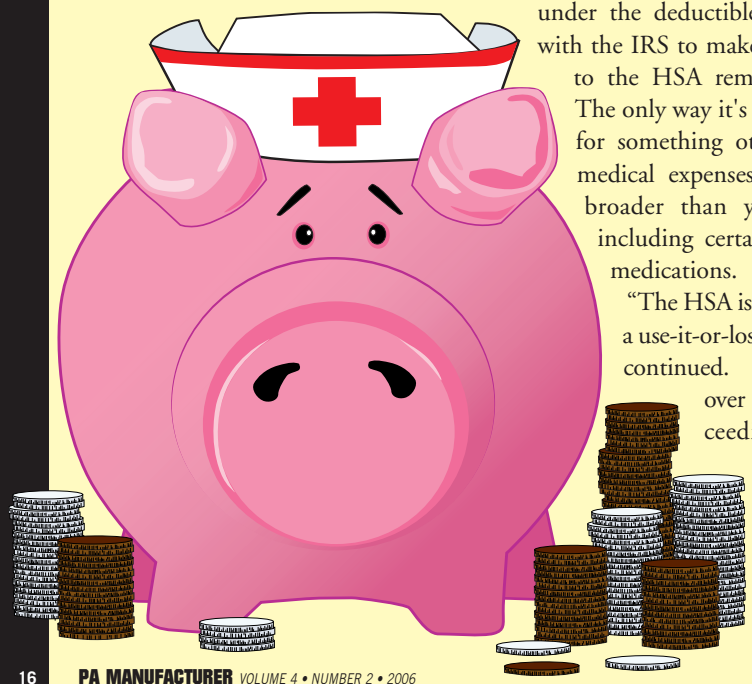
"As an employer, you should see a 30 to 40 percent drop in premium costs," said Edman. "A special HSA bank account is established for each participant to save money needed to cover initial expenses under the deductible. The bank works with the IRS to make sure contributions to the HSA remain tax deductible. The only way it's taxed is if you use it for something other than approved medical expenses - and that list is broader than you would expect, including certain over-the-counter medications.

"The HSA is a plan where it's not a use-it-or-lose-it proposition," he continued. "Unused funds roll over to be used in succeeding years. The incentive is to preserve money in the HSA. It's up to consumers not to waste it, not to get unnecessary surgery, use generic equivalent drugs, and so on.

"In the past, there was no incentive to do any of those things," Edman acknowledged. "Why worry about costs, when someone else is paying for everything? HSAs put power in the hands of the employee. It gets them some skin in the game. As a result nationally, we're seeing fewer elective surgeries as a trend, for example."

"You really have to sit down and do the math to see the savings," added Hadlock. "Then the employer may contribute at least the first year's deductible for each employee."

Edman agreed, saying, "The big question is, when employers realize a 30-



40 percent savings, what do they do with that extra cash? I advise my clients to use those funds to be more generous to their employees, and to help get their HSAs funded with an initial deposit from the employer."

**A DIFFERENT WAY TO PAY**

But employers aren't the only ones achieving financial benefits through the proper management of healthcare options through HSAs, he said.

"In the two years we've had HSAs, fewer than 20 percent of participants are going through their high deductible and using the health plan portion," Edman said. "Many people are rolling money over in succeeding years. That means, if costs are coming down because people are making better decisions, the funds will start to be built up over time and employers can cut back the amounts they kick in. It gives employers more control over the future of their healthcare costs, and enables employees to build up their savings to cover their deductibles easier.

"I tell people this is not better or worse than what they have now, it's a different way to pay for your healthcare," he said. "You buy car insurance in case you total your car, not for oil changes and tires, but that's how we've been buying medical coverage in this country for decades. Now, we're paying artificially high premiums to cover the insurance company's overhead just to shuffle money around."

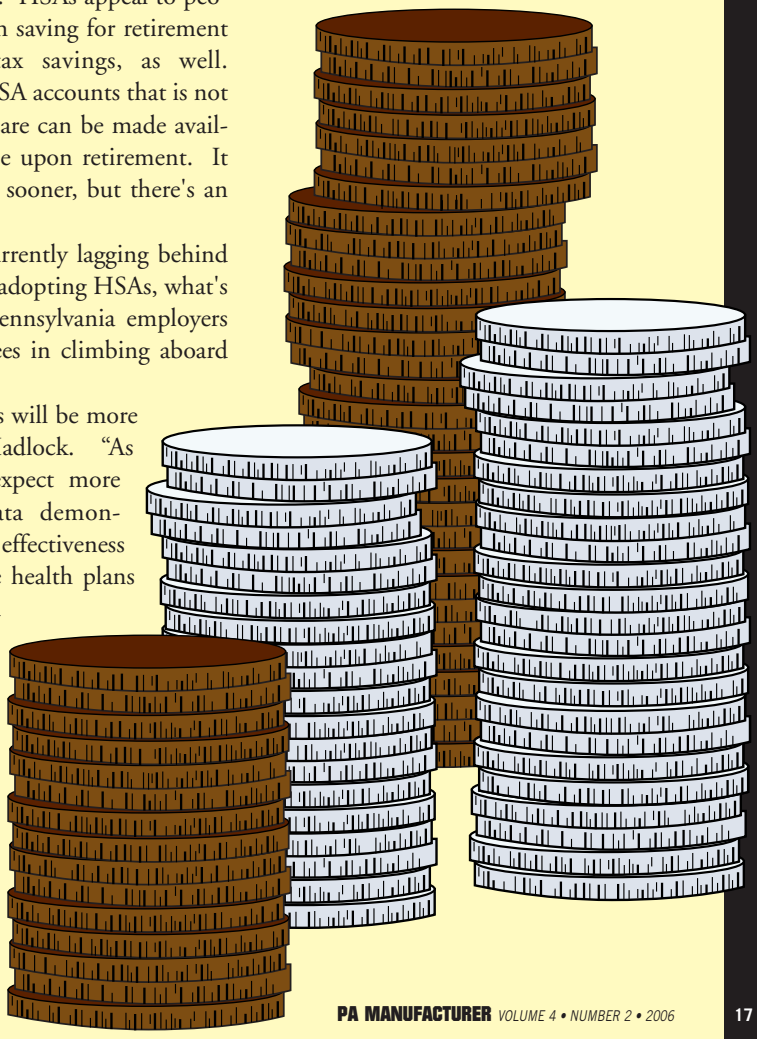
"Typically, 20 percent of employees generate 80 percent of the claims, so those employers who educate their employees about being better healthcare consumers will reap the greater savings," said Hadlock, who also used a car insurance analogy. "People have never had to shop for this before. They do it for car insurance, accepting a higher deductible for a lower premium. This works on the same principle. Healthy people who rarely use their healthcare benefits can certainly reap the benefits."

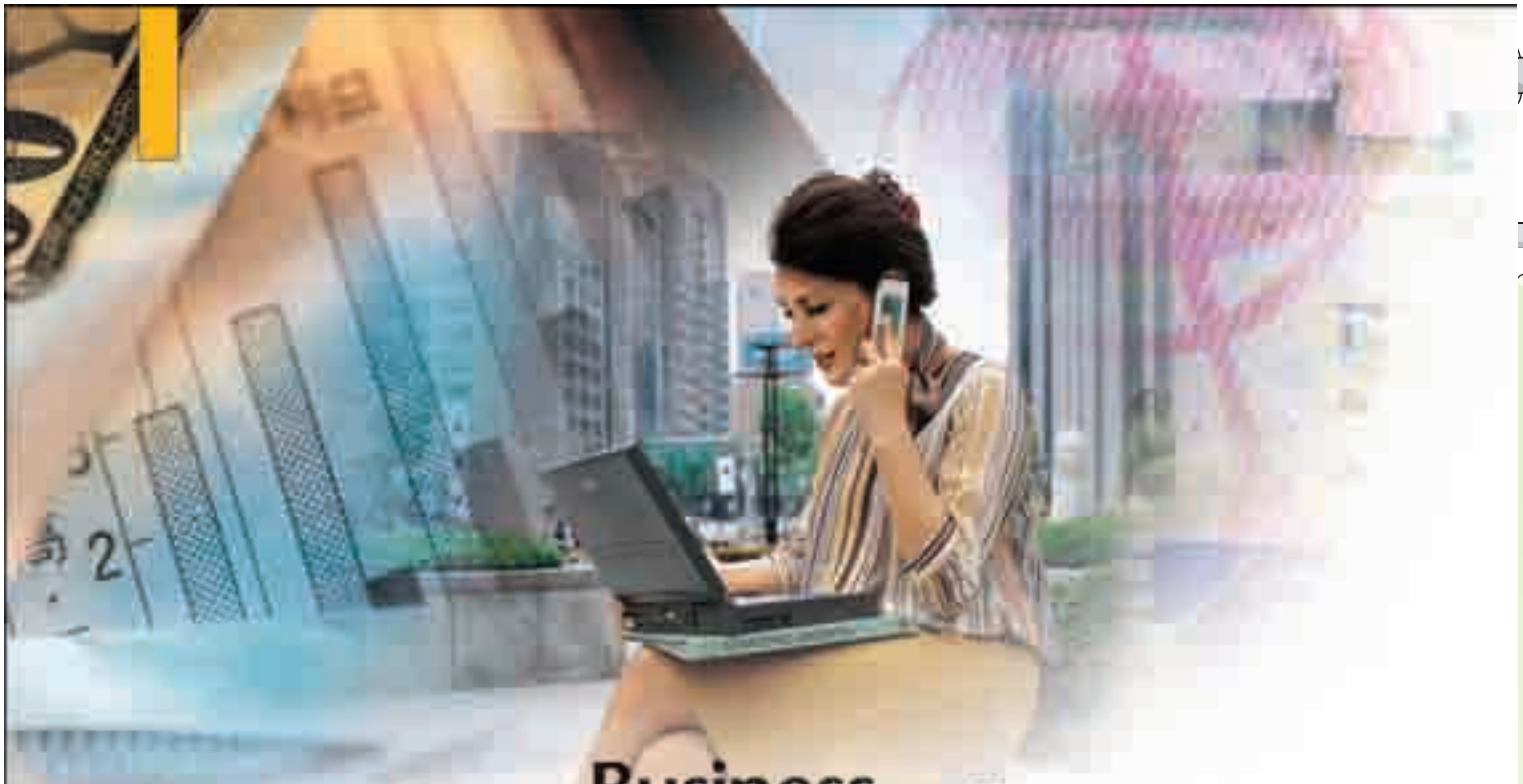
Conventional wisdom asserts that skyrocketing healthcare costs won't be contained until individuals can better appreciate the actual cost of the healthcare options they select. The Midwest Business Group on Health, an industry ad hoc organization, estimates that waste from poor quality and poor choices in healthcare options costs employers $2,000 per employee each year.

HSAs represent one option to help stem that tide by assigning greater personal responsibility and choice related to healthcare options. HSAs appeal to people concerned with saving for retirement and associated tax savings, as well. Money saved in HSA accounts that is not used for medical care can be made available for private use upon retirement. It can be withdrawn sooner, but there's an associated penalty.

So, despite currently lagging behind national trends in adopting HSAs, what's the outlook for Pennsylvania employers and their employees in climbing aboard this train?

"I think HSAs will be more accepted," said Hadlock. "As this occurs, we expect more benchmarking data demonstrating the cost effectiveness of high-deductible health plans in conjunction with HSAs. It will prove to be one of the solutions employers find beneficial." P





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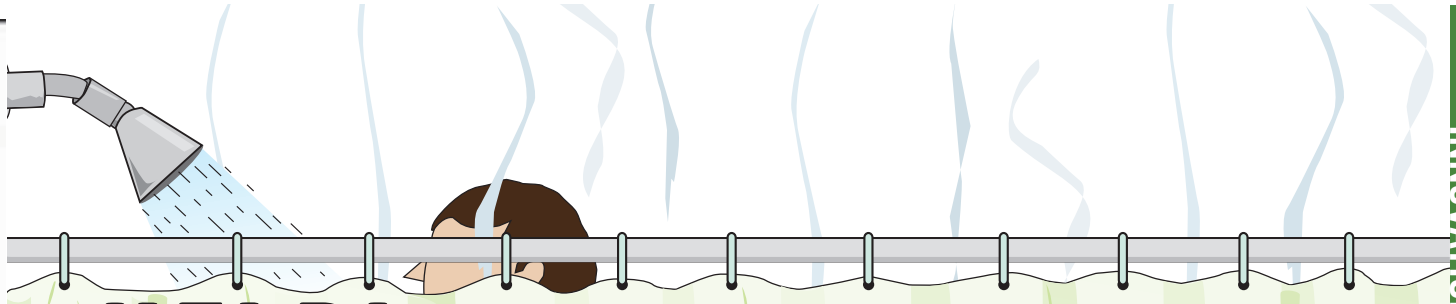

# HELP! THERE'S AN ANTHROPOLOGIST IN MY BATHROOM!

## How field observation techniques flush out the truth about home plumbing fixtures, and how you can do it, too

**BY PETER LONGINI, MANAGING EDITOR, PITTSBURGH PRODUCT STRATEGY NETWORK**

*Research techniques created to study exotic tribes in their native habitats can also bring powerful insights to product managers, designers and marketing professionals developing an assortment of home and business products. Respironics' Industrial Design Director Tom Bonnell, himself a veteran of Kohler Plumbing, described how these research methods are being used to improve the commercial success of products.*

Earlier this year Kohler, the Wisconsin-based maker of upscale kitchen, spa and bathroom fixtures, launched a new product under its Sterling brand. It was a shower stall door with a storage unit built into a vertical column inside the enclosure. Designed to help people organize personal grooming items, the new shower door addresses the growing incidence of clutter that's filling up bathtubs and shower stalls all over the country.

So how did the idea for the storage door come about? Did the designer happen to slip on his wife's carelessly placed bottle of body wash? No. It resulted from systematic observation, analysis, photo inspection, and deliberately naïve questioning of people whose bathtubs and shower stalls were slowly beginning to overflow with containers of hair, skin and body care products, according to Tom Bonnell of Respironics, the Pittsburgh-based maker of respiratory care equipment. Until late last year, Bonnell served as Kohler's Director of Design.

### OUT OF THE JUNGLE AND INTO THE HOME

These research techniques, and a loose family of others, created to help product managers understand more clearly the ways people relate to products and activities in their daily lives, are collectively known as ethnographic research. They are among the methods of contextual inquiry, which trace their origins to the cultural anthropologists who created them to study isolated tribal communities in remote locations.

Increasingly in the world of commercial product design today, these methods are taking their place beside such long-established research tools as surveys and focus groups. And in the context of new product development, they are typically used both at the front-end of the cycle, where completely new ideas are more likely to be entertained, as well as in the detailed design of specific product features.

"They can be used sequentially," Bonnell explained. "You can do the exploratory first. For example, understanding that within the showering experience you shouldn't dwell completely on storage. We also found that a lot of people want a place to sit or rest their leg, to shave their legs or whatever. That was one nugget we extracted from this research. So we went into it deeper and as we came up with ideas about how to do this, we had more questions. That was when we'd go out and observe and talk with people in a more targeted way about that specific area."

> **"In-depth research using these techniques, and others like them, is normally conducted by firms specializing in ethnographic research studies. In addition to the fieldwork, these consultants typically recruit the study's subjects, document their findings, and provide an analysis that the client can share with company management."**

Continued on page 21.

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Continued from page 19.

At the exploratory stage, one popular research method involves getting the subjects of the study to participate in their own observation. "We'll send cameras to people and ask them to photograph something we're interested in, like the refrigerator: What does the inside of the refrigerator look like?

"Sometimes we'll get them back and you can tell that they cleaned it up first. So we'll send it back to them and say we want to know what your refrigerator, bathroom, bedroom or whatever looks like in its worst case," Bonnell said.

The same approach can also be applied to the world of medical devices, whether in the home or in the hospital. "We've also done this at Respironics," he noted, "where we wanted to understand the patient's process of putting on a CPAP mask, taking it off, what they do in the middle of the night if they have to get up to go to the bathroom or get a drink of water, and what does their spouse think of it? So we give them a diary in a questionnaire form, and then have them photograph the important things they want us to know. They're telling us, in effect, 'I'm trying to write and explain it in my diary. But if I take a picture, it's going to help support what I'm thinking here.'"

## AN ANTHROPOLOGICAL ARSENAL

Other methods of contextual inquiry are also available, according to Bonnell. One is participatory observation, where subjects in the study are encouraged to describe how they would use a proposed product and what they like or dislike about it. Representations of the product – which can be either physical models or drawings – are typically used to elicit the subject's feedback.

Another is called "bread-boarding," where people are asked to use models of the product with Velcro attachments to show where they'd like to place certain features. "You allow them to essentially play and then use that activity for them to discuss why they would put it there," he said. "It's not to get a final design, but it's to get at reasons behind why they like certain things."

Still another method is by using diads and triads – essentially a focus group of one person who is accompanied by a spouse or significant other, who are there to validate, or refute, the primary subject's comments to the moderator. The resulting dynamic is very different from the typical focus group of 12 strangers, none of whom may be telling the truth.

In-depth research using these techniques, and others like them, is normally conducted by firms specializing in ethnographic research studies. In addition to the fieldwork, these consultants typically recruit the study's subjects, document their findings, and provide an analysis that the client can share with company management.

But, there is a price for that level of comprehensive service: typically $100,000 to $200,000 per study, although it can come in higher or lower, according to Bonnell.

As a result, some firms that like the research approach, but don't want to spend that much money, are starting to bring certain of those skills in-house.

And, for many companies, the cheapest, fastest, and easiest anthropological research technique is simple observation – preferably using a video camera to capture telling moments. "You can use observation on every project,"

Bonnell said, "You can go out and observe people using stuff. You can go and watch customers, you can watch people in sleep labs fitting a mask. You can watch and talk to people, to home care providers dealing with customers, etc. There's lots of opportunities."

## WHY WATCH?

The essential advantage, which is common to all these methods – and the one which differentiates them from such established research techniques as focus groups – is that people's verbal or written reports of their own behavior are often flawed. Take the case of medical procedures.

"At Respironics, we need our development teams to understand the whole procedure, not just what you hear from the doctor, but what they're actually doing. Oftentimes, those are two different things, or they just can't remember everything they do. Because it becomes such a habit that they sometimes don't remember it," he said.

But even ethnographic techniques have their limitations, Bonnell admits. "Particularly with bathroom types of activities, there are certain things you just can't observe, like taking a shower or going to the toilet; you generally don't do that. But you can go into the bathroom to observe other things after an event. Like after they took a shower, how much water is on the floor? Or what do they do with their towels? Or how many items are in the shower space?"

# MANUFACTURING OMBUDSMAN

## TOM PALISIN HELPS PENNSYLVANIA MANUFACTURERS CUT THROUGH THE RED TAPE; HONORED AS A MANUFACTURING "CHAMPION"

PA Manufacturing Ombudsman Tom Palisin

Pennsylvania Governor Edward G. Rendell appointed Tom Palisin as the Commonwealth's first Manufacturing Ombudsman in 2004 to proactively work as an advocate for manufacturers through helping companies identify available resources, recommending policies that improve competitiveness, assisting in "cutting the red tape" in dealing with state agencies and developing a knowledge base of the conditions and performance of the industry.

Palisin has become the single point of contact for manufacturers to call for information or with specific questions. He serves as an advocate for the manufacturing sector and advises Governor Rendell and Department of Community and Economic Development (DCED) Secretary Dennis Yablonsky on current issues facing Pennsylvania's manufacturers.

As an integral part of the DCED, his additional responsibilities include directing the state's Industrial Resource Center (IRC) Program, the nation's largest manufacturing extension program (MEP) affiliate. Palisin also manages that program's Statewide IRC Strategic Advisory Board. With a significantly new state investment, Palisin has aided the PA IRC program to expand its offerings to manufacturers from primarily process improvement to innovation and growth services through product development, market research and strategic business services.

Palisin has provided direct intervention and assistance to manufacturers with issues ranging from new product development to issues of technical regulatory compliance.

"Companies today need to look for strategies around new products, markets and business models to compete globally," stated Palisin. "The most rewarding part of my job is working with manufacturers to make a difference. The Governor's strategy has given us the tools to provide increased assistance and focus for key global initiatives."

"The workforce issues facing manufacturers do not simply revolve around just finding workers with the right entry level skills, but of preparing workers to transition into better paying jobs that require new and different skills," stated Palisin.

Palisin has also been active in service to the Manufacturing Extension Partnership, over and above his support for the statewide network of the PA IRCs. He has been involved in the MEP review of the Impact Survey System and provided input into the development of the MEP Strategic Plan. He has been involved with MEP and other state partners to learn how they can better partner together as investments in technology and innovation for the future are planned. He has many times served on MEP review panels, including New York and Ohio, giving of his time, energy and enthusiasm.

"The PA IRCs focus on the small- to medium-sized manufacturers who typically don't have all of the resources to compete effectively and grow using new technologies and developing new products. The IRCs are the 'feet on the street' engaging manufacturers in adapting to changing market needs," said Palisin.

Upon graduating from Penn State University, Palisin was employed with Electronic Data Systems in Camp Hill, Pa., as a Project Manager. Since 1995, he has worked in the Technology Investment Office at the Department of Community and Economic Development.

Previous assignments within the Department have included a broad array of technology development programs that supported company financing, workforce development, infrastructure, support services and communities.

Palisin also served as a program manager for the department and helped to launch the Commonwealth's Keystone Innovation Zones Program - which created geographic zones around universities to leverage the research assets of universities to enable company creation, talent retention and improvements in community and economic development.

**"Palisin has provided direct intervention and assistance to manufacturers with issues ranging from new product development to issues of technical regulatory compliance."**

Recently, Palisin was recognized by the NIST Manufacturing Extension Partnership as a 2006 "Champion of the Year" for his advocacy and vision in support for the ideals of the MEP program. He was seen as an advocate for policies that have improved the competitive position of manufacturers and to have promoted innovative solutions for manufacturers around issues involving financing, technical assistance, workforce training programs, permitting and regulatory matters.

Palisin's commitment to support the business growth and transformation of U.S. SMEs is truly demonstrated by his work, vision and support of manufacturing and his innovative approaches to removing roadblocks, investing in unique programs and championing creative solutions.

# Adventures in Technology!

## Workforce Program Connects High School Students with Manufacturers; Expands Across the Commonwealth

Innovative. Creative. Determined. All of these are great words to describe the students in the 2006 Adventures in Technology program. Adventures in Technology is an industry-focused business, education and community partnership that brings visibility to manufacturing, information technology and biomedical/biotechnology careers in the region by teaming high school students with local companies to complete real world problem resolution activities.

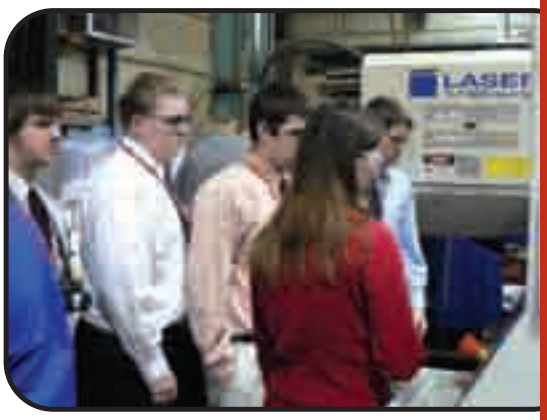
By engaging high school students in an eight-week, hands-on project to design and build a product or to re-engineer an existing product, process or system, Adventures in Technology complements the many science and technology programs already in place in high schools throughout the region. The project is an ideal activity to introduce students to workforce ideas and experiences.

Through this innovative project, high school students have the chance to work as team members solving business and industry problems; interact with industry professionals; and learn about materials, equipment and processes used by specific businesses and industries.

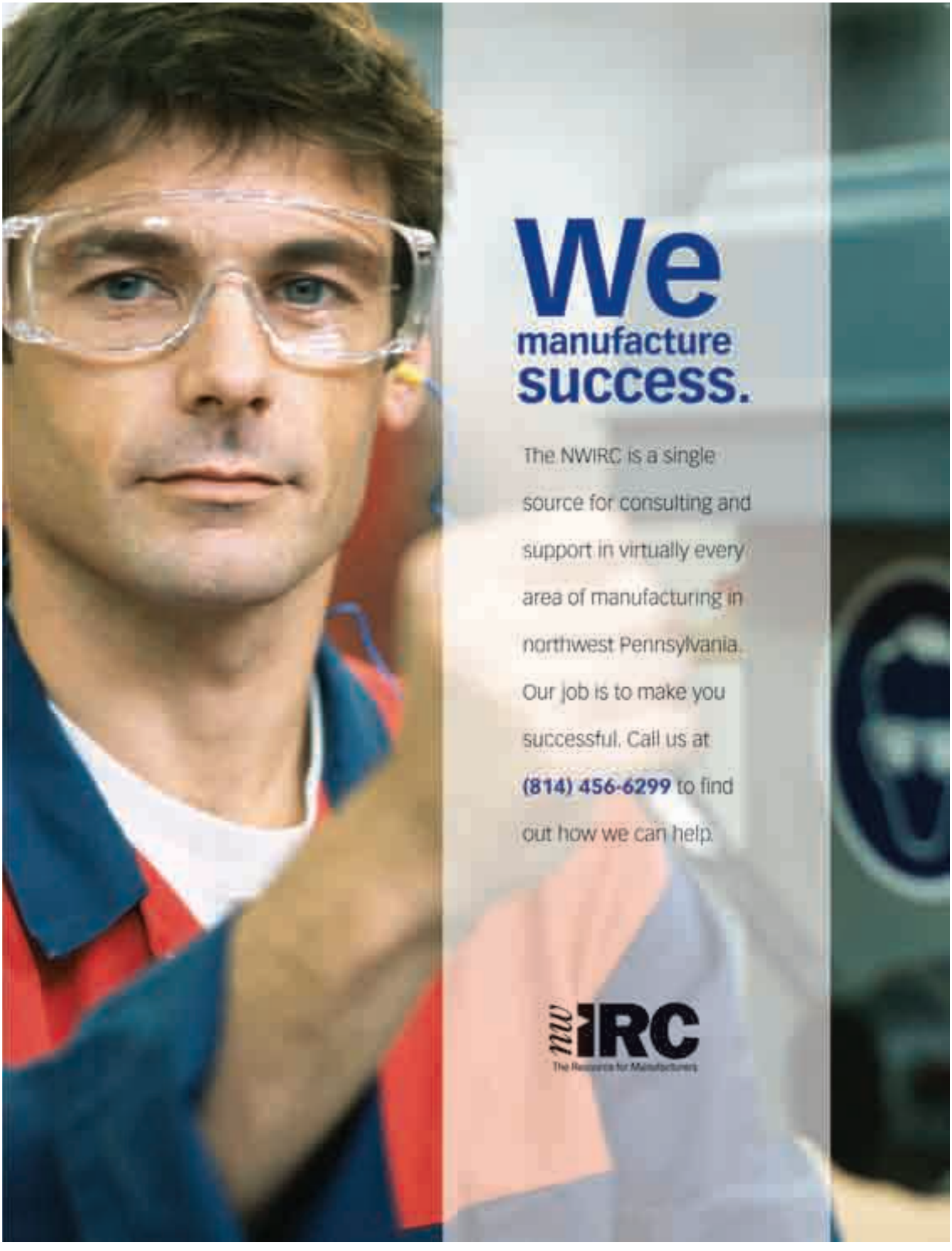
Students this year are creating solutions to shipping and receiving inefficiencies at McKesson, assessing the possibility of a wireless network at Clark Metal, creating a new intranet for MAYA and exploring new product development at Impact Innovation Products just to name a few. Twenty teams are participating this year with 18 of those teams being with manufacturing companies.

Thanks in large part to the funding from the U. S. Department of Labor, the program is being piloted with 10 teams in eastern Pennsylvania in cooperation with the Delaware Valley IRC and MANTEC. Each organization in York and Philadelphia respectively will pilot the program with five teams in the fall of 2006. The success of this pilot could pave the way to a state-wide program in coming years.

For more information on the Adventures in Technology program, contact Scott Dietz at (412) 687-2700.



**High school students from western Pennsylvania helped Clark Metal Products build a wireless network on the shop floor.**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# BACK TO SCHOOL

## PHEAA student aid helps non-traditional students

More and more of Pennsylvania's workforce are returning to school to gain new skills and qualifications to advance their careers.

Many are seeking two- and four-year degrees while maintaining full- and part-time work status. These non-traditional students have a variety of resources to help them in their pursuit of higher education.

A non-traditional student is defined as any student who does not go directly from high school to college, enrolls part-time, is married, has children, is working full-time, or is not receiving financial support from parents, or is considered non-traditional. Many non-traditional students are older adults who never enrolled in college or are returning to school after taking a break in their studies.

Today, the majority of students enrolled in post-secondary institutions are non-traditional students and there are student aid programs available to them.

**Federal Pell Grant -** This program provides a basic amount of grant aid to help financially needy students pay for college costs. This program is open to students who are enrolled less than half-time.

**Federal Supplemental Education Opportunity Grant -** Students must have exceptional financial need as defined by the school to qualify. This program is open to students who are enrolled less than half-time.

**PA State Grant -** Students must be enrolled at least half-time in a program of study that is at least two years in length and must demonstrate financial need.

**Workforce Advancement Grant for Education (WAGE) Program -** This program is open to independent students who are not eligible for a PA State Grant due to:

- Less than half-time enrollment
- Enrollment in programs of study less than two academic years in length
- Pursuing a degree or certificate after completing a baccalaureate degree
- Missing the application deadline as a non-renewal State Grant applicant

Apply for the WAGE Program through the Pennsylvania school that you plan to attend.

**Federal Perkins Loan -** The student must have exceptional financial needs as defined by the school. The program is open to less than half-time students.

**Federal Stafford Loan -** There are two types of Stafford Loans: subsidized loans on which the federal government pays the interest while the student is in school and unsubsidized loans on which the student is responsible for all of the interest. Subsidized loans are based on financial need; unsubsidized loan eligibility is determined by deducting other financial aid from the cost of attendance. To qualify for either type of loan, the student must be enrolled at least half-time. We offer the KeystoneBEST Stafford Loan, one of the most affordable student loan options available to Pennsylvania residents.

**Alternative or Private Loans -** Loans offered directly by lending institutions that are not federally guaranteed. We encourage all students to exhaust all free money awards and federal student loans prior to taking out a private loan as private loans are typically more expensive.

Most federal and state financial aid programs are based on the student's financial need. Financial need is the difference between the cost of education (estimated costs for college attendance and basic living expenses) minus the expected family contribution (the amount a student and the family is expected to pay, which varies according to the family's financial resources).

To apply for federal and state aid, a student must first complete the Free Application for Federal Student Aid (FAFSA). This application can be accessed at www.fafsa.ed.gov or a paper copy can be obtained from your school's financial aid office or local library. Students should apply for financial aid as soon as possible after January 1 for the upcoming academic year. There are program and institutional deadlines for filing your application; check with your school for details.

For further information on the various student aid programs available to non-traditional students, visit FurtherYourEducation.com.

*Information for this article has been provided by Reginald Irvis, Director of PHEAA's Outreach Services.*

# ENGINEERING:
## WHERE DID THE GLAMOUR GO?

**By John Hayward, Ph.D., P.E.**
**Head, Engineering; Director, Logistics Engr., Assoc. Prof. of Engr., Robert Morris University**

When I was 6 years old, my mother rented a room to an engineer. He was spending several months in my small Ohio hometown, overseeing the construction of a four-lane bridge for a new highway to serve the "Atomic Plant" some 20 miles away. Since he rewarded me with a nickel for each B and a dime for each A that I earned on my report card, I figured engineers made good money.

A few years later, the Soviet Union launched the first satellite to orbit the earth. I remember watching the Disney TV shows that explained the physics behind why the thing stayed above the Earth. The idea of a career applying science and mathematics to create new things seemed exciting - and I already knew it would be financially rewarding. I was going to be an engineer.

I received good advice on what I needed to do to become an engineer. I had to go to college. I should take all the math courses that I could find. Learning about science was essential. This is exactly what we tell young students today if they contemplate a career in engineering. Most importantly, my desire to pursue engineering was positively reinforced along the way by adults who regarded engineers with the same respect afforded doctors and lawyers.

Today, the need for engineers is still strong and the educational pathway to getting there is similar (add computer and communication skills to math and science), but the national will seems to be missing. Young people in this country are not drawn to engineering as they are in China, for example. It is estimated that for each U.S. engineering graduate in 2000, China graduated 3.7.

Engineering does not hold the glamour in this country that it did when I was growing up or that it enjoys currently in many other countries. As a result, American students are looking at other fields and futurists worry that the U.S. will lose its leadership position in technological innovation and application. What are the reasons for the lack of students entering the engineering field and how can we engage more? Finding answers to these questions will assure that the U.S. will continue to be a leading technological innovator and benefit from the economic prosperity that such innovation guarantees.

First, the general public must gain a better understanding of what engineers do. Surveys demonstrate that most adults have no clear idea of what engineers do. In the broadest sense, engineers apply scientific principles and mathematical modeling to create new and better products, facilities and systems. Unfortunately, this broad scope - which makes engineering so interesting to many of us - also makes it difficult to concretely explain.

This understanding could be improved if there were more teachers like John Malobicky, a mechanical engineer who changed careers to become a math and science teacher. Malobicky saw "too many students 'wasting' their talents by not going into careers that would exercise and build upon their math and science skills." He created an elective high school course that amounts to a college-level "Introduction to Engineering" course aimed at juniors and seniors. The course content demonstrates how basic scientific understanding and mathematical analysis can be used to do something useful.

**"Engineering does not hold the glamour in this country that it did when I was growing up or that it enjoys currently in many other countries. As a result, American students are looking at other fields..."**

Second, we must elevate the "value" of an engineering education by elevating the prestige level of the engineering profession. If there is room for multiple television shows celebrating forensic sciences, perhaps someone could portray a working engineer in a positive, appealing and accurate light.

We should celebrate intellectual accomplishments and promote the value of selecting more rigorous educational pathways.

Professional societies have a role in this image remake as well. Many organizations have sponsored a variety of competitions and events to promote engineering, science and mathematics for years. However, flat to declining engineering enrollments would cast some doubt on the

**Engineering students at Robert Morris University prepare for real-world challenges in the industry.**

effectiveness of these initiatives. We must constantly refine and improve our outreach programs if we are to have a message that resonates in the Xbox/PlayStation world.

Finally, we must make the engineering education process as compelling and interesting as the practice of engineering itself. If students enter engineering school, we must give them the experience and education needed to thrive in this rapidly changing global economy.

Students who spend two years studying calculus, chemistry and physics need to be constantly reminded how these skills are directly relevant to the engineering courses that follow.

The courses must be structured to allow students to express their creativity and ingenuity during hands-on sessions where the theory can be brought to life. And they need to develop communication skills equal to, or better than, the solid problem-solving skills for which American engineering education is known.

At Robert Morris University, we have focused on this final strategy for growing talented engineers to foster innovation and economic development. Our study tracks manufacturing, logistics and software engineering and matches the functional needs of the institutions, which will employ our graduates. Science and mathematics courses are taught by faculty from a single school - the School of Engineering, Mathematics and Science, increasing the opportunity to connect the basic math and science principles to engineering practice.

Our typical engineering courses, instead of the traditional three hours per week of lecture, are structured around two lecture periods and a hands-on laboratory experience where students can work with industrial-grade equipment. This gives students the theoretical underpinning, as well as practical application. The projects they complete result in technical reports and/or professional-grade presentations to assure that they can describe their results clearly.

Employers in the area have noticed. Each student is required to complete an academic internship where employers are asked to give us feedback on what we could do as an educational institution to improve their preparation. Regardless of the size or complexity of the employer, our students have excelled, exceeding the expectations of their supervisors in nearly every situation.

Students likewise are energized by their experience in the real world. They say things like, “It gave me a real feeling of accomplishment that I was able to use knowledge learned in class to do something useful for my employer.”

Engineering education, done properly, can expose students to the exciting future of applying science and mathematics to making the world a better place. One by one, graduates energized by this excitement can restore a measure of glamour to the profession - attracting more students willing to work hard to master challenging subjects.

A continuing supply of talented engineers will assure a bright economic future in a world where innovation is the only sustainable competitive advantage for a nation. We have to get the glamour back. P

# AN OPEN LETTER TO STEVEN BOCHCO:

## THE 10 PM MANUFACTURING DRAMA AMERICA WILL LOVE

By Jack Russell, Contributing Columnist

Dear Steven Bochco: *Hill Street Blues*, *L.A. Law* and *NYPD Blue* changed the rules for evening television and so changed American culture. Your best work brought gritty realism to primetime and showed that millions would respond to complex stories sustained by ensemble casts. I write with respect for your 25-year achievement - and to propose your next great series.

The adult-hour ensemble programs have now explored to exhaustion the drama of police precincts, law offices and hospitals. These venues worked for the 10 PM drama because they blended a core of characters developed over time with the endless variety of the crime or emergency case du jour. We knew Furillo and Sipowitz would be there for us but never knew what part of America might explode into their lives on any given week. Consider the possibilities of a new venue, Steve - the small manufacturing firm. Here are some numbers to blunt the bleats of your ratings-focused overseers. In America, 342,000 manufacturing establishments employ 14 million workers. Some 338,000 of these plants have fewer than 500 employees - the federal definition of "small." Together they employ nearly 10 million workers. Add a spouse on the sofa, and you have 20 million Americans who could tune in because your new show is about them. Many of them feel invisible. But no longer, because Steven Bochco will create *Making It in America.*

Here's the story line. Let's start with the heroine of *Making It in America*. Maria Andolini is 46, attractive, Catholic on her own terms, smart without any college and both happy and sad that her kids have left. She's a little bored with life in Reading, Pa., but knows that she and Tony are good. Then Tony drops dead at the plant on a Monday morning and Maria has decisions to make, including the big one: to sell or try to run Precision Production, the firm Tony built from the 12-man job shop he inherited from his dad. She takes the leap -- and wins America's heart.

Can Maria make Precision Production work and save the jobs of the 105 folks who depend on the firm? Will they accept her leadership? What does it take to make it in America as a small manufacturer? Believe me, Steve - there's as much drama here as the ER or the mean streets. True to your signature pattern, each episode will begin with the daily drill that gathers most of the ensemble. In *Making It in America*, it's Maria walking the shop floor at the beginning of the main shift, touching base, hearing problems, feeling the pulse. She usually walks with Joey, the hard-nosed plant manager who was Tony's best friend and Maria's first serious high school love 30 years ago. The walk-around always ends with a raspy-voiced greeting from Moms, queen of the back-office and confidant of Maria.

On any given day/episode, we may see Molly, the fine-looking single mom who does set-ups while fending off dudes on the floor, or the always-tangled tandem of Sal and Hal, one a 57-year-old tool-and-die maker, the other a 20-something computer geek. Together they are making Precision a full CNC operation. Much of Maria's day is spent coping with the world beyond the shop. Tony took on a major investing partner to grow the firm before he died. Now the passive partner, Tom Grupper, has an active interest in Maria's assets. She and Joe cope with buyers from their customers, some ball-busting bastards who hammer on price, others who talk cooperation but still want 5 percent price reductions each year.

In each show, we see multiple stories, most of which develop over several weeks. An early theme of *Making It in America* (to be known as *MIA* after the fourth episode) is Maria and Joe dreaming and then planning to make Precision Production into a product-based firm rather than a job shop subservient to manufacturing customers. (A sober lesson in this adventure is a meeting with a Wal-Mart buyer who wants to know what they can do - at her price.) In the first fall, Maria is getting a hard education in the China Price. Joe drives Lean on the floor, but they can't give endless price concessions. Maria gets involved in her regional trade association and learns enough to wonder who the Administration really serves. She goes to Washington to testify at a House hearing - and senses she's being gamed. This December episode ends with Maria, feeling very alone, walking down Pennsylvania Avenue to encounter the lighting of the National Christmas Tree.

OK, Steve. You get it - my gift to you. America is waiting for your next act of genius, the 10 PM drama that finds our national soul in the stories of a small manufacturer.

# R&D TAX CREDIT HELPS GROWTH COMPANIES

By Christine Peluso, Esq., Tax Transfer PA

Aethon – a small, but growing robotics company – recently received a sizable check as a result of a relatively new program administered by the PA Department of Community and Economic Development (DCED).

But Aethon, (www.aethon.com) the creator of TUG, a super-modern robot that automatically delivers supplies and equipment in hospitals and other health care settings, did not receive a grant or loan. Instead, Aethon "sold" its unused R&D Tax Credits to another Pennsylvania taxpayer.

Signed into law in 1997, the Pennsylvania Research and Development (R&D) Credit was designed to encourage companies to increase R&D expenditures within the Commonwealth, in an effort to enhance economic growth.

Companies must submit an application to the Pennsylvania Department of Revenue by September 15. The credit is for qualified Pennsylvania research expenditures (as defined by the Federal government) made in the taxable year ending in the prior calendar year. Award letters are sent by the Department of Revenue no later than December 15.

The awarded credits can then be used or transferred after a one-year holding period. The Pennsylvania R&D Tax Credit, which is calculated using the increase over the taxpayer's base year research expenses for qualified R&D conducted within Pennsylvania, generates a tentative credit at the rate of 10 percent.

In 2003, the passage of Act 46 doubled the amount of total credits authorized by the Department of Revenue from $15 million to $30 million. The Act also doubled the size of the set aside for small businesses (those with net book value of assets totaling less than $5 million) from $3 million to $6 million. However, one of the more innovative components of Act 46 of 2003 gives the R&D tax credit recipients the ability to sell unused tax credits to other taxpayers.

PA taxpayers with tax liability may now purchase tax credits at a discount to offset various PA taxes. Many buyers and sellers are brought together by third parties or "facilitators" like Tax Transfer Pennsylvania Corporation (www.ttc-pa.com). Located in Piscataway, N.J., TTC-PA has an ongoing relationship with many Fortune 100 companies eager to purchase tax credits in a number of states.

"We are able to offer both the seller and the buyer competitive pricing for matching their tax situations, while providing excellent service and quick turnaround," said Gina Andrew, President of TTC-PA. "We walk our clients through every step of the transfer program and give them access to the capital they need to succeed."

TTC-PA's clients seem to agree. According to Tami Chinchor, CFO of Aethon, "The R&D credit transfer program provided easy access to much-needed expansion capital to fuel the growth of our manufacturing and project management resources to keep up with sales. It's a really great program for a growth stage company like ours."

The R&D Tax Credit transfer program, still in its infancy, has seen a surge in applications over last year. According to Program Director, Bill Cook, the DCED approved 11 applications in 2005 for a total of $564,000 transferred. This year, however, 30 applications were approved for a total of nearly $2.5 million in tax credits transferred. While most of the applications are filed soon after the yearly eligibility date of December 16, they are accepted on a rolling basis throughout the year. For more information, contact Christine Peluso at (609) 306-9166.

**"Companies must submit an application to the Pennsylvania Department of Revenue by September 15. The credit is for qualified Pennsylvania research expenditures (as defined by the Federal government) made in the taxable year ending in the prior calendar year."**

# CALENDAR

## REGIONAL IRC EVENTS*

**6/22**
*Innovation Matters!*
This dynamic, example-filled presentation will give you an overview of what some of the leading companies in the world are doing in terms of innovation. In addition, leaders from some of the most successful companies in the region will discuss their experiences.
Genetti Hotel & Suites, Williamsport
8:30 a.m. - 1:00 p.m., including lunch
For more information, call 800-326-9467 x366 or laurim@imcpa.com.

**6/23**
*Office Value Stream Mapping*
Bloomsburg University, Division of Corporate & Continuing Education, Bloomsburg
7:30 a.m. - 4:30 p.m.
www.nepirc.org

**6/27**
*STEM Talent Development Forum:*
Setting the Stage for U.S. Competitiveness Through Science-Technology-Engineering-Math (STEM) Education.
Hilton Airport Hotel, Philadelphia
For more information, contact:
Fred Wentzel, NACFAM (202) 429-2220 ext. 106 or e-mail Wentzelf@nacfam.org

**6/27**
*Lean, Rapid & Profitable: New Product Development*
Featuring Robert G. Cooper, the "Father of Stage Gate®"
Holiday Inn Conference Center, Fogelsville
7:30 a.m. - 11:30 a.m.
www.mrcpa.org

**7/11**
*Lean Office Training*
Catalyst Connection Offices, Pittsburgh
8:30 a.m. - 4 p.m.
(412) 918-4273

**7/12**
*Manufacturing Metrics Training*
Catalyst Connection Offices, Pittsburgh
8:30 a.m. - 4:30 p.m.
(412) 918-4273

**7/17 - 7/21 Week 1**
**8/14 - 8/18 Week 2**
*Six Sigma Green Belt Training*
Catalyst Connection Offices, Pittsburgh
8:30 a.m. - 5 p.m.
(412) 918-4273

**8/23**
*Lean Certification Program - Level 1*
Comprehensive Lean training to empower your employees with the tools and knowledge for a Lean enterprise.
MANTEC Offices:
227 W. Market St., York, PA
www.mantec.org/events.cfm.

**9/18-12/15**
*Lean Six Sigma Black Belt*
This is a four-week workshop.
Times and dates are on-line at:
www.mantec.org/events.cfm.

**9/12**
*Lean Finance & Accounting*
Times and dates are on-line at
www.mantec.org/events.cfm.

**9/26**
*Visual Lean Organization*
MANTEC Offices:
227 W. Market St., York
Times and dates are on-line at:
www.mantec.org/events.cfm.

## NATIONAL EVENTS*

**6/28 - 6/29**
*Global Six Sigma Summit*
Las Vegas, Nev.
www.gsssa.com

**9/13 - 9/14**
*Lean Six Sigma Summit West*
San Francisco, Calif.
www.sixsigmasummit.com/NA-2601/ediary

**8/21 - 8/22**
*Lean Accounting Summit*
Orlando, Fla.
www.leanaccountingsummit.com/home.asp

***All events compiled from the Pennsylvania IRCs and *Manufacturing & Technology News.***

# manuFACTuring

**It's a Fact: With contributions of $64 billion annually to the gross state product (GSP), manufacturing remains the largest of all sectors and remains the primary economic driver for Pennsylvania. For comparison, while manufacturing represents 14.8 percent of the nation's gross domestic product, in Pennsylvania, manufacturing represents 16.1 percent of GSP.**

Source: "Manufacturing Pennsylvania's Future," Deloitte 2004

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## Public Course Offerings (Classes held in Pittsburgh, PA area)

| | | |
|---|---|---|
| Green Belt* & Black Belt** | Week 1 | August 21-25, 2006 |
| Green Belt & Black Belt | Week 2 | September 18-22, 2006 |
| Lean*** | Optional Week | October 9-13, 2006 |
| Black Belt | Week 3 | October 23-27, 2006 |
| Black Belt | Week 4 | December 4-8, 2006 |

** Green Belt Training consists of two weeks of class room instruction plus a training project.*
*** Black Belt Training consists of four weeks of class room instruction plus a training project.*
**** Optional Lean Training is available to either GB or BB candidates.*

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