

# PA MANUFACTURER

A PUBLICATION OF PENNSYLVANIA'S INDUSTRIAL RESOURCE CENTERS



## OPEN YOUR MIND TO INNOVATION

SEE HOW FORMALIZING INNOVATION CAN  
CREATE A WHOLE OTHER PARADIGM FOR  
YOUR MANUFACTURING OUTFIT

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Created in 1988, The Industrial Resource Centers (IRCs) provide technical assistance to small and mid-sized manufacturers by applying advanced management and production philosophies and techniques.

The seven regional centers provide assistance through individual projects or local initiatives and are also part of the National Manufacturing Extension Partnership. For more information, visit [www.pairc.net](http://www.pairc.net)

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## THE IRCS PROVIDE THE FOLLOWING SERVICES:

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- Electronic business and information technology

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.**

# INNOVATION IS EVERYWHERE

By Jim Shillenn, IRC Network Director

If you pick up any business magazine or recent book on business management, you can't help but observe that the word "innovation" permeates nearly every edition. Whether it's strategy innovation, management innovation, product innovation or process innovation, we are all starting to get the message that innovation should be a core business process in our organizations just like accounting, production, quality, marketing, sales or distribution.

While making the decision to be an innovative firm versus a mediocre firm may seem to be relatively easy, the business challenge is determining what innovation really means and how to implement and manage innovation.

Innovation is nothing new. Consequently, there is a long history of documenting, communicating and honoring innovation. What typically gets firmly embedded in our minds from these accounts is that innovation means bold, breakthrough inventions or disruptive discoveries that create a dramatic shift in technology-producing Nobel Prizes for scientists and handsome profits for companies that introduce the innovative products to the marketplace.

For a company with no R&D department or no chief innovation officer, this view of innovation can be discouraging and disheartening creating an environment where being a cost-driven, low-margin firm seems like the only option.

Unfortunately, the concept of innovation has been described from this point of view much too frequently, leaving many businesses to be confused about what innovation really means and often seeing innovation as irrelevant to their day-to-day struggle to compete. Fortunately, innovation has a much broader meaning and application in the business world than it

does in academic, entrepreneurial or big company research labs.

Innovation can be applied to a whole range of business processes in your organization. It can involve the implementation of multiple levels of change from incremental process changes, which impact the bottom line, to breakthrough products that can move a company from a small, privately held firm to a Fortune 500 firm that is a bellwether for the major financial markets.

Definitions vary for the concept of innovation, but the common elements of most definitions include something new or creative that is implemented and results in a positive outcome, which builds value for the business. With this perspective, innovation can be applied to any business process, including administrative processes, manufacturing operations, quality, marketing and sales, human capital and workforce development. It can also be applied to establishing collaborative partnerships, developing new services and the more traditional way of thinking about innovation in the area of developing new products.

Innovation cannot succeed if it is structured as a sporadic initiative that gets attention when things slow down or desperation is taking hold. It's not a process that consists of putting a suggestion box in the break area or waiting for a flash of brilliance from your sales manager. For innovation to be successful, it must be structured like any other business process so that innovation becomes as natural to the company as reviewing sales figures. Many companies have learned the hard way that unsystematic efforts produce disappointing results.

Innovation is not free. It involves investment in time to determine which ideas have the most value and costs money



to implement. Companies invest many millions of dollars in equipment, quality, HR and other operating processes. Astonishingly little investment and attention goes into processes for innovation.

For innovation to work, leaders must also create an environment where ideas are encouraged and rewarded and they must be able to listen to not only their customers and sales force, but to every person who works in their company. If your company culture is based on all ideas coming from the top, you will need to implement remedial changes to company culture before meaningful innovation can happen.

How does your company begin to implement innovation? Fortunately, there are many books and other resources available for how to introduce and manage innovation in your firm. The cover story on page six provides some additional perspective on how to implement innovation and resources that are available - like Pennsylvania's Industrial Resource Centers ([www.pairc.net](http://www.pairc.net)), which can help establish your innovation process.

Ultimately, becoming an innovative and successful firm is a matter of leadership. It begins with a clear vision for success and valuing the ideas and creative energy of the people who work for you. It involves discipline and a commitment that doesn't throw in the towel at the first failure or idea that falls short of expectations. Innovation is a continuous process and an investment that is virtually guaranteed to eventually pay off. **P**

# OPEN YOUR MIND TO INNOVATION



**SEE HOW FORMALIZING  
INNOVATION CAN CREATE A  
WHOLE OTHER PARADIGM FOR  
YOUR MANUFACTURING OUTFIT**

By Evan Pattak, Contributing Writer

The executives of Wilton Armetale Company, the venerable Lancaster County manufacturer of serveware, have gathered around the table for the meeting. Joining them by Internet are staff from the company's Rochester, N.Y., office and one of the firm's owners, Steve Wilton, from his home in Boulder, Colo.

It may seem like a typical staff meeting, one that will be replicated throughout the manufacturing sector on any given day, but this one is different. It's called "Skunk Works," a no-holds-barred, let-the-ideas-flow free-for-all in which company personnel are encouraged to question all assumptions and brainstorm off-the-wall product and distribution concepts.

"People get excited about ideas," says Ken Lefever, President and CEO of Wilton Armetale. "One of our rules is: No idea is a bad idea. We don't laugh at it. Skunk Works determines if we'll move forward."

Skunk Works is Wilton Armetale's answer to the challenge of innovation, which some observers project as the next great wave in manufacturing, one that is absolutely essential if America's manufacturers are to thrive in the new global marketplace. For a variety of reasons, though, the sector has been reluctant to address innovation head on, even though developing new products and markets may be the surest route to continuing prosperity. Robert Tucker, President of the consulting firm The Innovation Resource and author of *Winning the Innovation Game* and *Driving Growth Through Innovation*, suggests that the modest economic upturn of early 2006 may have led manufacturers down a dangerous garden path.

"I see a creeping complacency because times are a bit better now," Tucker says. "Companies may take their eye off the ball. They're not hell-bent on innovation. It's not a fun thing for them. Many companies

haven't completely grasped that we're in this new era where ideas matter. They think approaching innovation on a catch-as-catch-can basis will put them ahead. But the winners will be those who are innovating."

Other manufacturers, like stubborn generals, may be fighting the last war, the Great Cost-Cutting Campaign. Says Ron Mascitelli, author of *Building a Project-Driven Enterprise* and President of the consulting group, Technology Perspectives:

"There's so much pressure now on the cost side that most small or mid-sized manufacturers have a tendency to be pretty much cost-focused. It seems like you can't do both, contain costs and innovate. They say, 'We're just trying to avoid China eating our lunch.' They're not willing to saddle up the risk of designing new products. But it's a false reality. You've already given up the game when you try to slug it out on cost."

Petra Mitchell, Vice President of Operations for Catalyst Connection, the state's Industrial Resource Center in southwestern Pennsylvania, observes that even manufacturers in the Commonwealth that are innovating may be doing so more tentatively than the situation demands.

"The bulk of their new product development efforts are minor modifications, enhancements, maybe a new addition to a product family," Mitchell says. "Very few are doing substantial or breakthrough developments. There's nothing wrong with incremental improvements. But we think there's an opportunity to expand and do something a little more significant. There isn't a sense of urgency around this. I think there should be."

If Pennsylvania manufacturers haven't embraced innovation, it may be because they're laboring under the popular misconception that innovation is pure serendipity, a series of fortuitous "Aha" moments that can't be scripted or scheduled. Innovation,

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**I see a creeping complacency because times are a bit better now," Tucker says.**

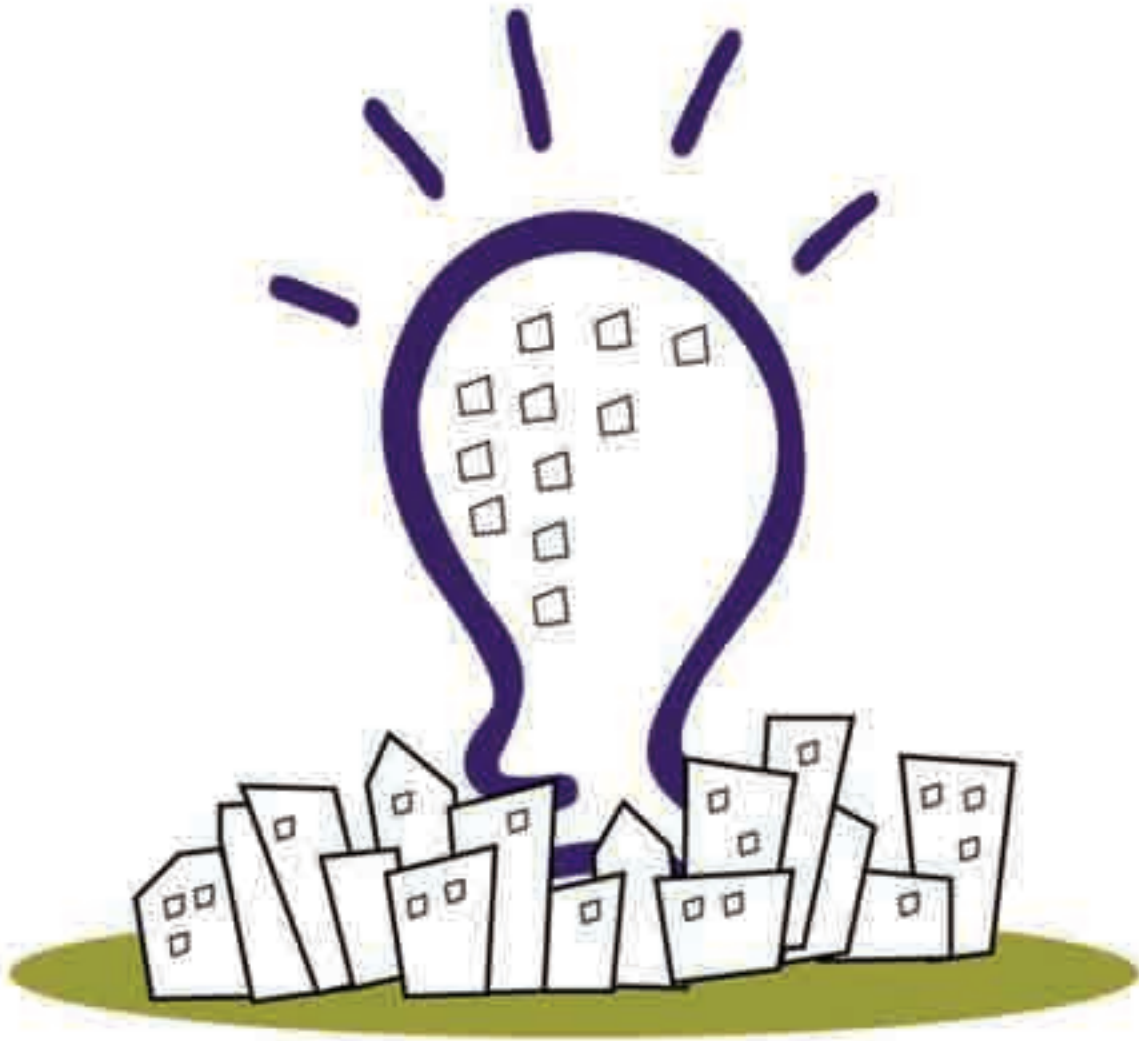
**"Companies may take their eye off the ball. They're not hell-bent on innovation. It's not a fun thing for them."**

”

Tucker insists, requires - and follows - a plan.

"We have a process for everything else," Tucker says. "We have an accounting process, a training process, a process for oiling the machines. But we don't have a process for this thing called innovation."

"Each company needs to create that process. Spend a little time designing it. Borrow from other companies. Study what it is and what it isn't. Take a half-day or day, grab a pad of paper and get completely away from your computer, your staff, your cell phone, your BlackBerry, and think about three things: 1) What are the milestones of innovation of your company, the breakthroughs that put some top-line revenue growth in the company, and how did those ideas come to be? 2) What's in your pipeline right now, whether it's new products or new markets? 3) Where do you



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want to take this company vis-à-vis products, processes and strategies?

“When you have your answers, you have the basis for a blueprint. Write it out. Treat it like the Declaration of Independence. Otherwise, there’s too much room for wiggle-waggle.”

If you’ve been awaiting bolts from the blue rather than formalizing a development process, now’s the time to create and implement your Declaration of Innovation - call it a “Declaration of Innovation.” Here’s some advice from the experts on getting it done.

### BEGIN WITH YOUR CURRENT PRODUCTS

To be sure, a mature innovation process may take you far beyond your existing lineup. But there’s no reason not to begin with what you already have. A tweak here, a modification there, and you may have a wrinkle that can enhance the satisfaction of current customers and get you in front of new prospects.

“People think innovation is the breakthrough product, the iPod, the Walkman. In reality, that’s a tiny fraction of the innovation landscape,” Mascitelli says. “The vast majority of innovative products are evolutionary improvements with significant differentiation. You can differentiate without thinking in terms of big breakthroughs and high risk.”

If you bring your customers into the equation and regularly sound them out on their needs and problems, you may find that even slight product modifications can mean a decisive market edge. Says Mascitelli:

“Some alternatives to breakthrough new products are those that can offer great differentiation, improved service, more cus-

tomization, greater ergonomics or ease of use, maintainability or cost of operation. Another might be offering a suite of products that solves a customer’s problem as a collection. Innovation is about getting the highest possible price by bringing the highest possible value to market.”

### MEASURE YOUR RESULTS

The outcomes of your innovation focus may seem difficult to capture, but once you’ve developed a discrete process, you can measure innovation as you would any other initiative. One way, for example, is to assess the time that passes from raw idea to implementation, pipeline time, if you will. If it’s too long, you know your process needs work.

You also can establish a goal for revenue that derives from new products or new markets - and offer suitable incentives for goal achievement.

“That’s an old 3M metric, but it’s got legs,” Tucker says. “A lot of manufacturing companies use that one.”

### TO THINK OUTSIDE THE BOX, GO OUTSIDE THE BOX

Innovation means challenging baseline assumptions, questioning everything. The more diligent your employees, the tougher these tasks can be for them. After all, you’ve succeeded because of certain assumptions about production and the marketplace, and experience has proved you right until now. Ask employees to question all that and you may be looking at rows of puzzled faces.

So go outside the box to think outside the box. Bring in a facilitator to jump-start your innovation process.

“The key element is questioning assumptions - that’s critically important,” Mascitelli says. “Outsiders avoid the ‘groupthink’ phenomenon. An outsider can shine a bright light on the preconceptions and really help you be more open.”

When Catalyst Connection offers consulting services to help small- and mid-sized manufacturers institutionalize innovation, the typical starting point is the evidence that clients themselves offer. Says Petra Mitchell:

“Many of them tell us that they could

definitely do it better or quicker. They know where their pains are.”

Catalyst Connection couples its fresh perspective with a broad knowledge of successful techniques to help clients craft their innovation plans.

“We’re trying to enable firms to create winning new products while managing risks, reducing time to market and reducing cost,” Mitchell says.

“Significant numbers of new product launches fail. We want to improve that success rate for our companies.


“All the tools and techniques that we’re espousing are proven methods that have been used in larger companies. They need a little extra translation or simplification to make them relevant for smaller companies.”



### CREATE A COMPANY-WIDE CULTURE OF INNOVATION

If innovation is a process that can be conceived, implemented and measured, it stands to reason that it should involve the entire company, not just those executives and staff charged with product develop-





ment. The spirit of innovation should be inclusive and pervasive.

"A lot of small to medium-sized firms don't have the resources to put together an innovation initiative," Mascitelli says, "so it has to be integrated into the process, embedded in the DNA."

When selecting your innovation team, cast your nets wide.

"You wouldn't want to restrict it to certain people in the company at the exclusion of other people in the company," Tucker says. "That's a conceit that's carried over from the previous century, that only a few people can contribute to the innovation process."

If you're the top decision-maker, your presence in any innovation exercise is vital.

"Attendees need to include the people who have both the market insight and the clout to decide if the requirements need to change," Mascitelli advises. "It won't do you much good if you don't have the decision-maker there to say yes or no."

Designating a process leader with senior standing will demonstrate how highly you value innovation. But the thrust for innovation shouldn't end there. Remember, good ideas can come from anywhere in the organization. Instead of dismissing your most creative thinkers as oddballs and fringe players, thank and congratulate them . . . and encourage them to channel their creativity in fruitful directions.

"We need to train them in what kinds of ideas we're looking for so they know the sweet spot," Tucker says. "They are difficult to manage. They don't dress for success or go along to get along. But they excel at innovation. We need to tell them what we're looking for and ask, 'What out-of-the-box solution can you come up with?'" **P**

## CASE STUDY: SKUNK WORKS

A casual observer might think that a company as successful as Wilton Armetale, with steady production, a host of reliable customers and repeat business, might not need much in the way of innovation. But Steve Wilton and Ken Lefever see their situation very differently.

"We have a very mature business," Lefever says. "We needed to create a team dedicated to new product development and opening new channels of distribution and potentially creating new brands. When you look at the business landscape 10 years down the road, it's scary. We believe that if we don't innovate, we're not going to be around 10 years from now."

Early in 2005, the company adapted the Skunk Works technique (pioneered at Lockheed Martin) by forming a small team that soon grew to include others from the office and the foundry. To supplement its weekly Webcasts, the team meets face-to-face once each quarter. Ideas hatched in Skunk Works sessions are documented and placed in a product development book. From there, they'll receive more formal consideration.

Some ideas are deemed impractical or otherwise unworkable. In those cases, the Skunk Works team so informs the originators to make sure they stay in the loop.

"If people submit ideas but have no idea what's happening to them, they stop submitting ideas," Lefever says.

Two concepts that originated in Skunk Works already are in production. One is an entirely new brand, called Tablo, that includes woks, fondue products, sets of shrimp and chili bowls, and sizzle and grill plates. The other is an extensive line of Gourmet Grillware. The common denominator: both are enabling Wilton Armetale to bust out of the Tabletop category and gain display space as Housewares. That may seem a subtle difference, but the new lines are introducing the company to fresh markets.

Also in the works is a potato stake that would eliminate the need to wrap spuds in foil before cooking.

A few ideas that emerge from Skunk Works don't have that sweet smell of success. One participant thought he'd experienced an "Aha" moment when he drilled a hole in a Wilton Armetale bowl, inserted a piece of PVC pipe and offered up the contraption as a new sink. The sink sank . . . but only for now.

"Who knows?" Lefever says. "Down the road, sinks might work." **P**

# MEET TOM PANZERELLA:



## MANUFACTURING VETERAN TALKS ABOUT INNOVATION, QUALITY AND COMPETING IN TODAY'S TOUGH MARKETS

**Tell us a little about your background and your current role with Cook Technologies, Freedom Lift and Freedom Sciences.**

I'm what most refer to as a "seasoned" manufacturing/engineering professional or in other words someone with over 35-plus years of experience in the industry. My educational background consists of undergraduate degrees in mechanical engineering and business administration. I've worked for GE as an engineer for 10 years at various U.S. locations and have been President/CEO of Cook Technologies for over 25 years. My first spin-off, Freedom Lift Corporation ([www.freedom-lift.com](http://www.freedom-lift.com)), was in June 2002 and my most recent start-up company being Freedom Sciences, LLC ([www.freedomsciences.com](http://www.freedomsciences.com)), in July 2005 is located at the Philadelphia Navy Base in a PA state KIZ (Keystone Industrial Zone).

I serve as CEO and business development person for the companies mentioned. I look at my role now more as a true visionary and the person responsible for providing the financial ability and collaborative network of industry/academia/government individuals to allow the Freedom Lift/Freedom Sciences operational management and technologists to commercialize innovative products and grow market share. Our main focus is on durable medical equipment (DME) products and integrating robotics-based technologies to introduce industry-changing, disruptive technologies into the field of assistive technologies. We strive to provide innovative, independent, personal transportation for the disabled, elderly and those with limited abilities.

**Innovation has played a major role in your companies' success. How have you been able to drive innovation through your organization?**

Our 60 year-old parent company, Cook Technologies, Inc., has always focused on innovation and exploring the use of breakthrough technologies, but it has been mostly relegated to manufacturing processes and/or industrial/commercial-enabling technologies like robotic welding, solid modeling, CAD to component capability, ISO compliance, Kanban and Lean manufacturing techniques. By staying on top of these enabling technolo-

gies and innovative approaches to removing waste and driving-down costs, we were able to continually reengineer ourselves as a high-end, innovative, value-added contract manufacturing firm. It has served us well and will continue to provide us with leading edge manufacturing capabilities. However, in a globally competitive environment, it is not sufficient to create scalable growth and maintain a consistent, loyal customer base. Because of the ever-changing technological developments (i.e. analog to digital, etc.) it is very difficult to determine who the next leading-edge companies are to target and offer your services. Eventually, everything gets commoditized and it erodes your profit margins. You need to rapidly and continually re-tool you company and hope you made the correct choices in firms that you are committing your limited resources.

We made a concerted effort over the last 10-12 years to look for markets with a growing demographic population that we could serve better than a firm located in Asia, where we would own the intellectual property and control the quality-driven manufacturing supply and to use the Internet and our ERP system to integrate global sourcing. The innovation we apply today extends into product design and development and creating patented products. We use our core competencies of robotic welding and advanced manufacturing techniques to build high-end electromechanical devices utilizing our well-established industrial applications knowledge. The educational component and in-house mentoring of our workforce promotes innovation. Conceptual thinking combined with knowledge of the current technologies translates into providing proprietary products with innovative user applications.

**Hand in hand with innovation, quality control has been at your companies' forefront, too. How has achieving ISO standards taken your operations to the next level?**

Maintaining quality-driven manufacturing disciplines and creating the quality culture is incumbent upon any firm desiring to be a successful company and survive in this global environment; therefore, meeting the ISO

quality management system standards is a given. Our firm is both ISO 9001 and QS 9000 registered. At minimum, companies should be compliant to the ISO standards. The quality standards extend well beyond the factory floor, they penetrate all aspects of one's business, including customer service, technical support and other non-factory-related areas. The results of a quality management system must translate into value to the customer, both internally and externally. Continuous improvement activities and the goal of removing waste from all areas is a survival necessity.

**What is your biggest challenge running a manufacturing outfit in Pennsylvania and how are you overcoming it?**

The obvious issues of affordable healthcare, rising energy costs, increased products liability costs and the threat of litigious outcomes that dissuade entrepreneurs and innovators to venture into providing breakthrough products are some that immediately come to mind. The need for an educated workforce to utilize current technologies and to drive the growth of innovative companies is right up there as a major impediment to success and survival. The need to foster better math and science studies in our schools is a continuous necessity. The need to compete globally requires emphasis on science, technology, engineering and math. It is also important to provide an accessible means for industry/academia/government collaborations.

It is an arduous process for small- and medium-size firms to obtain access to technologies and/or expertise found in our military labs and universities so they may be applied to non-military, industrial/commercial applications. The Internet has provided the research tools required, but the bureaucracy in both government and our academic institutions is stifling. The agendas for the entities involved are not conducive to building a strong industrial base of companies and a solid employment base. The state and federal funds and/or grants allocated and made available to academia and other governmental agencies never really make their way to for-profit companies or those entities providing the jobs and a solid tax base. **P**

# BUSINESS SUCCESSION PLANNING FOR THE FAMILY BUSINESS OWNER

By Walter E. Lannis, Kirkpatrick & Lockhart Nicholson Graham LLP

## **W**hy is it important for a family owned business to have a succession plan?

Much of the wealth and income of the typical family business owner is in the business. The death of the founding owner often challenges successors to preserve the business value and to maintain family harmony. A good succession plan will increase the likelihood of either a successful transfer to the next generation or a favorable sale. A family business owner faces the following challenges:

- Minimizing federal estate taxes - Although the future of the federal estate tax is uncertain, under current law, a decedent's estate worth more than \$2 million may be subject to a 46 percent tax due nine months after death. A family business owner can reduce the estate tax by transferring or freezing business value through gifts, fair market value sales, grantor retained annuity trusts and option transfers. The estate tax may be reduced further by creating minority interest discounts, using all available exemptions and deductions, and, in some circumstances, paying the tax in installments over 15 years. Coordinating use of the various lifetime techniques and the testamentary federal and state tax exemptions, deductions and deferral opportunities is critical.

- Generating sufficient liquid assets for taxes, expenses and business continuation - The key here is to avoid a forced sale of the business, especially in a start-up situation or a down business cycle. A variety of lifetime and testamentary techniques may generate the necessary liquidity. For example, if there

are multiple owners, a buy-sell or shareholder agreement may be appropriate. If the business has cash or access to cash and the decedent's interest meets certain requirements, it may be possible to redeem part or all of the estate's equity without income tax consequences. Often a simple solution is to obtain life insurance or to recapitalize the company to reduce estate tax exposure.

- Providing for interim management - Whether the business will remain in the family or be sold after the founder's death, there should be a plan for continuation of the business. In addition to providing for interim management, a succession plan also may specify incentives for maintaining the value and profitability of the business, retaining key employees, and keeping important customers. If no family member is able and willing to step immediately into management, it will be necessary to identify someone to manage the business until it is sold or a family member is ready to assume a leadership role. If there is not an obvious candidate, some founders choose to appoint a committee composed of family members, trusted advisors and other family business owners to manage the business on an interim basis. Even if family members are obvious choices for management, a committee may be advisable to assist in decisions concerning management compensation and division of duties.

- Determining how to divide interests among surviving family members - If no beneficiary of the founder is active or likely to become active in the family business,



**A good succession plan will increase the likelihood of either a successful transfer to the next generation or a favorable sale.**



then the goal generally is to maintain the value of the business until a favorable sale - sometimes through an option to top management - is completed. Alternatively, if the ultimate goal is to transfer the business to the founder's children, the planning challenges may be more difficult, especially when there are some children who are or may become active in the business and some children who are not. Often, there are conflicting desires to treat all of the children equally but to give the actively involved children control of the business and all or a substantial portion of the equity, so they

will have an incentive to perform their best. Multiple techniques are available to address the resulting issues. For example, special allocation provisions in the founder's estate plan could be used to correct any imbalance in the shares of active and non-active children. If sufficient non-business assets are not available, the children who are active in the business could purchase additional equity interests from their siblings on terms prescribed by the founder. If it is desirable or necessary to allocate at least a portion of the business to children who are not actively involved, business recapitalization, for example, with voting common interests for the active children and non-voting preferred interests having a reasonable coupon for the non-active children, may permit sharing of value and control as the founder believes will achieve the best result.

#### Is it ever too early to create one?

Not if you desire to preserve your business and help your family. Moreover, the less valuable the company at the time a succession plan is created, the easier it is to reduce tax and provide liquidity.

#### What key areas should a solid plan address?

It should address: (i) estate tax minimization and/or deferral, (ii) whether the business should be retained in the family or sold, or, if not decided, a framework for others to decide, (iii) interim management, including incentives for key people to stay with the business, (iv) if the business is to be retained, allocation of control and equity among the beneficiaries, (v) whether beneficiaries should receive assets in trust (to provide asset protection, achieve tax benefits, ensure ultimate passage to the intended beneficiary, etc.) or outright (to

provide more control, increase efficiency, reduce expenses, etc.), and (vi) titling of assets between spouses to balance sometimes competing asset protection and tax minimization objectives.

#### What are the common mistakes?

Procrastination is the biggest. Succession planning is sometimes delayed if there is not an obvious choice for successor management, in order to avoid making difficult (and sometimes painful) choices between children, or because of a here and now focus that can arise due to the most urgent demands of the business. Procrastination not only creates a risk that the founder could die without a succession plan, but if the business appreciates significantly during the delay, it also could result in lost opportunities to minimize estate tax. Another relatively common mistake is to rule out the use of life insurance because it is perceived as a poor financial investment.

#### How often should you review a succession plan?

Since family and business circumstances, as well as tax laws, undergo rapid and unpredictable change, you should review your succession plan every three to five years. **P**

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PHOTOS BY TONY ESPOSITO

# SURGING AHEAD:

**W**hat is going on around here? The market's ripe for our products. We're built from the production side to handle the upswing in demand. Our sales team is finding success and orders are up. Our top line looks strong, but those benefits aren't finding their way to the bottom line.

So, again the question, what is going on around here?

The answer may very well lie with the source of most problems in business - the "people" variable. Getting human beings to hold hands and play nice. To know why they're where they are, what they're supposed to be doing and how. In other words, managing performance.



# PERFORMANCE MANAGEMENT CAN KEEP YOUR WORKERS AT THE FRONT OF THE PACK

BY TIM HAYES, CONTRIBUTING WRITER

But, as is the case so often, the simplest expressions - like "managing performance" - can be fraught with complexity and confusion. Fear not, supervisors, directors and middle managers. There is a right way to handle performance management, and it can yield significant bottom line benefits.

"Performance management is not a revolutionary idea," admitted Fiore C. Londino, a partner with Pittsburgh-based Pareto Consulting. "Most people fall down on the execution. Organizations that do it well are the ones that succeed.

"There's a commonality of doing it well," said Londino. "Essentially, it comes down to good blocking and tackling, basic sound management principles of setting expectations - and not on just an annual basis - then following up."

Londino cited a figure used in his industry that posits a \$27,000 per employee direct benefit to bottom line, when performance management practices are handled well and consistently throughout an organization.

"These are phenomenal numbers," he said. "We're starting to see more of a focus on ROI from softer HR priorities."

All right, say a good performance management effort can drive more revenue to the bottom line. How is it done? What are the mechanics of this process?

"Among manufacturers, there's a preferred way to conduct performance management regarding hourly employees that differs from salaried employees," Londino explained. "That difference is not using a specific goal-setting strategy with this hourly group. A better system is to set eight to 10 points they'll be rated on, all related to more rote tasks. Things like quality of work, quantity of work, teamwork, adding to their skill set and adapting to changes. Going about the process this way makes it a whole lot easier for production workers to understand and accept the

performance management model.

"No matter who you employ, they like to be measured and to get feedback," he said. "Manufacturing can be more profitable using this system. When the job is fairly rote, a more standard format works. At the professional rank, specific goal-setting is more effective.

"All of it breaks down when the manager doesn't follow through, however," Londino stressed. "Performance management has to be seen as a business process, not an HR process. It can't be seen as just going through the motions. It's guaranteed to fade away within 12 months, if that's the case.

"Every part of the performance management process depends on a proper and strong alignment of goals from top to bottom," he said. "Without that, you can have very well-meaning, action-oriented, results-centered goals but if they are not aligned with the organization's larger objectives, you're wasting your time."

Londino added that most of the power of performance management comes in the day-to-day coaching between managers and their employees. A comprehensive study conducted in 2006 by Princeton, N.J.-based human resources consultants BlessingWhite called "Coaching Conundrum 2: The Heart of Coaching" offered a number of interesting insights into the concept of effective coaching within business organizations - insights that would influence the effectiveness of performance management initiatives.

BlessingWhite found that managers know they should be coaching more and employees know that they need to be coached more. So what's the problem? Well, as it turns out, there is more than one problem, as in:

- Organizations mandate coaching, but few back it up with systems and compensation.

“

**BlessingWhite found that managers know they should be coaching more and employees know that they need to be coached more. So what's the problem? Well, as it turns out, there is more than one problem.**

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- Managers who do coach try to do it for everyone, which only means that employees are getting enough individualized attention to be truly effective.
- Managers like to coach, but employees don't always see the impact or benefits.
- Managers think they should coach more, but at the same time they have serious reservations about their preparedness to coach effectively.

To close these serious gaps, BlessingWhite offered a checklist for business leaders to improve the effectiveness of coaching within their organizations:

- Equip managers to coach - If managers wait for huge gaps in their schedule that they can fill with coaching, coaching will never happen. Instead, encourage managers to look for "coaching moments" they can take advantage of in the course of everyday interchanges they already have with their employees.

**Continued on next page.**

- Clearly communicate the organization's big picture goals and immediate business priorities - Link individuals' work tasks with the bigger picture and support those behaviors that link to business success.
- Encourage managers to focus on personal connections - Employees who like and respect their managers are more satisfied with the amount of coaching they receive, as well as the results.
- Provide managers with the right tools and structure to foster coaching partnerships - Encourage them to get to know the coaching needs and preferences of each team member, and to establish the best way to work with each individual.
- Encourage ongoing dialogue between managers and employees - Managers must consistently check-in with team members to give and get feedback and to build a partnership that yields results.

The concept of coaching takes on more importance with the advent over the past five years or so of another key component in performance management - the attention paid to employee behaviors, meaning it's not only what you do that influences bottom line success, but how you do it.

"Take sales, for example," said Londino. "When sales are up, it's great for the top line, but if the sales person generates too much turmoil internally, that creates problems in other areas with the end result being that those sales do not add to the bottom line. That's why, just as you need to align employee performance goals with corporate strategy, employee behaviors must align with the corporate culture.

"This is important because companies hire people for their technical skills, but fire people because of their behaviors." The most effective way to do that is to establish well-defined measures of behavior, such as employee adaptability, building effective teams, good peer relationships and so forth. Londino explained that an organization may have as many as 60 of these parameters, with one or two non-negotiable ones, based on company values.

Behavior metrics also can be tied to job-specific areas. Managers, for instance, may be measured on their behaviors influencing their ability to manage work and assess talent, while executive behaviors related to creating and managing a strategic vision would be key factors.

"The main thing is, it has to be a defined list," said Londino. "All have to be talking the same language, using common definitions of behaviors."

So, we have job performance on one hand and behaviors on the other. Which is more important? Which should have more weight in evaluating employees? It depends on the type of organization.

"A lot of companies split performance goals and behaviors 50/50," Londino said. "But high-performing companies like General Electric put more weight on values and behaviors. Think of a grid with a vertical axis called Performance and a horizontal axis labeled Behaviors. At GE, an employee who ranked high on the Performance axis but low on Behaviors would be a candidate for termination, while an employee marking low on Performance and high on Behaviors would be given a second chance, perhaps some on-the-job coaching to improve the Performance ranking.

"The American business community came to the realization that we were hold-

ing people accountable for their results, but we were still having problems with growth and profitability," he said. "Behaviors drive this just as much as success does in accomplishing the technical requirements of jobs.

"Companies are starting to get away from weighting performance against behaviors a little bit now," said Londino. "There always will be some level of subjectivity. But you can hedge against that by ensuring that common definitions are always used across the board in evaluating performance and behaviors."

A 2003 white paper from Mellon Human Resources and Investor Solutions offered a sequence of steps to help ensure success in guiding and evaluating employee performance and behavior:

- Aligned to Perform - Establishing a "line of sight" from corporate strategy to individual performance.
- Willing to Perform - Establishing a culture supporting a motivational environment that "solicits discretionary effort" from the workforce.
- Able to Perform - The organization develops and manages its talent to build performance capability.
- Supported to Perform - Improving employee performance provides the rationale for much of the organization's people management practices.
- Reinforced to Perform - Recognizing the impact of employee contributions to the organization's objectives is a visible and valued management practice.

Performance management represents a tool to drive more revenue to the bottom line for manufacturers and other types of businesses. But it ain't easy, it ain't quick and it ain't cheap. Anyone with a weak constitution needs to think and plan seriously before making this leap - because while the benefits of doing it well can be significant, so can the penalties for doing it poorly.

"If a company wants to do this, do it well or don't waste your time," said Londino. "That's because to try it again if it isn't done well the first time will be met with even more intensified skepticism. It takes a lot of focused effort and you need to commit the resources to do it well." **P**





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# IT'S LESS ABOUT INFORMATION TECHNOLOGY...

BY HARRY F. LANDSBURG, CPA

As manufacturers look to upgrade or change the software that supports their business activities, a new realization is impacting the decision making process.

Because of the quality and variety of software solutions for manufacturers in the marketplace, these decisions should be based primarily on how a manufacturer needs to do business today and in the future, as determined mostly by suppliers, customers and competitors. Once current and future business process needs are documented, finding the right technology to support the business model can be accomplished more successfully.

As recently as 10 years ago, a company would have been wise to apply hardware and software technology "as is" to support their business and change their business practices to take advantage of what was available in the marketplace. Modifications to software were costly and vendors had difficulty supporting software with different versions running at every client.

Ten years ago, the network marketplace was more evenly split between Microsoft and Novell with Novell having the more stable solution, but Microsoft was quickly changing the marketplace with its Windows solution. It was not uncommon for manufacturers to say that they liked the Windows product, but they were reluctant to change because Novell was just so stable. Many companies saw the direction of the marketplace changing to Windows but were reluctant to give up daily productivity.

In terms of out-of-pocket cost, hardware was increasing in price but delivering far more processing capability, in some cases just enough to keep up with the demands of the newly graphical software.

## TODAY'S TECHNOLOGY

Fast forward. With the array of hardware, network and software solutions in the marketplace for manufacturers, the issues becomes less about finding the right technology and more about getting the expected value from a company's technology investment.

In order to meet or exceed its value proposition associated with a comprehensive systems upgrade, manufacturers need to decide how they want to do business today and in the future.

Without having a business process model to support with technology, it's difficult to justify the purchase and implementation of upgraded or new solutions since the value proposition is often difficult to quantify.

Who really influences what a manufacturer's business processes are today and will be in the future? In many respects, key determinations on this topic are made by a company's suppliers, customers and competitors. Meeting or exceeding the challenges of these influential groups is the goal of many manufacturers.

And as companies plan to meet the challenges presented in all aspects of their operations, technology is a key partner to the practices that take place in the business. More than ever, technology plays a supporting role in the "leaned out" operations of many manufacturing companies.

## WORKING WITH SUPPLIERS

Acquiring the parts, assemblies and outside services needed to efficiently make the items your customers want combines approaches to inventory management and supplier responsiveness. Whether it's called supply chain management or purchasing, manufacturers still need to judge how much inventory to carry, obtain visibility

of the need for parts, assemblies and outside services; and produce finished items on time, in the right quantity and with the highest quality.

Driving this opportunity are decisions about desired inventory levels of raw materials, work-in-process and finished goods. Managing vendor relationships is another critical aspect, as are the availability of parts, the price paid to acquire needed materials, the timing of the delivery of parts and services and the measurement of all these activities. After companies make decisions about inventory turn goals, policies and processes are put into place to guide the number of suppliers they choose to work with, manage blanket purchase orders, measure supplier performance and

“Because of the quality and variety of software solutions for manufacturers in the marketplace, these decisions should be based primarily on how a manufacturer needs to do business today and in the future, as determined mostly by suppliers, customers and competitors.”

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# AND MORE ABOUT BUSINESS PROCESS PART 1

minimize the roadblocks to shipping product on time.

Once those goals are set, the next decisions relate to how technology can be applied to the achievement of these metrics. Having the right software functionality for inventory management, purchasing, BOMs and routers and visibility of the production process are essential tools to achieving the best possible performance.

Utilization of the Internet relative to remote visibility of supplier inventory quantities along with production and shipping schedules (Advanced Shipping Notices) is also critical. Properly secured access to the information of suppliers or their visibility of the manufacturers needs for parts and services are all part of a successful, state-of-the-art solution to supply chain opportunities. And as it should be, the business process is considered first and the technology tools are blended into achieving the desired results.

Let's look at models for three types of companies. The first has a more traditional MRP/ERP culture. This means that their push systems of manufacturing require them to have sufficient quantities of raw materials and subassemblies on hand to help them either to make product to customer order or make parts to stock to fill future orders. In these companies, traditional purchasing is often a blend of on-line visibility of both historical purchasing trends and current and anticipated orders from customers.

Decisions are made about the quantity of items to be purchased often by drilling down to individual item masterfile records to determine quantity price breaks before purchasing decisions are finalized. Purchasing personnel also review the Materials Requirements Planning (MRP) output showing need for parts as an important component of this decision-making activity. All this information is

considered and (blanket) purchase orders are created to allow the company to obtain the parts that are needed as close to the time that they are needed for what appears to be the best possible unit price.

The second example is a make-to-stock company that relies heavily on the forecasting technology available from ERP solutions in the marketplace today. These manufacturers need extensive forecasting capability and effective master production scheduling functionality to ensure that plans to make a forecasted quantity of items are able to be executed with parts available as needed and production capacity available to complete the manufacturing steps required as planned in the system. In these companies the forecasted orders literally drive purchasing to have parts and subassemblies available as planned by the ERP system so that production can take place as scheduled. Today's software can support this business model well also.

Finally, the Lean organization that has migrated to flow lines and work cells supported by Kanban systems has plenty of support from the software marketplace today. Technology has worked well in connecting suppliers to manufacturers so that electronic Kanban signals notify suppliers of the need to replenish materials based on negotiated price and terms. Flow lines and cells are continually being fed needed parts as two-bin Kanban systems signal either that stockroom, the warehouse, or even the supplier directly of the need to have product in the work area ready to utilize as demand pulls product through the factory (on a calculated takt time) and to the customer as required. In this structure the relationship between the supplier and the manufacturer is much more proactive and pre-structured with few needs to

respond to stock out emergencies or failures to see the need for product due to clerical error or lack of timely information provided when needed.

Regardless of the current and future state business model identified above, technology offers significant support to forecasting, planning, negotiating and monitoring the relationship between multiple models of manufacturing planning and execution and the support needed from suppliers and outside service providers. **P**

*In the next issue, we'll explore how customer satisfaction and your competition can often drive information technology decisions.*

*Harry F. Landsburg, CPA, is the Chairperson of the Pennsylvania IT Network (PAITN) and the Director of Business Process Technology Consulting for the Delaware Valley Industrial Resource Center (DVIRC) in Philadelphia. (hlandsburg@dvirc.org)*





# DESIGNING A NEW ECONOMIC ARCHITECTURE

## GSP'S RICHARD OVERMOYER TALKS ABOUT GROWING COMPANIES, JOBS AND WEALTH FROM THE GROUND UP

**F**irst, explain what you mean by “Economic Architecture” and why GSP chose this name for its newest practice area.

The conventional TBED (technology-based economic development) vernacular, I believe, fails to capture what communities and local economies really need. Economic development strategies must focus on entrepreneurship, workforce development, industry-university connectivity, public policy, and other fundamental building blocks, beyond just research and technology.

We believe that the construction metaphor and “Economic Architecture” really encapsulate the modern economic development paradigm. Communities must build a sturdy, sustainable backbone for their economy, based on extensive due diligence and planning. GSP designs economic development blueprints that don't just look great on paper but yield a realistic, “livable” structure.

**How has the national economic development landscape changed in recent years?**

A full answer to this question would take more space than *PA Manufacturer* can spare. But the following are some of the most important realizations we have made:

Economic development leaders now have more data and experience to draw from than ever before. Over the last decade, we have seen a tremendous proliferation of economic development organizations and programs around the world. Most of these regional strategies were developed in a vacuum with very little examination of other regions and proven Best Practices. We now have an opportunity to take stock of these strategies and understand what is working and what can be replicated in other places.

We can no longer look at “Technology” as its own industry. Technology and innovation have become integral components to literally every industry. Look at the home construction industry. Would traditional economic thinkers view this as a technology industry? Of course not. But with the advent of “green” building and greater energy consciousness, homebuilders and suppliers rely on innovation like never before. Even the maritime and agriculture industries are becoming technology industries.

State and local incentives have created a virtual zero-sum game of company attraction and retention. With every state or region now offering some package of grants and loans to attract the

next big corporate headquarters, we must focus more heavily on growing new companies to be competitive. Services and support for entrepreneurs, industry-university collaboration, a capable workforce, and tax policies will be critical in developing local economies.

Performance metrics must be crystal-clear. Many economic development initiatives fail or are perceived to fail because they are launched with a weak, misunderstood or non-existent set of performance metrics. Whether measuring job creation, revenues or some other factor, metrics must be easily calculated and explicitly outlined for the community before the launch of a new initiative.

**With your background in government, what role do you see public policy playing in the future of economic development?**

I can say emphatically that Pennsylvania is one of the most aggressive and progressive states in the country when it comes to economic development programs. In fact, we are often the envy of many states I visit in my travels. While I believe we can make important strides in our business tax policies and other areas, Pennsylvania has created a world-class infrastructure for companies and entrepreneurs.

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**WE BELIEVE THAT THE CONSTRUCTION METAPHOR AND “ECONOMIC ARCHITECTURE” REALLY ENCAPSULATE THE MODERN ECONOMIC DEVELOPMENT PARADIGM. COMMUNITIES MUST BUILD A STURDY, SUSTAINABLE BACKBONE FOR THEIR ECONOMY, BASED ON EXTENSIVE DUE DILIGENCE AND PLANNING.**

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The federal government, on the other hand, must adapt its programs and policies to accommodate the modern economic landscape. The Department of Labor's own data suggests that over 80 percent of the jobs created in the U.S. over the next decade will be created by small and entrepreneurial business. And yet, the federal government's investment in entrepreneurial development activities is paltry. Organizations like InnovationWorks or Idea Foundry have few places to turn for federal funding support.

Congress believed by funding basic research and passing the Bayh-Dole Act in the early '80s, that technology commercialization and economic development would take care of itself. They believed that the private investment community would provide the “Seed” funding necessary for advanced technology development and eventual commercialization. But, as fewer and fewer skilled investors risk the seed-stage investment game, too many promising companies are struggling to get off the ground. We need the federal government to play a more active role in advanced technology development and provide greater support for entrepreneurs and early-stage investors. **P**

*Mr. Richard Overmoyer is a Principal at GSP Consulting and Director of the firm's Economic Architecture Practice. Before joining GSP, Rich served as the Deputy Secretary for the Technology Investment Office in the Commonwealth's Department of Community and Economic Development (DCED). While at the Technology Investment Office, Overmoyer managed several major initiatives including the Keystone Innovation Zones, the Ben Franklin Technology Development Authority, the Life Science Greenhouses, Tobacco Settlement Investment Board, Industrial Resource Centers, and the CyberStart Initiative. Overall as Deputy Secretary, Rich managed more than \$82 million in annual appropriations and more than \$1 billion in funds under management with outside investors. Rich has a Master's Degree in Public Administration from the Graduate School of Public and International Affairs at the University of Pittsburgh.*

# MAKING SURE THE PRICE IS RIGHT

IF YOU VALUE YOUR BUSINESS, DO NOT UNDERESTIMATE ITS SIGNIFICANCE

BY PATRICK HANRATY, DAEDALUS FINANCIAL GROUP

**W**hat is your business really worth? It's hard not to wonder. And if you don't know, you're flying blind.

A company's value is a crucial aspect of everyday business dealings. It helps you define your overall decisions, including how much you can borrow, whether you need an estate plan, and what to do when events sneak up on you.

In modern days, valuing a company is less of a guessing game and more of a science.

## CASH RULES THE PRIVATE WORLD

First of all, forget about the Dow averages and concentrate on its current and expected free cash flow earnings before interest, taxes, depreciation and amortization, minus any capital spending necessary to bring the business up to par.

If you are selling your business any potential buyers will take present cash flow and project out five years, then set a price on those earnings that guarantees a decent return.

The price will vary according to the likelihood that earnings will grow, based on clues such as whether your revenue growth and margins have been consistent. Companies with clean balance sheets are less likely to face any price cuts than cyclical, debt-ridden prospects.

Certain intangibles also affect the value of a business. An industrial manufacturer with five solid customers is likely to fetch a lower price than a similar-size competitor with 50 outlets because its revenue source is less diversified.

A company that's big enough to go public might begin to trade at stock-like multiples of earnings or sales. And if you're selling to a "strategic" buyer - someone who'll use your company to expand his territory or

product line - you might command a hefty premium.

## SORTING THIS ALL OUT REQUIRES OUTSIDE HELP

Good choices are business brokers, certified valuation analysts (CPAs with more specialized training), or mergers-and-acquisition specialists.

However, be aware that each group has potential conflicts of interest - brokers, for instance, work on commission and thus might want to entice you to sell with a high estimation of price (bait-and-switch).

Before you sign with anyone, make sure they have some idea of what you do. Also, ask to review prior work to get a feel for terms, and get references from prior customers.

The valuation firm will be checking you out, too. It may start with a quick once-over of your company and its industry, comparing profitability, margins and growth before it decides if the listing fits its skills. If not, you may have to find another party.

After that, get ready to give your corporate laundry a thorough airing.

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**A COMPANY'S VALUE IS A CRUCIAL ASPECT OF EVERY DAY BUSINESS DEALINGS.**

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Expect to produce several years' worth of financial statements and explain them in excruciating detail.

One caveat: The cold number-crunching of a valuation may not match what you'll get from a real bidder with fire in his eyes. Different buyers have different priorities. That's Business 101: An object's true worth is not what you want it to be, but what a customer is willing to pay. **P**

*Patrick Hanratty is the President of Daedalus Financial Group, a subsidiary of DVIRC, a full-service consulting firm in Philadelphia, PA. Patrick can be reached at [phanratty@DVIRC.org](mailto:phanratty@DVIRC.org).*



# DAEDALUS FINANCIAL GROUP

A subsidiary of DVIRC



- » *When was the last time your company had a Business Valuation completed?*
- » *Do you know what your company is worth?*
- » *Are you thinking about succession?*
- » *Do you have a long-term succession plan?*
- » *Are you considering selling or expanding your business?*

Daedalus Financial Group, a subsidiary of the Delaware Valley Industrial Resource Center (DVIRC) provides corporate financial services including Business Valuations, Strategic Acquisitions and Divestitures, Shareholder Liquidity, Capital Raising, Ownership Transactions, Management Buyouts, and Estate Tax Planning.

Daedalus is comprised of professionals with extensive experience in corporate transactions and investments.

Patrick Hanratty, President of Daedalus, has spent his career working in a variety of private equity, investment banking and lending functions spanning a wide range of industries.



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# NETWORK-CENTRIC MANUFACTURING

## DOYLE CENTER FOR MANUFACTURING TECHNOLOGY LINKS DOD, OEMS AND SMALL MANUFACTURERS

By Tim Hayes, Contributing Writer

Imagine you're a small manufacturer. What would your dream customer look like? Huge in scale and scope? Offering a seemingly endless stream of new ideas requiring your products and services? Looking primarily for domestic suppliers, so the threat of losing business to offshore competitors is essentially removed? And guaranteed to never, ever go out of business?

Well, stop dreaming. That customer exists and is hoping to find a business just like yours. It's called the United States Department of Defense (DoD). But there is one little hitch. There are about a million other businesses trying to get in through the same doorway as you, all at the same time, and many with strikingly similar capabilities. What's a small manufacturer to do?

A solution is on the way from the Doyle Center for Manufacturing Technology, a federally funded program currently developing and testing a promising solution to bridge the gap between the DoD, its large prime contractors (OEMs) and small manufacturers. It is an innovative Internet-based suite of tools that can be used to manage traditional supply chains or to create and manage a collaboration of complementing small suppliers. This is what the Doyle Center calls creating a network-centric manufacturing enterprise.

Working out of the Pittsburgh Technology Center, the Doyle Center is moving into the beta testing phase, testing

the tool suite in a real-world pilot project with some of the major Defense Department contractors.

"The Department of Defense represents a huge and somewhat captive market, because of the nature of products and their end use," said Dennis Thompson, Executive Director of the Doyle Center. "Since there are typically low product volumes for much of the DoD's requirements, it is relatively unattractive for the larger domestic manufacturers, thereby creating new opportunities for small manufacturers. Because of these issues and others, it makes the DoD a great place to test a new concept like network-centric manufacturing.

"Setting up a facility like the Doyle Center would have been difficult to do through venture capitalists channels, because of the high level of the time and cost involved in developing the model," he said. "The Congressman really is a visionary, in seeing the potential to help the small manufacturing community, and in taking the initiative to sponsor such a major undertaking."

The Congressman to whom Thompson refers is U.S. Rep. Mike Doyle, a Democrat serving the 14th Congressional District, which includes Pittsburgh and its surrounding communities.

In 1998, Doyle became concerned about the demise of the steel mills and the impact on the local manufacturing community. Doyle helped to secure funding through the Defense Department's Manufacturing Technology Program to institute the Technology Insertion

Demonstration and Evaluation (TIDE) program, which at that time was managed at Carnegie Mellon University. In June 2003, the program moved to its current location and was renamed the Doyle Center for Manufacturing Technology.

"One of the main problems was that small manufacturers were falling behind large manufacturers in terms of their use of technology," Thompson said. "We went to Congressman Doyle with an alternative idea, to produce a suite of tools and to make it available on the Internet, so that small manufacturers could have an affordable, technology-based solution that would allow them to better interface with large manufacturers."

The Congressman committed to supporting funding for the Doyle Center for five years, with the goal of the Center achieving self-sustaining status by the end of that period.

"Imagine this as a new model for manufacturing and supply chain management," said Thompson. "A new model is needed, because OEMs are continuing to push more and more manufacturing down the supply chain, moving in a direction where in many cases they will be only a system integrator, assembling, testing and shipping the end product. As this trend evolves, the manufacturing base eventually will move into the hands of small manufacturers."

In anticipation of this trend, the Doyle Center is creating and testing a proof-of-concept model for network-centric manufacturing, defined as a "loosely

coupled enterprise, which is formed by many partners (whole or parts of real companies), enabling them to operate more efficiently and effectively, as if it is a single global enterprise to fulfill a specific mission.

“We’re still in the stage of testing and refining our suite of network tools, using pilot projects in real world applications like the one with Lockheed Martin missiles and fire control,” he said. “In this project, we worked with a three-man engineering company to create and simulate a manufacturing process and supply chain made up of eight small manufacturers to produce a turbine engine for a new missile program. We successfully demonstrated to the Army, the Air Force and Lockheed Martin that they could be a viable supplier of engines.

“Working with major defense contractors is an important first step to get us where we originally wanted to go, which is to create a model where small manufacturers with access to the right technology tools can come together to collaborate in an extended network to successfully compete for and win contracts in the defense industry,” Thompson explained.

The Doyle Center also hopes to

connect with the Defense Logistics Agency (DLA) where most defense manufacturing contracts originate.

The DLA is one of the DoD’s key entry points, and it is an excellent place to test an expanded version of our model to create a short order solution for manufacturing hard-to-source and out-of-production parts. The agreement could include providing services to engineer and produce those parts, said Thompson.

“This could be huge for local small manufacturers,” he said. “Once we prove the model works, we would be doing significant work for the DLA that could potentially extend to other industry segments. This will be a national program, but we want to work first in our backyard.

“When you look at the big picture, manufacturing in the late 1960s was 30 percent of the gross national product, and today it’s 14 percent. Projections say that percentage will be cut in half again over the next 10 years, which would move this country into third-world status in terms of manufacturing,” said Thompson. “Of the 350,000 manufacturers in the U.S., more than 95 percent are small manufacturers,



**Dennis Thompson is leading the efforts of the Doyle Center for Manufacturing Technology.**

who must deal with increasing global competition and rapidly changing technologies.

“That’s why we really started all this, to find opportunities to help these small manufacturers and get this situation turned around,” he said. “If what we’re doing helps people think out of the box and try a different approach, then that’s good. Longer term, we hope to be part of the national strategy for a strong domestic manufacturing future.” **P**

## LEASE SPACE AVAILABLE

**Light Industrial Manufacturing – Call Center – Storage Facility – Distribution Center – Warehousing**

River Development Corporation (RDC) is leasing 51,125 square feet in the Windgap section of the City of Pittsburgh on 7 acres.

There are four distinct buildings connected by concrete walls which have the capability of being connected into one single building. The four (4) buildings are 32,175 (two stories and presently two docks), 8125, 4000, and 5825 square foot, respectively. Ceiling heights in excess of twenty (20) foot are available. 2000 square feet is office space.

There are other parcels available that could be combined for a total of twenty-two (22) acres and 140,000 square foot.

RDC is certified with PRMPC and the Commonwealth as a WBE.  
For information contact Cheryl R. McAbee, Esq., President

### River Development Corporation

3673 Windgap Road  
Pittsburgh, PA 15204  
Phone: (412) 243-7778; (412) 922-3050  
Fax: (412) 243-0433; (412) 922-0477  
E-mail: crmcabee@adelphia.net



By Randall McCombs, GVA Oxford Realty

# REAL ESTATE

## A LOOK AT KEY CONSIDERATIONS WHEN PURCHASING/LEASING PROPERTY

### WHEN LOOKING TO LEASE OR PURCHASE PROPERTY FOR YOUR BUSINESS, WHAT CONSIDERATIONS SHOULD ONE TAKE BEFORE BEGINNING THE PROCESS?

There are many issues a company needs to consider before looking to lease or purchase a property. As with other situations in business, how much time you spend on planning, upfront, can make all the difference in the world as to the ultimate success of the project.

You need to define WHAT you are looking for before you spend time on the HOW or WHERE parts of the equation. There will be a few WHOs in the mix as well.

The WHAT is defined by the answers to the following:

- WHAT type of space am I looking for (i.e., office, warehouse, manufacturing, lab, retail, etc.)?
- WHAT are the size parameters of the project? (Usually defined in terms of square feet for buildings and acreage for land.) This is directly related to how many employees (head count) you are projecting to be occupying space within this facility.
- WHAT is my budget for lease payments or debt service?
- WHAT is the timing of the project? Do we need to move a month or a year from now?

There are others, but you get the point. The answers to WHAT as mentioned above should be determined by input from various departments. A project team should include input from the following departments: facilities, legal, IT, finance, HR, PR and ultimately blessed by senior management (an authorized decision maker).

While the over-used phrase of “Location, Location, Location” does apply to certain industries (i.e., retail and distribution), the real emphasis should be on “Process, Process, Process.”

Once the WHAT questions are answered, the HOW question needs to be addressed. How will we proceed in identifying and analyzing our location options for this project?

The process a company utilizes in searching for and acquiring space for its business will have a significant impact on the overall profitability of that business and success of the project.

Here’s a typical process:

- Assemble project team
- Define project goals; size, location, financial, cultural, etc.
- Hire third-party consultants; real estate broker, space planner/architect

Add a real estate broker and space planner/architect to the team at this point. In becoming part of the team, the broker becomes your fiduciary – your representative in market analysis – gathering informa-

tion, using his/her time (and saving you time) in site searches and communication to the existing landlord, as well as “suitor landlords.” He/she becomes the single point of contact in reporting information back to the team.

A space planner can show how the layout of the facility can be accomplished most efficiently while allowing for growth, creativity and proper workflow.

### ARE THERE ANY MISTAKES THAT COMPANIES MAKE WHEN THEY SEARCH FOR SPACE?

Yes, a few. The three that seem to happen more than they should.

Not having senior management buy-in and approval early in the project is one. I have seen many companies spend money and hundreds of hours of time looking for facilities only to have a senior executive say “Oh, we can’t do that...why would we move?...I like it here.” Get management into the project early on. Think about what you really need for effective operation of your facility or office before you spend time looking.

Focusing too much on rental rate and not on occupancy cost is also a mistake, as well as taking shortcuts in the process to determine the right location for their business. Remember to plan your work and work your plan.

Survey properties within targeted geographic areas. Many companies try to “short cut” this process by focusing on the obvious location choices. I believe this is a huge mistake, which may prevent a more cost-effective option to be identified, if only a thorough

investigation of location options was conducted early on.

The “process” is really a process of elimination at this stage. As information is gathered and analyzed, a prioritization of the issues relevant to the project should take place (which were established by the team earlier).

Factors such as: location cost, accessibility, convenience, access to public transportation, flexibility, image, reputation of the landlord, convenience to where employees live, timing, availability of labor pool, adjacency to key customers, etc., should be thoroughly reviewed. Obviously, some issues are more applicable than others for each industry and company.

Once a list of potential locations has been created, buildings can be toured by members of the team. Request for proposals (RFP) should be forwarded to a short list of landlords or their representatives (three to five usually). These RFPs should address the issues that are important to you, such as:

- Economics
- Size of Space
- Lease Term
- Expansion, Contraction or Early Termination Options
- Parking
- Hours of Operation
- Operating Expenses
- Building Amenities and Services
- Other Costs

This is a sample list of items. Again, RFPs and the proposals can be as detailed as necessary. This process, if handled correctly, begins to create a competitive environment between the prospective landlords and your current landlord, if staying and renewing is a viable option.

The cost benefit analysis applied to the process of elimination will ultimately result in a prioritization of locations. The details can make all the difference at this stage.

A good broker, working with your legal counsel, can hopefully help address the language issues involved in the final agreement early on in order to avoid critical delays to the time schedule.

Retaining an experienced broker can allow you to remain productive while

undertaking the additional responsibility of this project.

#### WHAT VALUE WILL A BROKER BRING TO THE TABLE?

The value added can be shown in the results. In addition, what is the value of:

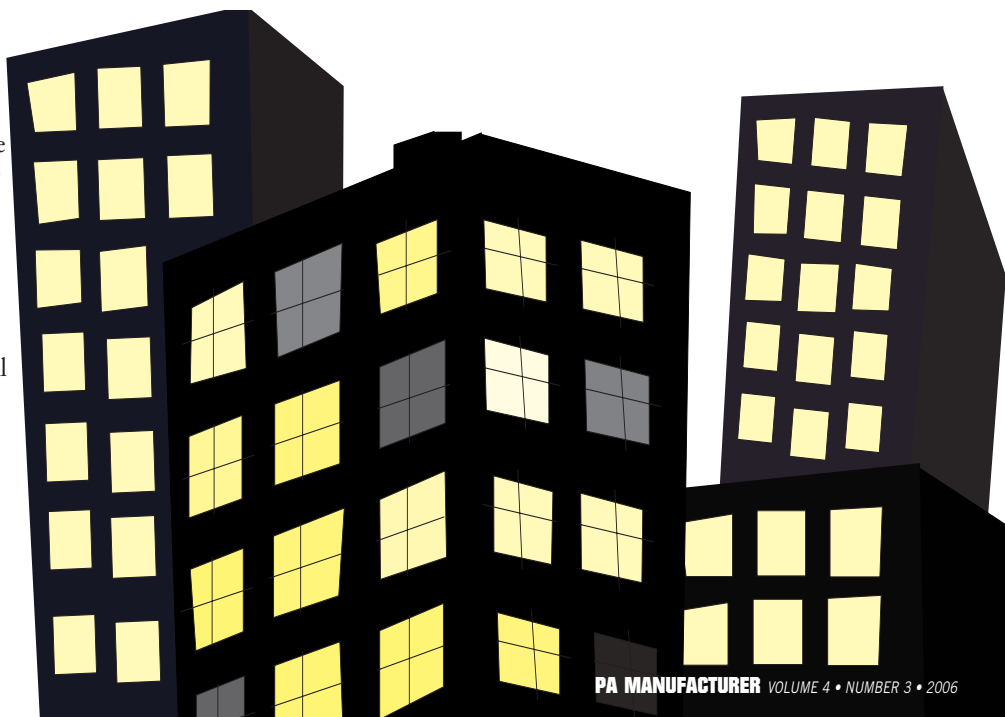
- Time - Yours and the time of others.
- Market Knowledge - The Internet is great, but it hardly scratches the surface regarding the true dynamics of the market.
- Justification and Reporting - Even Fortune 500 companies with full-time real estate departments hire brokers to help them with their location decisions.

The reporting and information gathering through the process, which the broker undertakes will help you justify your recommendation to your senior management or board of directors. **P**

*Randall G. McCombs is Executive Vice President and Managing Director of GVA Oxford Realty Services. He is a 22-year veteran of the real estate industry having represented companies such as Seagate Technology, Alcoa, CBS and Federal Express in their real estate location decisions in western Pennsylvania and in major markets throughout the U.S. and Canada.*

*For more information, please contact Randy at (412) 261-0200 or e-mail at [RMccombs@gvaoxford.com](mailto:RMccombs@gvaoxford.com).*

“ YOU NEED TO DEFINE WHAT YOU ARE LOOKING FOR BEFORE YOU SPEND TIME ON THE HOW OR WHERE PARTS OF THE EQUATION. THERE WILL BE A FEW WHOS IN THE MIX AS WELL. ”





# SUPPLY CHAIN FUTURES

By Jack Russell, Contributing Columnist

“Manufacturing supply chains” is a catch-phrase to suggest the customer and supplier links that generate manufactured products.

Properly considered, however, this utilitarian language describes the relationships through which we produce our world. All goods are made in supply chains - cars and cakes, 757s and .357s, negligees and notebooks. In early capitalism, cottage production was local and simple so supply chains were short. Today, the supply chains of multinational corporations span our planet as jet transport and telecommunications link continents in webs of enterprise. Now as then, the chain is forged by agreements on price, quality and schedule - but in our time these agreements are far more complex.

“Supply chain management” and even “supply chain optimization” have become banner topics in the publications, conferences and B-schools that service senior executives. Some even speak of “supply networks” or “value networks.” Those who think about manufacturing are compelled to form new questions about the possible futures of supply chains or networks in the 21st century global economy. I offer four such questions here and suggest their significance for small- and medium-sized firms in the United States.

## 1) How will global sourcing by multinational corporations and the rise of new manufacturing epicenters alter the spatial allocation of manufacturing?

The map of global production is fluid now as never before. Manufacturing competence in low-wage nations attracts direct investment for export production and outsourced demand from America, Europe and Japan. China, India and other rapidly developing tigers now innovate to compete in more rewarding markets, rerouting supply chains as they succeed. But the world is not simply and suddenly flat - there are counter-pressures that could advantage U.S.-based smaller firms. Corporations that assess the full cost of sourcing see risk in

long logistics, especially if they serve markets with short product lifecycles. Innovation that delivers distinctive competence usually trumps price in sourcing decisions. History tilts toward Asia, but smart small firms in America can still prosper.

## 2) How will the continuing computer revolution change the speed, scale, span and culture of communications within supply chains or networks?

We have seen the promise for 25 years: full realization of digital technology in all domains of manufacturing will deliver perfect knowledge for swift decisions that guide extended enterprises built with flexible, transparent supply networks. Progress toward this vision, however, has been slow. Incompatible legacy systems block coherent communications. Key enabling technologies are deployed slowly or not at all in the lower tiers of many supply chains where smaller firms predominate. Trust is hard and suppliers are cautious. But perhaps a tipping point approaches. Some industry leaders now speak of “network-centric manufacturing” and seek suppliers with the technology, skill and will to be agile partners. If the tipping point comes, early-adopting small firms that are already network-centric savvy will be rewarded.

## 3) Will the winning supply configurations of the future be stable trust-based alliances sustained over many years and product cycles or volatile opportunity-based networks that constantly form and reform?

The distinction matters, but the smart bet many be both, and even both within the same industry and even the same extended enterprise. There are rewards to trust-based stability. Firms in such supply chains know one another well, share knowledge quickly, and accumulate valuable experience as a team through several rounds of product life-cycle management in which they naturally norm toward de facto standards on communications challenges. But, creative intervention

can be the mother of invention. Even stable trust-based alliances must open to innovators as rewarding new markets emerge. In some industries with short product lifecycles, supplier volatility below the market-facing, brand-tending OEM will be the rule. Smart small firms in America will assess the relative stability and volatility of the supply chains in which they want to participate and do their own risk/reward calculations.

## 4) Will supply configurations emerge in which success is based on a sense of collective interest shared by all participants through the linked tiers?

Talk to small manufacturers in America about their experience in supply chains and their major theme will be customers who demand aggressive annual price concessions and use the “China price” threat. Some will note with irony that these same margin-squeezing customers also expect more supplier contributions of design and engineering capability that depend on expensive new technology and highly skilled labor. With this baseline, it is not easy to envision the passage to network-centric supply configurations in which most participants extend trust beyond their immediate customer and suppliers. But the rewards to such durable extended enterprise solidarity could be substantial, especially when enabled by technologies that drive robust communication. Such supply configurations could foster innovative collaboration among participants and develop products faster. Entrepreneurial firms in America should cultivate participation in those supply chains that seek to model the network-centric future.

There is plenty of supply chain pain out there for the small- and medium-sized manufacturers of Pennsylvania - but there is also opportunity for those who position well for the future. They can start by extending their value streams from the ultimate consumer back to the source of their base material to ponder where they can play smartly. **P**



# SUPPORTING PENNSYLVANIA'S MANUFACTURERS

By PA Senator Rob Wonderling

**P**ennsylvania's manufacturers have been the engine driving economic growth in our state for more than a century and a half. Through the use of technology, innovation, new practices and processes, manufacturers have shown that the ingenuity and inventiveness of American business continues to set the pace for the rest of the world.

As a lawmaker, I believe state government has a responsibility to help Pennsylvania's manufacturers continue to grow and prosper. I am pleased to report that the recent budget adopted by the General Assembly included a provision to increase research and development (R&D) tax credits for companies, as well as provide low-interest loans to help plants make better use of automation technology.

Specifically, the provision puts Pennsylvania's R&D tax credit in line with the federal formula by increasing the maximum deductible allowable for research expenditures from 10 to 20 percent. The measure also extends the life of Pennsylvania's R&D tax credit from Dec. 31, 2006 to Dec. 31, 2015, and increases the total annual amount of R&D tax credits for small businesses from \$6 million to \$8 million. The credit itself has been expanded from \$30 million to \$40 million per year.

The budget also included an item to increase the cap on net operating losses (NOL) from \$2 million to the greater of \$3 million or 12.5 percent of taxable income beginning January 1, 2007. The federal government and most other states that impose a corporate net income tax do not impose such restrictions on the use of NOLs. This type of policy recognizes that real corporate profits ebb and flow within a business cycle, and strict tax periods often do not reflect the true income of corporations over time. The allowance of NOL deductions serves to smooth out the volatile nature of corporate

profits so that they are taxed more fairly and evenly. Expanding Pennsylvania's cap amount further establishes a policy of encouraging business within the Commonwealth.

Improving Pennsylvania's tax structure is an important part of helping manufacturers compete in a global economy, but we must also do more to prepare our workforce for the jobs of tomorrow. We must ensure that today's students are equipped with the skills needed to succeed. How can we - as legislators, educators and parents - ensure that what we are teaching our children is relevant in the working world? I believe we must restructure our approach to higher education by blurring the lines between our vocational schools, our community colleges and our undergraduate and graduate institutions so that Pennsylvania's young people get the skills they need to adequately prepare them for the workforce of the future.

As Chairman of the Communications and Technology Committee, I am also working on various proposals to promote new and innovative technologies. One area that I believe will play a large role in the future of manufacturing is nanotechnology. When people hear the term nanotechnology, they think microscopic robots. While we are not quite there yet, there are exciting developments in this new frontier that have the potential to greatly increase productivity. In the near future, companies will use nanotechnology to manufacture consumer goods at the molecular level, putting together one atom at a time to make everything from cars to tennis rackets.

It is imperative that state government do all it can to support Pennsylvania's manufacturing sector and help facilitate advancements in technology whenever possible. As a state Senator, I would greatly appreciate hearing from you about these and other issues. Please e-mail me at [rwonderling@pasen.gov](mailto:rwonderling@pasen.gov) and let me know what you think. **P**

*Senator Wonderling represents the 24th Senatorial district, which includes parts of Bucks, Lehigh, Montgomery and Northampton counties.*



**As a lawmaker, I believe state government has a responsibility to help Pennsylvania's manufacturers continue to grow and prosper. I am pleased to report that the recent budget adopted by the General Assembly included a provision to increase research and development (R&D) tax credits for companies...**



# CALENDAR

## REGIONAL IRC EVENTS\*

### September 14, 2006

*3rd Annual Pennsylvania Governor's Conference for Women*

David L. Lawrence Convention Center  
Pittsburgh

[www.PAGovernorsConferenceForWomen.org](http://www.PAGovernorsConferenceForWomen.org)

### September 14, 2006

*Six Sigma for Managers*

8:00 a.m. - 12:00 p.m.

Instructor is Sharon Hoffmann, IMC

Williamspport, PA

[www.imcpa.com](http://www.imcpa.com)

### September 18-20

*Commercialization of NanoMaterials 2006  
"Producing Results in Nanotechnology Today"*

Pittsburgh

[www.pananoenter.org](http://www.pananoenter.org)

### September 19, 20, 21, 27, 2006

*ISO 9000 Internal Auditor Training*

Daily 8:00 a.m. - 12:00 p.m.

Instructor is Sharon Hoffmann, IMC

State College

[www.imcpa.com](http://www.imcpa.com)

### September 26

*Lean Office*

8:00 a.m. - 4:30 p.m.

Penn State Worthington Scranton, Dunmore

[www.nepirc.com](http://www.nepirc.com)

### September 28, 2006

*Executive Lean Overview*

8:00 a.m. - 10:00 a.m.

NEPIRC, Wilkes-Barre

### October 16, 2006

Lean 101: Principles of Lean

8:00 a.m. - 4:30 p.m.

Monroe Career & Technical Center,  
Bartonsville

[www.nepirc.com](http://www.nepirc.com)

### Lean Six Sigma Certification Programs

*November 6-10, 2006*

Green Belt, a one-week program

*October 5, 17 and 24, 2006*

Yellow Belt, a 3-day program

*September 18 - December 15, 2006*

Black Belt, a 4-week program

*September 27, 2006*

Tools for Managing Corporate Culture

*September 23, 2006*

Lean Certification Program Level 1

Visit [www.mantec.org/events.cfm](http://www.mantec.org/events.cfm) for complete details.

### DVIRC Lean Certification Level 1:

September 8 at DVIRC

October 13 at Penn State Great Valley

December 8 at Revivals in Perkasio

### DVIRC Lean Champions Certification

October 25 at DVIRC

Please view details for these certifications and all DVIRC workshops and events at [www.dvirc.org](http://www.dvirc.org). Click on the link for Education & Training Programs.

### September 26 - 27, 2006

*Applied Lean Ergonomics, Ann Arbor, Mich.*

<http://www.humantech.com/seminars>

### October 30 - November 2, 2006

*International Conference of Nanotechnology,  
San Francisco*

<http://nanotechcongress.com/>

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

## Quotable



Innovation cannot succeed if it is structured as a sporadic initiative that gets attention when things slow down or desperation is taking hold. It's not a process that consists of putting a suggestion box in the break area or waiting for a flash of brilliance from your sales manager. For innovation to be successful, it must be structured like any other business process so that innovation becomes as natural to the company as reviewing sales figures.



Jim Shillenn, IRC Network Director



# 2006 - 2007 TRAINING COURSE CALENDAR

**September 2006**

S	M	T	W	T	F	S
				1	2	
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**October 2006**

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**December 2006**

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**January 2007**

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**February 2007**

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## SIX SIGMA

**Introduction to Six Sigma**  
September 28, 2006  
January 17, 2007

**Champion / Project Selection Training**  
October 16 - 18, 2006  
February 20 - 22, 2007

**Basic Problem Solving Training** ★  
November 15, 2006  
March 8, 2007  
July 11, 2007

**Green Belt Training**  
November 6 - 10 and  
December 11 - 15, 2006  
March 26 - 30 and  
April 23 - 27, 2007

**Black Belt Training**  
May 14 - 18 and  
June 18 - 22, 2007

## DEVELOPING LEADERS

**Fall 2006 Session**  
October 4, 11, 18, 25  
and November 1, 8

**Winter 2007 Session**  
February 7, 14, 21, 28  
and March 6, 14

**Spring 2007 Session**  
May 9, 16, 23, 30  
and June 7, 13

## LEAN MANUFACTURING

**Principles of Lean Manufacturing for Job Shops**  
October 19, 2006  
March 27, 2007

**Manufacturing Metrics**  
October 12, 2006  
December 12, 2006  
February 15, 2007  
April 10, 2007  
June 14, 2007

**Value Stream Mapping**  
November 8, 2006

**Administrative Value Stream Mapping** ★

**5S System for Workplace Organization**  
December 6, 2006  
May 2, 2007

**Set-up Reduction**  
January 25, 2007  
June 6, 2007

**Total Productive Maintenance** ★

**Pull / Kanban Material Systems**  
August 1, 2007

**Lean Office**  
February 6, 2007  
July 17, 2007

**March 2007**

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**April 2007**

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**May 2007**

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**June 2007**

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**July 2007**

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**August 2007**

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For more information or to register, please contact **Andy Connolly** at 412.318.4273 or [aconnolly@catalystconnection.org](mailto:aconnolly@catalystconnection.org)

# Perfecting Processes...With a Passion



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