

## TWI – A “Lost” Approach to Building Supervisory Skills

In 1940, it became apparent that the demand for military equipment would be greater than anything we had ever experienced as a nation. To meet the demands of our defense, a completely new approach to training and the use of people in industry was established, called the Training Within Industry Service. As a result of TWI, in combination with lean production, productivity skyrocketed, especially in aircraft and shipbuilding. However, as orders began to decline in 1944, TWI was quickly forgotten and “lost” for more than 60 years.

Today some of those basic methodologies are being rediscovered, helping US businesses build supervisory skills, workplace stability and improve competitive positions.

TWI has three specific job training components for production supervisors -- job instruction, job methods, and job relations. Each component is a ten-hour course that teaches practical supervision skills.

**Job Instruction (JI)** teaches supervisors how to plan for the correct resources they would need in production, how to break down jobs for instruction, and how to teach people safely, correctly, and conscientiously.

**Job Methods (JM)** teaches supervisors how to analyze jobs and make simple improvements within their realms of control. Every activity is considered for improvement. Supervisors learn to question why an activity is done this way, and if it could be eliminated, combined with something else, rearranged, or simplified.

**Job Relations (JR)** teaches supervisors to treat people as individuals and solve basic human-related problems in production rather than to ignore them.

Taken together, these three courses help supervisors create a basic routine, discipline, and sense of fairness in work teams.

### Meet your Instructor



Lloyd Johnson is a graduate of Syracuse University where he earned a B.S.E.E. and an MBA. Lloyd has over 30 years of experience in manufacturing, quality and program management. Lloyd is a Professional Business Advisor (PBA), a certified Project Management Professional certified by the Project Management Institute, and is certified to teach Training Within Industry (TWI).

AM&T would be pleased to assist other companies with discovering this “lost” approach. For more information about AM&T’s TWI programs or to schedule an initial meeting to discuss the potential benefits to your organization, contact Jim Cunningham at 607-725-1225 or [jcunningham@amt-mep.org](mailto:jcunningham@amt-mep.org)



Alliance for Manufacturing & Technology

## HOW WE HELP

- Business Assessments
- Strategic Planning
- Lean Enterprise
- Supervisory Training (TWI)
- Project Management
- ISO/AS Quality Systems
- Sales and Marketing
- New Opportunity Identification and Growth — Markets, Products, Services, Customers

AM&T is a not-for-profit economic development organization that receives significant financial support from the New York State Foundation for Science, Technology and Innovation (NYSTAR), and the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP). AM&T is a NYSTAR® designated Regional Technology Development Center for the Southern Tier and is one of nearly 50 MEPs located across the country. AM&T works directly with regional companies to increase their competitiveness and profitability.

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Empire State Development  
Division of Science, Technology & Innovation

# CNY Round Table Event



Association for  
Manufacturing Excellence  
*Enterprise excellence through shared learning*



Alliance for Manufacturing & Technology



## DESCRIPTION

What about your business keeps you up at night? What are the compelling changes needed to keep your organization viable? Has your continuous improvement effort come to a plateau, or worse, hit a wall? Are you looking to build your network of contacts?

AME is providing a forum to share, learn and grow. This venue is a short duration, highly localized, friendly format. All attendees will be participating in a "Roundtable Discussion" on topics of importance to you and your organization.

## PARTICIPANT BENEFITS

- Learn from your peers some of their challenges.
- Learn how these challenges are being addressed.
- Learn how companies are staying competitive.
- Network with your peers.

## AGENDA

12:45 - 1:00	Arrive - Meet in Visitor Lobby
1:00 - 1:15	Introductions / Welcome
1:15 - 2:15	Hardinge Inc. - Overview and Targeted Tour
2:15 - 3:30	Roundtable Discussion - Issues / Challenges Facing Regional Manufacturers
3:30 - 4:00	Networking Time
4:00	Depart

<b>DATE:</b>	June 11, 2014
<b>TIME:</b>	1:00 p.m. to 4:00 p.m.
<b>LOCATION:</b>	Hardinge Inc. One Hardinge Drive/Upper Oakwood Ave. Elmira, NY 14902 800-843-8801
<b>COST:</b>	Complimentary
<b>REGISTRATION:</b>	<a href="http://www.ame.org">www.ame.org</a> / <a href="mailto:conference@ame.org">conference@ame.org</a>

# Transition-ready Management: Three Keys to Robust Organizational Strength

By: Jason Piatt

A sustainable manufacturing organization must not only be best-in-class, but also robust. By protecting against the loss of key staff, the organization can achieve both goals.

In order to survive the loss of key employees, whether anticipated or not, an organization must work to maintain a state of readiness. By focusing on three areas of the organization, performance can be improved while building a change-tolerant business.

## 1. Process

In order to build processes that are very robust and capable of withstanding the loss of key personnel, processes must be well documented and properly defined. This goes beyond the often-generic process descriptions used for ISO 9001 compliance. You need to document what really happens – not what should happen. Further, we must ensure that process design is completed to optimize business performance, not designed around the capabilities of particular individuals.

To further enhance the process mindset, you should coach employees on proper process change. All employees should be motivated to identify performance improvement opportunities. Meanwhile, employees should be reminded that freelance change of process is unacceptable. Once improvements are confirmed, the process should be changed, documented and communicated throughout the organization.

## 2. People

In order to be robust related to staff loss, you must train and cross-train staff. They should be trained to the level of exceptional performance in their present role and additionally trained to understand and accomplish the mission of peripheral roles in the event that it becomes necessary. This should also allow you to combine roles if capacity requirements diminish during a downturn.

Also, management should identify those performers who have potential for upward mobility into supervisory roles. Training should be conducted to allow those individuals to understand management and leadership roles within the organization.

Particularly strong performers should be trained for ascension into roles two levels beyond their current position. All staff, both blue- and white-collar, should be trained to understand global strategy and organization of the business so they can understand where they fit.

Particular focus on alignment of goals, strategy, and specific activities within the business should be given to all employees.

## 3. Geography

As much as possible, you should locate operations in geographies that offer supplier/customer ecosystems. Typically in these areas, the ecosystem sustains key personnel employment because staff can be pushed or pulled within the supply chain.

While ideally employees would remain with your firm, if they migrate to suppliers or custom-

ers, you still have access to them. So long as the employment relationship has been ethical and mutually beneficial, you will benefit from having these individuals within your supply chain (as opposed to leaving the supply chain and geography completely).

Secondarily, because your organization is located within a geographic ecosystem, you maintain the opportunity to recruit back the staff members to your organization. Of course, it's preferred that these key employees never leave the organization.

Beyond the supply chain, your organization should identify and align with educational institutions and manufacturing training organizations. These organizations can assist with a staffing pipeline. You should consider both white- and blue-collar training organizations when identifying educational partners.

## A Last Resort: Plan B

As a last resort, you should also identify "Plan B" alternative service providers for key roles within the organization. For instance, small manufacturers may identify a CPA or other accounting provider to assist if their internal controller were to be lost on short notice. Having an alternative that, while costly, can be rapidly deployed within the organization will help avoid loss of momentum that two weeks' notice may create.

In order to build a sustainable manufacturing organization, it must not only be best-in-class, but also robust. By protecting against the loss of key staff, the organization can achieve both goals.

## Teaching is More Powerful than Criticizing

By: Art Petty

I recently committed the classic gaffe of assuming that I had reasonably set expectations for performance around a set of fast moving, first-time activities. These were both new to the team and new to the individuals. They had no prior experience in executing on these tasks.

The fact that I've worked with other professionals experienced with these very activities lulled me into a false comfort level. I naturally assumed things would go as they always had with the other groups, which was historically close to perfect.

When the results didn't meet my very clear (to me) expectations, I became a bit agitated until it dawned on me that I owned this issue.

I completely failed to take into account the learning curve challenges for the group and I compounded the issue by failing to execute on my responsibility to teach and to set clear performance expectations. It's unfair of me or anyone else as manager to assume that people automatically understand performance or coordination expectations without proper context.

I work with great people who have high standards of performance in their own right and they conquer every new challenge placed in front of them. However, they clearly need more support from their manager as a teacher instead of a critic or a passive observer.

The Bottom-Line for Now:

Don't make the same mistake(s). Talk with your team about expected outcomes. Discuss potential roadblocks and headaches. Redouble your efforts to support their efforts if the activities are pioneering ones for the group. Just don't walk away expecting everything to line up nicely if you haven't done your part of the job.

## What Is the Value of Process Improvement?

By: Chris Anderson

What's the value of process improvement? One way to look at it is by examining the reason for having a quality system in the first place. Let's start by understanding the basics of six sigma, which define the maturity level of an organization's management system. By that, we don't just mean just a quality management system, but your entire system of management.

### Sigma Levels

1 sigma = 67% error rate (or "2 out of 3 transactions are in error")

2 sigma = 33% error rate (1 out of 3 transactions in error)

3 sigma = 6.7% error rate (1 out of 15 transactions in error)

4 sigma = 0.63% error rate (1 out of 160 transactions in error)

5 sigma = 0.02% error rate (1 out of 4,300 transactions in error)

6 sigma = 0.00034% error rate (1 out of roughly 290,000 transactions in error)

We define a system as "in control" when an organization's processes exhibit a "3 sigma" (6.7%) or lower error rate. If your organization has not defined its processes, effectiveness criteria, and competencies, it's more likely that you're at a 1 or 2 sigma level. In order to achieve the "3 sigma" level, your company must consistently make no more than 6.7 errors per hundred — that's a 93.3% success rate.

**"Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs."**

From W. Edwards Deming's "Fourteen Points"

### Are You Operating at a 93.3% Success Rate?

Let's say you see 60-70% as normal, which is about 2 sigma (66% success). The "delta", or difference, between 2 and 3 sigma is about 27%. We believe that by adopting a quality process improvement program, you should see your success rate rise from 66% to 93%. That's a **41% improvement** over your current rate! What organization wouldn't be interested in that?

Once you hit 3 sigma, your next goal is to improve to a 4 sigma level, then 5 sigma, and finally 6 sigma (which is as close as you can realistically get to "zero defects" in most operations).

Now quantify the benefit. What is 27 percentage points of success worth to your customers? The cost of implementing a six sigma process improvement program is small compared to the benefits to your customer (and, of course, to your bottom line). Process improvement practically guarantees customer retention, and can lead to customers advocating for you.

But if that's not for you, don't implement a quality program. Learn to live with a 2 sigma error rate — and hope your customers can live with it, too.

# Governor Cuomo Launches Fourth Round of Regional Economic Development Councils

Governor Andrew M. Cuomo today launched Round IV of the Regional Economic Development Council (REDC) initiative, officially kicking off the 2014 competition for up to \$750 million in state economic development resources.

**The Consolidated Funding Application (CFA) will open to applicants on May 1, enabling businesses, municipalities, not-for-profits and the public to begin applying for assistance from dozens of state funding programs, through a single application, for job-creating and community development projects.**



“New York’s economy is on a come-back in large part because we have adopted a grassroots approach to economic development that is creating jobs and growing new industries across our state,” Governor Cuomo said. “The Regional Councils are working and we plan to continue that success with the fourth round this year. I look forward to seeing the new projects that the regions come up with as we continue to grow our economy and put New Yorkers back to work.”

Lieutenant Governor Robert J. Duffy, Chair of the Regional Economic Development Councils said, “A fourth round of the Regional Economic Development Councils will continue the achievements we’ve seen in every area of the state over the past three years. Under Governor Cuomo’s leadership, these

councils were assembled to invest in our local communities from the ground up, and we’ve seen them do just that. I applaud the work being done by each of the Co-Chairs and their teams—jobs are being created, business-

es are expanding, and New York State is back on the right track.”

The REDC process has transformed economic development in New York State, creating a statewide framework for bottom-up regional economic growth and streamlining the state funding application process. Over \$2 billion in investments from the past three rounds are supporting more than 2,200 projects that have already created or retained more than 100,000 jobs statewide.

Round IV of the REDC initiative will award up to \$750 million in state funding and tax incentives. To continue to motivate investment opportunities and job creation, the REDCs will compete for up to \$150 million in capital funds and \$70 million in Excelsior Tax Credits for projects and activities identified by the Coun-

cils as priorities in their regions. Additionally, up to \$530 million from state agency programs will be awarded through the CFA process.

The competition this year will focus on:

- Implementation of regional strategic economic development plans;
- Performance in encouraging economic growth through job creation and investment; and Identification of global marketing and export strategies.

The competition will be split into two parts: the five regions identified as Top Performers in 2013 will compete for two awards of \$25 million each; and the five regions not identified as Top Performers in 2013 will compete for three awards of \$25 million each. The balance of the \$25 million in capital funds will be divided among the remaining five regions. Each region will also be eligible for up to \$10 million in Excelsior Tax Credits to help attract business and create jobs in the region.

The 2014 REDC Guidebook and list of available resources will be accessible at [www.regionalcouncils.ny.gov](http://www.regionalcouncils.ny.gov).

**The CFA will open to applicants on May 1st and the deadline for applications is Monday, June 16th at 4 p.m.**

**For applicants, the CFA is available at <https://apps.ci.ny.gov/apps/cfa/>**

Call Jim Cunningham at 607-725-1225 to learn more about this.



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## Benefits of Becoming an AM&T Associate

- Four free hours of consulting services
- Your company's profile will be featured in the "Associates' Corner" of our monthly newsletter, which is distributed throughout eight counties: Broome, Chemung, Chenango, Delaware, Schuyler, Steuben, Tompkins, and Tioga. Also, the newsletter is featured on our website giving your company worldwide exposure
- Discounted fees at AM&T sponsored seminars & workshops
- A free Performance Benchmark and Transformation Planner (\$2,500 value)
- A link to your company's website from ours
- Assistance with Technology Transfer, Funding Sources, Venture Capital Investment, Networking, Research & Development Programs, etc

Call Jim Cunningham at 607-725-1225 to ask about becoming an associate.

More information at [www.amt-mep.org](http://www.amt-mep.org)

## Associates' Corner



Cameron Manufacturing & Design's (CMD's) 200+ employees create custom fabrications of typical or exotic metals, custom built machinery, and provide a variety of engineering services. The company was founded in 1983 and operates from a 122,000 sq. ft. facility in Horseheads. In addition to the Horseheads facility, its recently created subsidiary Cameron Bridge Works, LLC is located at a 90,000 sq. ft. campus on Elmira's Southside, and focuses on pedestrian and light vehicular truss bridges ranging anywhere from 40 ft. – 220 ft. spans.

Typical products at the main CMD facility range from process machinery or equipment design and build, upgrading and refurbishing existing equipment, to field installation or modifications. The company furnishes welded and complex machined components or assemblies to customer specifications, in sizes ranging from hand-held to large scale. The company can efficiently produce volumes of parts ranging from sample quantities and prototypes to high volume production runs.

Examples of Cameron projects include:

- Glass Forming Equipment
- Energy Industry Infrastructure Components

- Material Handling Apparatus with Robotics and Conveyors
- Dairy, Food, and Chemical Processing Equipment

Cameron provides a full range of Mechanical, Chemical and Electrical/Controls Design and Engineering services. The company's engineering staff provides the capability to handle almost any automation project. They also offer contract engineering services to other companies that need engineers for short- and long-term projects, regardless of whether or not they are working on Cameron projects.

Cameron is one of the few ASME Code Certified Facilities in the Northeast holding "PP", "U" and "R" Stamps. Products provided include Pressure Vessels and Pressure Piping, with Cameron handling part or all of design, fabrication, repair, and field installation.

Another interesting feature of the company is that it has been employee-owned since 2007 when the retiring founder created an Employee Stock Ownership Plan. In the ESOP, the company annually awards shares of stock to employees based on salary and years of service. When employees leave or retire, the company buys back the shares at the then-current value.

Christopher Goll, President & CEO, said that their employees have embraced the "ownership mentality" and look for ways to utilize this incentive to eliminate waste and maximize efficiencies.

For more visit [www.camfab.com](http://www.camfab.com)

## Associates' Corner



C&D Assembly is an electronics manufacturing services company located in Groton. Founded in 1992, C&D specializes in low to mid-volume, high-mix production requirements that rely on the company's core manufacturing services:

- Complete Turn-key
- Rapid Prototype Assembly
- High Mix Production
- Volume Production
- Leaded and RoHS Assembly
- Aqueous Chemistry
- No-clean Chemistry
- Multi-Layer

- FLEX, Rigid-FLEX
- Mechanical Assembly
- Box Build
- PCBA Repair / Refurbishment

Services such as product programming, burn-in, and adjustment/calibration are also available. A complimentary prototyping service includes a Design For Manufacturing review that enables customers to facilitate product realization from concept through production while optimizing manufacturability.

C&D serves a range of markets including Industrial Controls, Fiber-optic Telecommunications, POS Printers, Peripheral Devices, Refrigeration/HVAC Controls, Lighting Controls, Bio-Science, and Coin-Bill-Card Control Systems.

According to company president Jeffrey Cronk, "The key to C&D's decades of success is their dedicated workforce that embraces a do-whatever-it-takes attitude

while maintaining focus on product quality and customer satisfaction. C&D's customer service philosophy is to treat the customer as they would expect to be treated." Each C&D customer has a dedicated contact who follows through on quotations, new order confirmation, and current order status.

Cronk explained that continual re-investment in manufacturing technology and company infrastructure has enabled C&D to meet the changing demands of the industry.

AM&T was instrumental in C&D's 7,800 sq ft facility expansion in 2005, providing project planning assistance and integration of Lean manufacturing principles. AM&T also assisted the company with Quality Management System improvements that resulted in C&D achieving ISO 9001:2008 certification.

For more visit  
[www.cdassembly.com](http://www.cdassembly.com)

## Around the Southern Tier

May 21	Networking at Noon - Chemung County Chamber - 607-734-5137
May 21	Getting Started as a Small Business Owner - Tioga County Chamber - 607-687-2020
May 24	Young Entrepreneurs Academy Trade Show Event - Corning Area Chamber - 607-936-4686
May 28	WBO Roundtable - SBDC at Binghamton University - 607-777-4024
Jun 04	Small Business Training Part 1 - SBDC at Binghamton University - 607-777-4024
Jun 11	Small Business Training Part 2 - SBDC at Binghamton University - 607-777-4024
Jun 11	CNY Round Table Event - AME & AM&T - See page 2
Jun 18	Small Business Training Part 3 - SBDC at Binghamton University - 607-777-4024
Jun 25	A Tax Guide for Small Business Owners - SBDC at Corning Community College - 607-937-6861

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Return Service Requested

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## HELPING MANUFACTURERS PLAN, PERFORM, PROFIT & GROW

We are a team of experienced, skilled consultants and trainers dedicated to helping manufacturers in the Southern Tier of NY plan, perform, profit & grow. Our goal is to have manufacturers remain, grow and prosper in the Southern Tier.

AM&T uses a comprehensive, overall business approach to create significant and long-lasting business improvements. Our experience is that individual improvement methodologies will provide some measurable benefits on their own, but it is the combination of them across the whole value chain that will lead to dramatic gains.

### WE CAN HELP YOU:

- Assess your current state
- Articulate and define the desired future state
- Train your workforce in improvement methodologies
- Implement process improvements across the whole value chain
- Identify new opportunities
- Achieve and sustain growth and breakaway results

### AM&T DELIVERS:

A third-party survey for 2008-2013 reported impacts of:

- 3,461 jobs created or retained
- \$622 million in increased or retained sales
- \$15.0 million in cost savings
- \$44 million in investments
- \$845 million total impact
- 4.6 out of 5.0 Customer Satisfaction

### OUR SKILLS:

- Business Assessments
- Strategic Planning
- Lean Enterprise
- Supervisory Training (TWI)
- Project Management
- ISO/AS Quality Systems
- Sales and Marketing
- New Opportunity Identification and Growth — Markets, Products, Services, Customers

Our integrated, comprehensive approach, applied to the whole value chain, can make a difference. We are "hands-on", roll-up-your-sleeves people and we're passionate about manufacturing.

**Call Jim Cunningham at 607-725-1225 to ask how we can help.**