

## Changes Pay Off for Hilliard Corporation

The Hilliard Corporation manufactures motion control products, oil filtration and reclaiming equipment, starters for industrial engines and gas turbines, and filter presses used in the food and beverage industry. Founded in 1905, the company employs approximately 610 people at three manufacturing sites in Elmira.

To address emerging customer requirements, maintain a competitive edge, and position the company for growth, two years ago Hilliard management decided to more extensively apply the techniques of lean enterprise and quality management. "In particular, we wanted to focus on changes that would improve our lead time and on-time delivery performance," said Steven Chesebro, Executive Vice President.

In launching this long-term improvement initiative, the company recognized the importance of outside expertise and assistance. "We saw lean in use during an event at Kennedy Valve and started thinking about how it could help us," Hilliard President Gene Ebbrecht said.

Chesebro had previously worked at Kennedy Valve and was impressed with the before-and-after impact of lean, which focuses on maximizing customer value while minimizing waste. He learned that AM&T had helped Kennedy during the early stages of their program, so it was soon after and with confidence that Hilliard engaged AM&T Principal Consultant Carol Miller to begin their lean journey.



Forrest Buckley, CNC machinist, burnishes a Duplex Head. His workbench is an example of the organizational efficiency that results from lean-related workplace organization.

AM&T provided training in lean enterprise concepts for Hilliard employees, combining lecture and hands-on manufacturing simulation to illustrate the

impacts of implementing the concepts on a simple manufacturing process. Through Value Stream Mapping, Hilliard employees learned to map out the company's primary value streams. Teams gathered data to put together a picture map of their current state. Then, by examining where waste and other issues were occurring, the teams developed future state maps and the corresponding improvement plans.

Over an 18-month period, Miller and other AM&T experts conducted Rapid Improvement Events and other workshops to address specific issues and non-value added activities. Hilliard implemented lean concepts and tools in various product lines and areas in all three plants. Most of the improvements required no capital expenditures.

Hilliard's machine shop was also targeted, where two of the first steps were eliminating clutter and cleaning the machine tools. "A lot of it was common sense, but the gains were huge," said Ken Hunsicker, a manager in Hilliard's machine shop. "(Working on lean

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**Improving Operations and Processes - It's What We Do!**



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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MEP • MANUFACTURING EXTENSION PARTNERSHIP



Empire State Development  
Division of Science, Technology & Innovation

## Our Recent Activities to Promote Growth, Innovation and Profitability

- Worked with Binghamton University to coordinate and publicize a workshop designed to educate manufacturers about the funding opportunities and application process for the federal SBIR program.
- Partnered with SBDC & DOC on "Growth Through Exporting" Workshop.
- Completed a 5-day 5S and Visual Workplace event. The teams created a workplace where everything is visually clear and controlled. As a result, the workplace will produce fewer defects, less waste, fewer injuries, and fewer breakdowns. These improvements will translate into lower costs and improved quality.
- Completed a 5-day Set-up Reduction event. The team challenged the current process and identified opportunities for improvement. The new set-up process was designed, documented and its performance validated. The reduced set-up will result in increased equipment capacity, increase productivity and reduced inventory.
- Conducted a 4-day "order to delivery" value stream mapping event on a major product family. It is anticipated that when implemented, the plan will result in a significant improvement in quality and productivity.
- Conducted a four-hour Lean Thinking training session focused on identifying and improving production and administrative wastes. The training was attended by 8 people.
- Conducted a 5-day "order to cash" value stream mapping event on a major product family. It is anticipated that when implemented, the plan will result in a significant reduction in lead times, inventory, and floor space, and an increase in quality and productivity.
- Conducted several ISO 9001:2008 internal audits across the Region.
- Led an open workshop in Basic Project Management. Ten (10) companies attended the workshop.
- Delivered a workshop in Basic Project Management in Ithaca, NY. Twenty (20) employees participated and received certificates of attendance.
- Worked with (16) company leaders helping them assess training and capital needs and applying through the Regional Technology Councils for CFA grants to support the training and expansions.
- We worked with the AME Mid-Atlantic CNY group in hosting a Roundtable Networking event at a manufacturer in Elmira, NY to see discuss "Issues/challenges facing regional Manufacturing (CI Focus)". This was attended by 29 people from 12 companies.
- Assisted a company in preparation for an ISO Certification Audit. Company received their certification.



# Changes Pay Off for Hilliard Corporation

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projects) created a sense of teamwork and it's something that is now contagious."

Chesebro explained that one specific goal was to reduce the amount of time it took to process, manufacture and ship an order. "Before lean, in trying to meet customer needs, we had to add staff, increase overtime, and outsource some work. This year our sales and production are up, yet our on-time deliveries have improved by 25%, and that's without having to increase staff, schedule overtime, or outsource any work."

Concurrent with the lean projects, AM&T's Lloyd Johnson guided Hilliard in preparing compliant Quality Management System documentation, reviewed the company's existing documentation for ISO compliance, and provided detailed feedback regarding changes necessary to meet

the ISO requirements - which lead to a successful ISO 9001 certification. Additionally, Jim Cunningham from AM&T conducted a sales training event for the Hilliard management and sales team, focusing on growth and profitability.



Steven Chesebro, executive vice president, shows the system used to organize, store, and retrieve fixtures for vertical machining centers, and describes how it helps minimize time required for setup and changeover.

Today, Hilliard reports improved communication between employees and management,

improved morale, and improved market and competitive position. The company's pride in these achievements was one reason the doors were opened on National Manufacturing Day last month to show the public the improvements to its manufacturing processes.

According to Chesebro, the company's accounting department has confirmed the positive financial impact of the lean improvements. Hilliard also reported to AM&T that the lean effort has had a very positive impact on plant efficiencies, inventory and total production capacity.

"We are extremely satisfied with AM&T's services and expertise. I expect the investment we are making today will serve us very well not only in the near term but well into the future," said Hilliard President Gene Ebbrecht.

## Lean Benefits

By applying Lean Tools & Concepts to organizations, it is typical to realize improvements of:

- 50% in productivity
- 75-100% in WIP reductions
- 75% quality improvements
- 50-75% space reductions
- 75-100% in cycle time reductions

The basic goal of Lean is to get more done with less by:

- Minimizing inventory at all stages of production
- Shortening product cycle times from raw materials to finished goods
- Eliminating waste

...thereby increasing capacity and reducing costs, which will allow you to overtake competition, sell and produce more, improve profitability and market share, and grow the company.

On their own the individual Lean Tools and Concepts will provide certain measurable benefits, but used in the right combination for your business, across the whole value stream, they will lead to more dramatic gains.

## Different Words

A blind boy sat on the steps of a building with a hat by his feet. He held up a sign which said: "I am blind, please help." There were only a few coins in the hat.

A man was walking by. He took a few coins from his pocket and dropped them into the hat. He then took the sign, turned it around, and wrote some words. He put the sign back so that everyone who walked by would see the new words.

Soon the hat began to fill up. A lot more people were giving money to the blind boy. That afternoon the man who had changed the sign came to see how things were.

The boy recognized his footsteps and asked, "Were you the one who changed my sign this morning?"

What did you write?"

The man said, "I only wrote the truth. I said what you said but in a different way."

What he had written was: "Today is a beautiful day and I cannot see it."

Do you think the first sign and the second sign were saying the same thing?

Of course both signs told people the boy was blind.

But the first sign simply said the boy was blind. The second sign told people they were so lucky that they were not blind. Should we be surprised that the second sign was more effective?

Moral of the story:

Be thankful for what you have. Be creative. Be innovative. Think differently and positively.

## Strategic Thinking Exercises – 6 Best Characteristics

By Mike Brown

What are the characteristics of the best strategic thinking exercises?

They all need to:

### 1. Allow everyone to participate – even those with little or no direct experience

Some people who participate in strategic planning will have less experience than other participants will. Great exercises, however, accommodate these differences in experience and do not leave anyone without a role based on what they know or have done.

### 2. Incorporate emotion

It does not necessarily matter which emotion strategic thinking exercises incorporate. It could be fear, angst, frustration, humor, hope, or passion. Or another emotion. Or some combination of all of those. If your strategy development only depends on logic and does not incorporate emotion, you are missing something.

### 3. Require people to think atypically

If everyone comes into and leaves a set of strategic thinking exercises without having thought in new ways, there is a major disconnect. There needs to be specific variables built in to ensure people are thinking along new paths and in ways they have not had to consider previously.

### 4. Introduce a strategic twist that doesn't match expectations or reality

If you want different perspectives from your current strategy, strategy and brainstorming questions need to go beyond simply what the current situation looks like. They should incorporate an unexpected twist or thinking detour to make participants feel uncomfortable with their standard way of thinking.

### 5. Create new questions

The more you attempt to answer strategy and brainstorming questions, the more new questions will emerge. Strategic thinking is about exploration. If it's fruitful exploration, you're going to uncover strategic paths that will be laden with new questions.

### 6. Leave room for unanswered issues

This goes along with triggering new questions. Successful strategic thinking exercises can't be expected to answer everything. The future isn't certain. The objective should be to consider as many possibilities as possible, even if some, or even many of them, can't be completely answered right away.

Here are some other go-to strategy exercises. See how these could fit into your strategic planning and innovation work:

- Doing the Opposite of Competitors' Bad Practices
- Using Analogies to Think about Your Strategy
- Disruptive Innovation Possibilities

# Driving to Zero Defects "8 Step Quality Defect Reduction Method"



**HOST COMPANY**  
The Raymond Corporation



The Raymond Corporation, a Toyota Industries (TICO) member company is a global provider of materials handling equipment, technology, expertise, and support. Raymond manufactures electric lift truck products for the narrow aisle and very narrow aisle market segments in Class I, II, and III (Counterbalanced, Narrow Aisle, Pallet Truck).

The company was founded in 1922 and is based in Greene, NY. It has manufacturing sites in Greene, NY and Muscatine, IA, and a parts distribution facility located in Syracuse, NY.

## WORKSHOP DESCRIPTION

Raymond will provide a tour of its manufacturing operations highlighting how it has applied the Toyota Production System (TPS) Principles and Tools.

In the afternoon, Raymond will review its 8-step method for reducing quality defects, including how each step is performed and its key points. A critical part of this method is Raymond's daily morning market or Asaichi meeting, which will also be highlighted during the workshop.

Asaichi morning meetings are used to communicate problems, share countermeasures, and speed overall resolution. Since every problem is an opportunity for improvement, this process helps leader's and associates understand that quality is everyone's responsibility.



**DATE:** November 14, 2013  
**TIME:** 8:00 am to 4:00 pm  
**LOCATION:** The Raymond Corporation  
22 South Canal Street  
Greene, New York 13778  
607-656-2311  
**COST:** AME Member: \$395  
Non-Member: \$495  
**REGISTRATION:** [www.ame.org](http://www.ame.org)

## WHO SHOULD ATTEND

Any level of the organization from front line Team Leader to CEO.

Individuals and teams encompassing a cross section of your company.

## PARTICIPANT BENEFITS

- Gain an understanding of how to effectively reduce quality defects.
- How Asaichi meetings work.
- The benefits of Asaichi morning meetings.
- How to engage all team members and departments and be part of the solution.

## COURSE AGENDA

8:00 to 8:30 am: Registration and welcome  
8:30 to 9:30 am: Overview of The Raymond Corporation  
9:30 to 11:00 am: Tour of The Raymond Corporation  
11:00 to 11:30 am: Q&A  
11:30 to 12:00 pm: Lunch (provided)  
12:00 to 3:30 pm: Driving to Zero Defects  
3:30 to 4:00 pm: Wrap-up

### Workshop Objectives:

- Review 8-step method for reducing quality defects
- Review asaichi meeting roles, format and process

The workshop will be facilitated by Scott Campbell, TPS Manager at The Raymond Corporation and Carol Miller, Principal Consultant at AM&T.



Alliance for Manufacturing & Technology

## 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

Kennedy Valve began operations when Daniel Kennedy started making gate valves in 1877 on Gold Street in Lower Manhattan. After one relocation to Coxsackie, the company moved to Elmira in 1907.



Decades of steady growth included one significant boost during World War II when the Maritime Commission awarded three contracts to the company to manufacture eight million valves for the Victory Fleet.

Now occupying a 52-acre site, Kennedy Valve is today a full-line waterworks valve and hydrant manufacturer, supplying resilient seated gate valves, fire hydrants, check valves, butterfly valves, indicator posts, grooved butterfly valves and an assortment of related products that are distributed worldwide.

In 1988, the company was purchased by McWane, Inc. of Birmingham, AL., and in 2007 celebrated the milestone of 100 years of operations in Elmira. Approximately 400 people are employed at Kennedy Valve and annual sales are in excess of \$125 million.

In addition to providing jobs and products for its customers, Kennedy Valve management emphasizes that the company believes another important role is to be a good corporate neighbor by supporting initiatives that give value to the community. For example, the company has a Community Advisory Panel that enables a cross-section of community representatives to work with company stakeholders on issues that impact their environmental, social and economic interests. In addition to company representatives, panel members typically include local community leaders, public officials, ed-

ucators, union members, regulators, members of the clergy, residents and business leaders.

Over the years, Kennedy Valve team members have helped build playgrounds and houses in partnership with Habitat for Humanity and worked to clean up local neighborhoods. Employees have participated in fundraising walks for charitable and non-profit organizations, and volunteered their time and talents for endeavors supporting the arts, education, resources for children, and senior citizen facilities.

Since 1997, McWane has invested over \$32 million in capital improvement projects at the Elmira facility to make its production processes safer, environmentally sound, and more productive. With assistance from AM&T, in 2011 Kennedy Valve received ISO 9001:2008 certification.

One result of the continuous improvement efforts at the company is that a company product line that had been produced in Thailand was brought back to the US last spring. The products re-shored by Kennedy Valve are Rotating Disc Gate Valves that range in size from 3" to 72", and were originally designed and produced in this region in the early 1900's, but eventually production was moved offshore.

"Our lean manufacturing accomplishments here have enabled us to free up capacity so that we can take on that business without having to purchase new equipment and build new space" said Lisa Rawcliffe, the company's lean manager.

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

## Associates' Corner



Transonic Systems Inc. is the world-wide industry leader in the manufacture and marketing of biomedical flow measurement devices. Its biomedical products measure and confirm liquid flow during surgery, post-surgery, hemodialysis and in research studies.

The Company was founded in 1983 by Cornelius Drost, who as a Sr. Research Associate at the NYS College of Veterinary Medicine at Cornell University invented the transit-time ultrasound flowmeter. Transonic measurement superiority was quickly recognized and, in less than a decade, scientific literature cited Transonic transit-time ultrasound as the "Gold Standard" against which

other technologies were validated. The first transit-time ultrasound flowprobes measured volume flow in vessels in large animals such as the sheep. Flowprobes have now become so small that scientists can measure the volume of flow through hair-sized renal/femoral arteries in mice.

Over the years Transonic has expanded its product lines into a broad spectrum of applications. Cardiac surgeons use Transonic to check flow in their bypass grafts. Neurosurgeons use Transonic to avoid intraoperative strokes during aneurysm or bypass surgeries. Transplant surgeons rely on Transonic measurements to check their work. In dialysis units Transonic Hemodialysis Monitors help improve dialysis delivery. Transonic measurements are integral in ground-break-

ing research that leads to medical advances such as the artificial heart. Transonic devices are also used in bioprocess control, and as "Transonic inside" original equipment devices. From the laboratory to the operating room, Transonic Systems provides accurate, intuitive, and reliable tools to measure flow.

Customer service, sales, marketing, R&D, finance, administration and manufacturing are based at the Company's 33,000 square-foot headquarters in Ithaca, NY. European and Asian divisions in the Netherlands, Taiwan and Japan augment the worldwide marketing and distribution of Transonic products.

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

Entrepreneur's Day Conference (ASQ & IEEE)  
November 16, 2013 - 9:30 am to 4:00 pm  
American Civic Association  
131 Front St Binghamton, NY 13901  
Questions: 607-218-7066 | Registration: 607-348-6022

## Around the Southern Tier

Nov 11	SBC Network Luncheon - Greater Binghamton Chamber - 607-772-8860
Nov 12	Business Before Business - Chemung County Chamber - 607-734-5137
Nov 13	Small Biz, Think Big - Tompkins County Chamber - 607-273-7080
Nov 13	Business After Hours - Tompkins County Chamber - 607-273-7080
Nov 14	Driving to Zero Defects - See Page 5
Nov 16	Entrepreneur's Day Conference - See Insert Above
Nov 19	Annual Salute to Small Business - Chenango County Chamber - 607-334-1400
Nov 21	Business After Business - Chemung County Chamber - 607-734-5137

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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.**