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www.aerospacecomponents.org
E-mail: alsamuel@acm-ct.org
The ACM Update & Calendar (and previous issues) are also available for viewing on the ACM website.

Welcome New ACM Member
Aerex Manufacturing Co. Inc.
34 South Satellite Road
South Windsor, CT 06074
www.aerexmfg.com
John Delaney, President

Save the Date!!
ACM ANNUAL President’s MEETING
Tuesday, May 18th
8:15am – 10:30am
Yarde Metals, Southington
Presidents, General Managers, Team Leaders and Business Development Team Members are invited!
Meet and Network with your Peers

The formal business of the Annual Meeting is election of Directors to ACM’s Board; each attending firm receives one vote.
Nominations, including self-nominations, are welcome!

Paul Murphy presents the President’s Annual Review

“Preparing for the Next Economic Upturn”, a series of roundtables
“Importance of Strategic and Tactical Planning”, moderated by Kristin Muschett
“How to Diversify your Business Base and Create Adjacent Opportunities”, moderated by Michael Polo
“Business Metrics”, moderated by Paul Murphy
Business Development

- Bruce Fiedorowicz (Volvo Aero CT), Business Development Team Leader, opened the Team’s March 23rd meeting introducing ACM’s most recent member, Aerex Manufacturing (South Windsor). Aerex was represented by their president, John Delaney (who is also President, Stowe Machine), and Rick Francoeur, Sales Manager. Delaney described Aerex as a 30 year old firm with 35 employees who is a supplier of precision machined parts, primarily to the helicopter market. A large part of Aerex’s business base is in machining rotor head components for Sikorsky Aircraft. Also introduced was Phil Milidantri, Vice President of Technical Metal Finishing, having joined ACM during the previous month.

This Team meeting featured guest speaker Samuel Cipollo of the Industrial Analysis Center (IAC) of DCMA (Defense Contract Management Agency, Philadelphia) who addressed the Team on a subject relevant to all businesses who supply U.S. military components and systems, the “Defense Critical Infrastructure Program”.

The DCIP came about after 9-11 per a Presidential Directive for Federal Agencies to “collaborate with the private sector” to help assess and analyze how well businesses are prepared to survive and to continue functioning following natural disasters (hurricanes, flooding, tornadoes, fires, etc). The Industrial Analysis Center in Philadelphia is the Department of Defense’s lead agency in this program and coordinates with the Department of Homeland Security, the local National Guard and State’s Emergency Management agencies.

Following informational meetings (such as this), DCIP offers businesses a “Mission Assurance Assessment” which is conducted at NO cost. Sam noted this Assessment is completely voluntary and not an audit or inspection; its data and results are available ONLY to the participating firm and the Industrial Analysis Center. No part of the Assessment process modifies a firm’s existing or future government contract. Sam quoted an obviously satisfied firm saying, “this is one time when the government claimed they were here to help and did!”.

The actual Assessment is conducted by a specialized team, typically led by a Mission analyst who is a commissioned officer and supported by a group of infrastructure / operations analysts. The timeline for an Assessment begins with an awareness meeting at the firm, a two day pre-brief to help the firm prepare for the actual assessment, the detail assessment which typically lasts four days and a final report delivered to the firm approx 45 days following the last visit.

**Mission Assurance Assessment Points to Remember!**

- NO fee charged by DCMA to company
- DCMA is not a regulatory agency
- Analysis is NOT an Audit or an Inspection
- Analysis NOT solely security focused
- IS a mission based assessment performed on task critical assets used for development or manufacturing
  - Process includes mapping the supporting infrastructure to those assets
- IS a assessment tool to highlight single points of service that have the potential of becoming single points of failure
- The resulting report is a tool for site managements prioritization of assets deemed critical by providing a macro and micro level analysis
- The report and all collected data is retained & controlled by the company & the IAC
- Ultimately, company makes the decision what actions to take on results included in the report given to the facility!
Sam Cipollo’s presentation is available on the ACM website; go to Members Only, Business Development and download DefenseCriticalInfrastructurePgm_BRIEFING_3-23-10.pdf. Also available is the DCIP Guidebook, Defense_Infrastructure_Resiliency_Guide.pdf.

Sam’ Cipollo may be reached at

The Team briefly discussed the following, with a detailed roundtable planned for the next Team meeting:

- Lockheed Martin will hold a F35 Support Program in Washington, DC on April 20-21 at which suppliers will meet with their Congressional representatives to discuss the importance of this program to their firms.
- Following last month’s Team presentation by senior procurement managers from Volvo Aero, two ACM firms were reported as having been to Sweden to continue their discussions.
- Following January’s presentation by Honda Aero, one firm reported visiting their plant in North Carolina and commented on “the building currently is empty”; other members reported having received GE part quotation packages as a follow-on.
- Trade Shows: The Helo Show (Feb 20-24, Houston) was reported as smaller than in previous years and mainly displaying support helo functions, interiors and avionics. The Singapore Airshow (February) was reported as having more military presence than in previous years, however, discussion was noted regarding both commercial open rotor and geared turbofan engine designs. Upcoming shows include MRO Americas2010 (April 20-22, Phoenix), the Army Quad-A Helo Show (April 14-17) and Tinker AFB (late May).
- Raw material prices were reported as increasing; nickel rose from $7/lb in January to $9/lb and other materials are also expected to continue an increase in price during the 2nd quarter. Lead times from mills are stretching to 14-16 weeks from recent 8 week deliveries.
- Members all reported good optimism regarding a rebound in the industry; CFM and V2500 engine production is strong and F135 and F119 production was reported as likewise.

- The next Business Development Team meeting will be held on Tuesday, April 27th at 8:15am at CERC, Rocky Hill; an in-depth member’s roundtable of industry business conditions will be featured.

- ACM's third Export Control Information Meeting took place on March 25th with Kaman Aerospace’s David Harris, Manager of Export and Trade Compliance, leading the meeting. This activity is an offshoot of the Business Development Team and has become an outstanding means for members to better understand the requirements of Export Control and to share their experiences and best practices. In this meeting, David presented an “Introduction to Export Compliance Programs” opening with “everything is subject to control, but everything does not necessarily require a license”. Key comments:
  - a program need not be grandiose, but it is important to establish a written policy, share it with all involved and stick to it. Implement controls to prevent violations, using documented
processes and training of personnel.
-training is the most effective countermeasure to eliminate export control violations.
-senior management must support, although not necessarily be expert; management must be knowledgeable in order to allocate the proper resources.
-designate an ‘empowered official’ within the company who assures compliance.
-decide whether a compliance program will be in-sourced or out-sourced, understanding the volume of business, amount of time required and its cost.
-establish a record keeping system to include all relevant documents including shipping, licenses, contracts and correspondence with U.S. agencies.
-understand your specific product being exported; understand the differing classifications, what is its end-use, who are the end-users and are exemptions applicable.
-establish a Visitor Management system within your company that addresses foreign visitors and restricted access. Remember, technology transfer to a foreign visitor during a basic plant tour is considered a ‘deemed export’.

Know Your Product
These determinations are critical in understanding what kind of controls apply to your export
- Is it a product, technical data/technology, or a service or a mix?
- Commodity Jurisdiction (CJ)/Commodity Classification process
- What is end-use/end-user
- Is it ITAR- or EAR-controlled?
- Is it on a control list (i.e., USML or CCL)
- Is it NLR, or does it require an export license?
- Is an exemption applicable?

Identify Risks
- Analyze current business flows for opportunities of unintended/unauthorized exports
- Understand any normal/foreseeable interaction with foreign persons or companies
- Marketing
- Supply chain (purchasing, distribution, etc.)
- Manufacturing (LC outsourcing/offload)
- Engineering (design outsource or development)
- Employment (hiring practices & onboarding)
- L-1, H-I visas, EAD (I-766), vs. Green card

Other Considerations
- Visitor management
- Unique badges for foreign persons
- Escort tours – restricted access
- International travel
- Consider any possible/planned tech data transfer
- Review content of presentations
- IT controls
- Internal access of tech data by foreign persons
- External access...FTP sites, etc.

David Harris’ complete presentation is available on the ACM website; go to Members Only, Business Development and view D_Harris_Intro_to_Export_Compliance_Pgms_3-25-10.pdf.

The next Export Control Information meeting, whose date is to be announced, will address “Minimum Requirements for Establishment of an Export Control Program”.

Consolidated Purchasing

- The Purchasing Team met at Kamatics Corp in Bloomfield on March 9th. Members attending this meeting discussed broad issues regarding best procurement practices as well as more specific matters including:
  - local and long distance transportation: Members report several companies have recently offered reduced trucking costs which other ACM firms may also be able to negotiate.
  - material cost projections: Global Insight (www.ihsglobalinsight.com) was suggested as a website offering information regarding raw material cost projections suitable for application in Government contracting. Their information can be used as a tool in justifying material escalations in multi-year, FFP government contracts. Other sources are the American Metals Market and Kitco. Another subscription based website for raw material price trends is American Metal Market (www.amm.com).
  - raw material costs: Recent trends show increased lead times and escalating surcharges in the procurement of nickel and titanium based alloys.
  - recently joined member, Technical Metal Finishing (Wallingford, CT), briefed their capabilities in shot peening and surface finishing, holding certifications from Pratt & Whitney, Rolls-Royce (Derby) and others. TMF also markets polishing media and related equipment.
Suppliers having Agreements with ACM are:

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<td>Turtle &amp; Hughes</td>
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<td>Dave Howard</td>
<td></td>
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<tr>
<td>Raw Materials: Nickel, Cobalt,</td>
<td>Aerodyne Alloys</td>
<td>860-508-1271</td>
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<tr>
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The next meeting of the Consolidated Purchasing Team will take place on Wednesday, April 14th at 8:00am at Kaman Precision Products, Middletown. Members are requested to leave cell phones in their vehicles when attending this meeting.

Special congratulations to a longtime member of the Purchasing Team and supporter of the ACM, **Ed Becker**, Purchasing Manager at Delta Industries, who is retiring after more than 30 years at Delta. *Good luck and best of health, ED!!!*

**Progressive Manufacturing**

Nick Lavieri, the Team’s outstanding leader for the past four years, began a new career in Lean, now working in New York City. Everyone at ACM appreciates Nick’s dedication to the Team and wishes him the very best of luck! Our new Team leader is Bob Castonguay, *Synchro* Manager at Trumpf. *Synchro* is Trumpf’s designation for Progressive Manufacturing and Bob, a Six-Sigma black-belt, has led their effort for more than eleven years during which over 500 kaizen events were conducted. ACM and our Team greatly appreciate having Bob step up in our leadership role. Bob Castonguay may be reached at Trumpf Inc. at robert.castonguay@us.trumpf.com or (860) 255-6625.

The Progressive Manufacturing Team met at Sterling Engineering (Barkhamsted) on March 24th with one of the best attended meetings in many months. The meeting began with the Team’s new leader, Bob Castonguay, formally introducing himself and briefly discussing his vision for our Team’s activity. Bob noted the Team’s broad responsibility, which spans traditional Lean Manufacturing to also include manufacturing technology and quality assurance related subjects. Bob looks forward to working with ACM’s Team members and encourages them assist by suggesting meeting topics for discussion and offering to host the monthly meetings. ACM’s greatest strength, repeatedly demonstrated during the past ten+ years, has been members sharing their experiences and best practices and openly assisting other members having similar issues.

The March 24th Team meeting was an excellent example of a member firm sharing its experiences. Paul Barrow, Sterling Engineering’s Manufacturing Manager, led the meeting and discussed how Lean has been applied during the past two years at Sterling Engr. Paul, similar to Bob Castonguay, is an experienced Lean practitioner, whose broad experience has really paid off at Sterling. He offered the Team the following thoughts and suggestions:

- Lean is a common sense application to take waste out of a process!
- Lean is a broad set of tools and you need to *look at what really works* in your company to determine how to make it effective.
- Standard work is not about working harder, rather working smarter. Smarter is being able to accomplish the same amount of work in less time. Standard Work has been broadly applied at Sterling, as a tool to take advantage of an operator’s time while his machine is running an operation. “Standardization drives toward sustaining results!”
- Change will never be trouble free and each employee is accountable to make the change work. It’s OK if things go wrong as long as you can figure out what to do next to move forward.
- Regarding Visual Management, if you are not going to actually do something, don’t bother to measure it!
- Management’s involvement in improvement must be daily.
- Don’t allow perfect to get in the way of better; go into a Kaizen with this expectation!!

Sterling Engineering’s events are relatively short, never more than three days, and are designed with goals that can be fully completed within the three day period. To this end, the events Paul manages do not produce a Kaizen Newspaper, which he believes to become a tool directed at the maintenance department to complete actions. “If you can’t implement change in three days, don’t do it!!” In place of the Newspaper, Paul conducts formal reviews with his Team at intervals of 30, 60 and 90 days following the Kaizen event. This technique provides that most accurate reflection of whether the improvement has actually been sustained or there is some degree of backsliding. After 90 days, Paul indicated improvement will stay very close to that level.

A number of Sterling’s employees have been sent for training at Northwest Community College to participate in a two course certificate program in Lean Manufacturing techniques. Lean 101, the initial course, teaches Lean fundamentals, and Lean 102 is directed at those who will lead kaizens. Paul advised feedback, received on these courses from Sterling’s attendees, was excellent. These courses have recently been broadly implemented in the Connecticut Community College system under a Federally funded “Advanced Manufacturing High Growth Job Training Initiative”, administered by CBIA; similar courses are available at Manchester and Asnuntuck Community Colleges.

In summary, Paul again advised ACM members to determine what works best in their company.

- The next Progressive Manufacturing Team meeting is scheduled for Wednesday, April 28th at 8:00am at the offices of Connstep in Rocky Hill and will feature a presentation by Connstep’s Mike Gugger.

Mike Gugger recently joined Connstep. He has previously been a speaker at ACM Technology Seminars while a manager at Techsolve (Cincinnati, OH) where he was associated with the M. Eugene Merchant Technology Development Center (“a fully instrumented machining lab equipped for turning, milling, drilling, grinding, boring, broaching, and advanced machining technology processes”). Mike will speak on “Kaizen in the Machine”. Mike advises “not everything that happens inside the machine is value added. A focus on Continuous Improvement must include a focus on the latest technology and techniques of material removal. When a part is not reaching Takt or is costing too much, a focus on the process can uncover latent capacity by incorporating those new techniques and technology and reducing cycle time and costs. Many companies either rely on tried and true methods used to date or don’t have time or manpower to review and improve processes because the next job is already due. Through a Kaizen approach and a systematic review of the process based on data and facts, new opportunities can be determined, developed and implemented in a very short focused event.”
Please plan to attend this special and informative meeting.

A Message from Jim Womack of the Lean Enterprise Institute commenting on “Lean for the Long Term”

I’ve now been thinking about lean continuously for thirty years, since the fall of 1979 when my MIT bosses asked me to explore how a few Japanese companies had developed a striking advantage in designing and making motor vehicles. Recently, I’ve found myself reflecting on where we in the Lean Community have been, where we are today, and where we need to go next.

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Workforce Development

- The WorkForce Development Team met at Stowe Machine on March 16th. Team members addressed ACM’s in-company training program which currently has only two courses active or about to begin. Members wishing to have a course scheduled are asked to contact the ACM Office at 860-513-3205 or alsamuel@acm-ct.org and advise of your specific needs. The complete syllabus of ACM courses is available on the website; go to Members Only and the WorkForce Development library folder and see WFD_Course_Syllabus.pdf.

The following courses are currently on our schedule:

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<th>Participants</th>
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Attendees also continued their discussion of relationships with local schools for the purpose of offering students, teachers and guidance counselors information regarding career opportunities in the local aerospace industry. Members continue to make presentations at schools, attend informational Open House events and sit on advisory boards.

Laurie Roy, HR Director at Alcoa Howmet (Winsted) attended and briefed the Team on their “Classroom to Boardroom” program. Alcoa Howmet’s effort, in conjunction with the Northwest Regional Chamber of Commerce, is intended to provide teachers and counselors current information about local industry, how to prepare students for industry and to let the teachers know what local employers are looking for in entry level jobs. Teachers participating are offered credits in their professional development programs. Team members felt this was an excellent parallel effort to our ongoing program with the school systems and suggest ALL of our members make contact with the Chamber of Commerce in their local towns to set up similar briefings.

Laurie has developed a briefing package in which she has integrated the WorkForce Development Team’s presentation, “A Career in Aerospace….Limitless!!” (available in various file formats in the ACM website WorkForce Development Library). For more information regarding the Alcoa Howmet program, please contact Laurie Roy at 860-738-5574.

ACM’s “Future WorkForce Opportunities Fair” is an upcoming part of our program and will be held on October 13th at the Windsor Marriott Hotel in conjunction with the Business Development Team’s Tradeshow. It is NOT too early to begin discussions with your local school systems about this Fair and request they put the event on their October calendar. ACM will provide an informational flyer at the Team’s next meeting which will also be sent to all local school systems, but your personal contact will have a much greater effect. Our website displays photos of the 2009 edition of this Fair. Please encourage your local schools to attend!
● The WorkForce Development Team will hold its next meeting on Tuesday, April 20th at 8:00am at Delta Industries, East Granby.

● REMINDER -- ACM offers member firms a Job Posting service on its website at NO cost. Jobseekers visiting the ACM “Job Listings” pages will see a display of available positions by company as well as by job type (see sample listings, below). Applicants clicking on a listing will open a page showing the individual job description and related contact information.

Job postings for this website are created from information provided by members using the ACM Job Posting template. Please contact the ACM Office to obtain this template and detail information on how to submit a Job Posting.
As for where we have been, it now seems amazing to me how easy the early years were. While it seemed at the time like it was taking forever, within ten years our MIT team was able to develop a remarkably comprehensive description of a lean enterprise and its advantages. When *The Machine That Changed the World* came out in 1990 it provided a summary, of the five elements of the system - product and process development, supplier management, fulfillment from order through production to delivery, customer support from sales through the use cycle, and the enterprise management system that tied the parts together. In addition, we were able to demonstrate with hard data how superior this new lean approach was to the still dominant mass production methods (which I now call modern management) of Alfred Sloan at GM and his followers.

I assumed that GM would go under in the next recession - which it nearly did in 1992 - and that this crisis would lead to widespread copying of lean methods. All that was needed was an implementation plan. Dan Jones and I were happy to provide this in *Lean Thinking* in 1996.

And then life diverged from the forecast. Twenty years after the launch of *Machine* I realize that the path pursued was not in the direction I had imagined. I am now aware that the lean movement as it has evolved to this point has been the latest step in a long, technically-focused tradition of process improvement going back at least to Venice in the 1500s. The many steps along this path have emerged as waves before cresting and then declining - notably, Scientific Management in the 1920s, Training Within Industry during World War II, Deming and the quality movement in the 1950s and 60s followed by Total Quality Management in the 1970s and 80s, Business Process Reengineering in the early 1990s, Six Sigma from later in the 1990s, and the lean wave we have experienced recently.

The pattern of these waves has been that they were based on tools, often promoted mechanically through programs, led by improvement groups in organizational silos, and transmitted between organizations through the movement of employees and consultants. They rose quickly to a peak (lean has actually been the exception with its long, slow ascent) and then rapidly receded, leaving the level of the sea a bit higher than before but far below the peak level of the wave.

The question for today is whether lean has peaked, coincident with the end of the long-running drama between mass and lean in Detroit and the current (and I believe temporary) troubles of Toyota, and whether lean too will recede to a shadow of its peak power. The fact is that no one can know. But it is now completely clear to me that if lean does go the way of previous improvement waves it will be because our community failed to address a curious fact: While we have been discovering and mastering lean techniques for process improvement over a period of decades, modern management practices have been evolving in a direction completely adverse to their successful use.

Currently most of the earnest process improvers in the Lean Community, including many participants in LEI's Lean Transformation Summit wrapping up today in Orlando, spend their days interacting with modern managers who are standing directly in the path of sustainable improvement. Put another way, many of us in the Lean Community have focused our attention on improving core processes in organizations by deploying brilliant tools when we should have been focused on improving the management process itself. That is the fundamental problem.

So where do we go from here? First we need to acknowledge a simple but awkward fact: The right, lean management system for each organization can only be discovered through experimentation in the form of PDCA. And this requires a dialogue in each organization about the value-creating work of management and how to merge it with sustainable process improvement. Indeed, a discussion of how
to make continuous improvement a core activity of line management.

Specifically, this means lean process improvers engaging senior managers as a team in evaluating the current state of each organization's management system:

--How does it engage and align people to determine which problems are important and, perhaps more important, which are not?
--How does it tackle the important issues facing the organization, solve the problems that come up every day in every organization no matter how lean, and evaluate proposals rising from the bottom of the organization where the greatest, gemba-grounded knowledge of conditions resides?
--How does it create basic stability across the organization, with standardized work and standardized management at every level?
--How does it create the next generation of lean managers and convert the current generation of modern managers to lean management?

Obviously, in many organizations the most important initial finding will be that its modern managers don't realize that these are the key challenges for any management system to address! They will think that the work of senior management is to make all managers strictly accountable, give them results to achieve, and incentivize them for doing so or punish them for failing. This, of course, is the difference between managing by process and managing by results that most clearly differentiates modern management from lean.

If the conversation can at least be initiated - and if it sparks an effort to create an "A3 for Management" with a future state to replace the current state -- the odds are surely vastly higher that the right transformation of the management system for that organization can be envisioned and then realized through PDCA. I have no odds to offer at to what happens when earnest improvers engage modern managers in this conversation on the nature of management. But I increasingly believe that unless we in the Lean Community press the necessity of this conversation, lean risks becoming another rising and falling wave in the long history of organizational improvement, one pursued as a technical rather than a management challenge. In short, sustaining lean for the long term depends on a many frank conversations soon about the true work of managers and the nature of lean management.

Best regards,

James P. Womack, Founder and Chairman
Lean Enterprise Institute, Inc.