



**ACM**

Aerospace Components  
Manufacturers

TOGETHER. A WORLD OF EXPERTISE.

**ACM UPDATE**

**March 31, 2009**

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The ACM Update & Calendar (and previous issues) are also available for viewing on the ACM website.

**Welcome New ACM Members**

**Forrest Machine Inc.**

37 Inwood Road  
Rocky Hill, CT 06405  
Michael Forrest, Vice President

**Turbine Controls Inc.**

5 Old Windsor Road  
Bloomfield, CT 06002  
Glen R. Greenberg, President  
[www.turbine-controls.com](http://www.turbine-controls.com)

**ACM ANNUAL President's MEETING**

**Wednesday, May 6<sup>th</sup>**

**8:15am – 10:30am**

**CERC, Rocky Hill**

*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!

Randy Plis presents the *President's Annual Review*

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**“Preparing for the Next Economic Upturn --  
What to do to be more Efficient during this Downturn”**

John Kornegay introduces and moderates presentations on:

*'Electronic Archiving of Retained Data'* by Randy Plis

*'Web Based Interface of Supplier Status Information'* by Tom Beach

*'How to Protect your Experienced and Skilled Workforce'*, a roundtable discussion  
moderated by Paul Murphy

You are Cordially Invited to Participate in the  
**ACM** **2009 Trade Show &**  
**Future WorkForce Opportunities Fair**

Wednesday, May 27, 2009  
 Hartford/Windsor Airport MARRIOTT Hotel  
 I-91 Exit 38 - Day Hill Road  
 9:00am-7:00pm



**Guest Speaker:**  
 Allan Swan, Rolls-Royce North America,  
 Operational Purchasing Executive, North America Supply Chain Management  
 addressing  
 "Rolls Royce Supply Chain Growth and Opportunities"

Display your Parts and Services on Six Foot Tables  
 Electric Power (*light load*) will be available at Table  
 (if requested on reservation form)  
 Hors d'Oeuvres and Cash Bar at 4:30pm  
 Fee of \$400 will be invoiced to your Company

Customer response to this year's Tradeshow has been very good and representatives of Rolls-Royce, General Electric Engines, IAE (Intl Aero Engines), UTC Aerospace Supply Management, Pratt & Whitney, Sikorsky Aircraft, P&W Canada, Hamilton Sundstrand, SNECMA, Bell Helo, MTU and Volvo are expected to attend. And, our Tradeshow is being reported in Aviation Week & Space Technology; see "Aerospace Calendar" of March 30<sup>th</sup> edition.

In addition, we are very pleased to have as our keynote speaker, Mr. Allan Swan, Rolls-Royce's senior North American procurement executive address "Rolls Royce Supply Chain Growth and Opportunities".

Limited space remains available for members; please forward registration forms to the ACM Office as soon as possible.

Please see the WorkForce Development section of this *ACM Update* regarding plans for the morning session, our "Future WorkForce Opportunities" Fair. Please plan to properly support and staff this important portion of the event.

**Business Development**

- The Business Development Team met on March 20<sup>th</sup> with guest speaker, Dorothea Wong, UTC Director of Aerospace Supply Management, providing a briefing on UTC's Supplier Gold Program. Dorothea was assisted by Steve Nelson and Tom Donnelley, both from UTC's corporate procurement organization. Our Business Development meetings are always well attended, and this meeting's topic completely filled the meeting room!

Dorothea began with an overview of UTC noting the Supplier Gold program was being implemented by all UTC divisions. She advise that over \$20 billion is annually spent worldwide in procurement of product related goods and services and for UTC is to continue to be successful, there is the need for 'world class suppliers'. To this end, UTC senior management has made a commitment to investors and Wall Street analysts for the corporation to internally achieve a silver or gold level status in 70% of UTC sites by the end of CY2009 and to have 80% of UTC's global supply chain reach gold level by CY2011.



UTC Director of Aerospace Supply Management, Dorothea Wong, addresses Business Development Team

UTC Gold Level was described as an elite level of performance, signifying perfect (zero escapes) quality, on-time (100%) delivery, satisfied customers (through feedback from UTC divisions doing business with the supplier) and significant implementation of lean practices to promote sustainability. Dorothea noted the key issue is performance, not conformance to a specific UTC system; suppliers may use their own internal systems to achieve these results. She described the benefits of a supplier reaching the gold level which include significant visibility from the corporation's most senior

management as well as with management from the other UTC divisions, leading to possible new or increased business relationships.

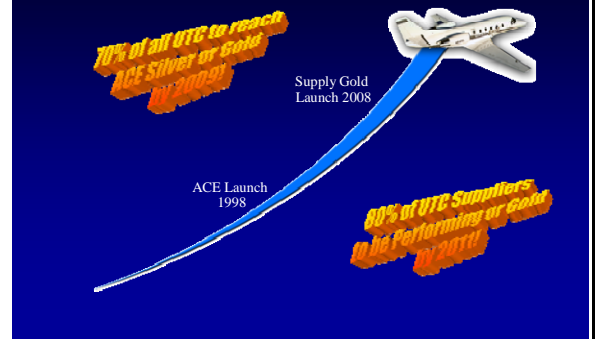
The process of Gold Level supplier evaluation is complex and it was briefly reviewed during the presentation. A detail description will soon become publicly available on the UTC website.

The Team thanked Ms. Wong for her candor and invited her to return to address the Team at a future meeting. Dorothea Wong's presentation is available on ACM's website; please click on Member Login, Business Development Library and download, [UTC - Supplier Gold Mar 2009.pdf](#).

For additional information, please contact:

Dorothea Wong: 860-678-4644 [dorothea.wong@utc.com](mailto:dorothea.wong@utc.com)  
Steve Nelson: 860-678-4627 [steven.nelson@utc.com](mailto:steven.nelson@utc.com)  
Tom Donnelly: 860-678-4579 [thomas.a.donnelly@pw.utc.com](mailto:thomas.a.donnelly@pw.utc.com)

## UNITED TECHNOLOGY'S JOURNEY



## SUPPLIER GOLD BENEFITS

Return On Investment: increased productivity

Growth: Increased capacity, more competitive

Recognition

Purchasing magazine

Aerospace weekly

Supplier gold newsletter

Employee satisfaction



Information from the Aerospace Industries Association in their March 2009 Update:



## Orders Begin Slide, But Market Still Strong

Source: [william.chadwick@aia-aerospace.org](mailto:william.chadwick@aia-aerospace.org)

Average annual aerospace employment ended 2008 at 657,100 workers, a 1.6 percent increase over 2007.

For the fourth quarter 2008, average aerospace employment dipped to 650,800, likely due to the strike at Boeing. This was a 1.6 percent decrease and a 0.5 percent decrease, respectively, from the previous quarter and from the same quarter of 2007.

Overall, aerospace employment is relatively healthy. Layoffs have been announced but aren't yet apparent in the numbers tracked by the Bureau of Labor Statistics. Any recent fluctuations are most likely the result of striking workers exiting and then re-entering the labor market.

While still strong, the most recent numbers for aerospace orders, shipments and backlog are slightly more worrisome than the employment figures. New aerospace orders dropped to \$231 billion in 2008, off 15 percent from 2007.

Comparing fourth quarter results in 2008 to the previous year, orders were off 34 percent. These declines reflect the softening market for aerospace products, and indications are that 2007 may prove to be the apex for orders in the near term.

While orders might be starting to slide, it's important to note that the market is still at historically high levels. Orders have increased consistently since 2002 and are up nearly 80 percent over the period.

## Workforce Development

- The Workforce Development Team met at Habco Inc, Glastonbury, on March 25<sup>th</sup> and is doing significant things in creating our plan of action for development of relationships between our member firms and their local school systems.

The key element in the Team's plan is to provide members with a "marketing piece" that can be used in making presentations to school staff, students and parents. "A Career in Aerospace – Limitless!" provides you with a structure to discuss Connecticut's aerospace industry. After a brief exciting (embedded) video, it presents reasons working in our industry, an overview of the products we actually produce, information about jobs, pay ranges and most importantly, the expectations we have for entry-level employees. The presentation is flexible and may be used directly or custom edited.

Three versions are available for downloading from

ACM's website, Members Only page, Workforce Development Library:

[ACM Career Oppty Presentation March 09.ppt](#) - the PowerPoint file,

[ACM Career Oppty Presentation March 09 with NOTES.ppt](#) – the PowerPoint file with embedded Notes to assist in your presentation

[ACM Career Oppty Presentation Mar 09.pdf](#) – an Adobe Reader file, same as the

PowerPoint, for use when PowerPoint isn't available on a computer; this version is also useful if you wish to leave (or email) the presentation-- it allows printing but no modification.

For visitors to our website, its public page, "Learn about Career Opportunities" links to a playable version of the .pdf file with its embedded video.

In planning for the May 27<sup>th</sup> Workforce Fair, Team members volunteered to make recurring presentations of "A Career in Aerospace – Limitless!" to visiting students and teachers. Al Samuel advised that school registrations were just beginning to arrive. We need to continue to have ACM members contact their local school systems to encourage students, teachers and parents to attend; the Team also suggested similar invitations be sent to local colleges. As it is highly likely our Future Workforce Fair will be very well intended, please be reminded this is *THE* opportunity to speak with our visitors, telling them about your firm, your career opportunities and expectations of new employees. Please plan to fully staff your display tables (set up must be complete by 9am) with persons prepared to talk to these visitors; along with HR personnel, bring 'younger' workers and managers to talk about their personal experience in aerospace, and, please bring your company literature.

The Workforce Development Team also discussed a recent suggestion from the ACM Board of Directors. It was recommended ACM develop a new public page on its website to be a Job Posting board. Members will receive templates to complete and return to the ACM Office for their job postings which will appear under your company name; those searching for a position and 'clicking' on the posting will be re-directed to your brief description of the job, its requirements along with the link to your firm's website. ACM will provide this service to our members at no cost, a new and cost saving benefit for the membership.

The Team also discussed other means of building relationships with school systems and, to this end, will invite Bruce Dixson of CPEP (CT Pre-Engineering Program) to the Team's next meeting to discuss how ACM members might best work with this organization.



- Much is happening with WorkForce Development Team, yet greater participation is always welcomed. Please plan to attend the Team's next meeting, on Thursday, April 16 at 8:00am at Adchem Mfg Technologies, Manchester.
- The Connecticut Business and Industry Association (CBIA) has been funded by the Connecticut Community College's College of Technology Regional Center for Next Generation Manufacturing (RCNGM) to administer an **Educator Externship Grant Program** to help stimulate connections between the workplace and classroom instruction. This program is designed to assist educators in keeping current with technology skills specifically applied in manufacturing, and to help them update their curriculum so that students will be better prepared to meet our workforce needs. The grant will provide participating educators with a stipend for time spent at the worksite, for creating a curriculum work-based project, a summary report, a student survey and for sharing their experience with colleagues.

CBIA is looking for firms to act as hosts for the faculty-extern's, an excellent opportunity to provide educators with a better understanding of today's manufacturing processes and technologies, as well as giving them the tools they need to prepare their students for our future workforce. The current plan will offer 10 externships; 5 high school and 5 college. There is no cost to act as a host and participating firms will have the opportunity to interview the extern to discuss their role and project and negotiate a mutually acceptable work schedule. The program technically runs from June 1 to September 1, but depending upon the initial agreement, educators can complete their required 160 hours in the fall.

Please contact CBIA's Mary deManbey (860-244-1975) or Nancy Castonguay (860-244-1932) to answer questions or become a participant in this program.

### Progressive Manufacturing

- ACM's Progressive Manufacturing Team met on March 26<sup>th</sup> at Kamatics Corp, Bloomfield where Tom Rutledge of Kamatics Design Engineering Department led a discussion on "*Working With Customer Supplied Computer Based Models*". There is a growing trend in the industry towards providing product definition to the supply chain through the use of "model based definitions", versus the traditional 2D drawings, creating technical challenges for suppliers as these models must be used for manufacturing purposes. The presentation addressed these issues and related process controls and served as an opportunity for a round-table of experiences by the attendees.

Kamatics, like many other ACM firms, deals with a variety of OEM customers and invariably, each customer uses a different computer based model for delivery of engineering data; in some cases, differences are compounded by the version of the software the customer employs. While there are advantages to the common database a customer can now provide to their supply chain, the matter of removing the pertinent data (from the model) necessary for manufacturing has become the supplier's task, an added cost when compared to data delivered on paper drawings. Tom indicated "today, customer drawings do not exist and complete definition is not readily apparent".

Tom described the process used by Kamatics in working with Customer electronic inputs, principally CATIA (and its differing versions), UNIGRAPHICS, Pro-E, and Solidworks. The task is to assure the data contained in a customer's 3D model is accurately translated into a 2D system usable by Kamatics' manufacturing and support departments and that the 2D data is current, identifiable and traceable to the model; in all cases, the data within the model is the contractual baseline. Using a variety of software translators and techniques, Kamatics engineers "remove" each component from the 3D model and produce an internal 2D package containing a view of the part as seen in the model, a completely dimensioned engineering drawing, parts list, drawing notes and associated

specifications. It is this 2D document package that Kamatics uses for quoting, material ordering and manufacturing. Inspection, however, must be verified directly back to the Customer's model. When detail part dimensions are unavailable within the model, typical of an assembly, CMM machines validate the part's acceptance to the Customer 3D model.

In addition to staffing engineers experienced with these complex engineering CAD systems, suppliers must absorb the significant expense of CATIA and/or UNIGRAPHICS seats (licenses). Frequently, job shop firms can afford only a single seat from a single program. Dealing with numerous systems requires use of lower cost translators which often add complexity and potentially, technical errors. Kamatics is investigating some software innovations including the new and relatively low cost (for license) Adobe Acrobat Pro Extended 9.

- The next meeting of the Progressive Manufacturing Team will take place on Thursday, April 23<sup>rd</sup> at 8:00am at Aero Gear, Windsor. This meeting features guest speaker Robert Fruit, SSBB CQE, Asst Program Manager at Mitutoyo America Corp (Chicago); Mr. Fruit will address "*What do Six Sigma and SPC have in Common?*" along with a discussion regarding Wireless Electronic Gage Interfaces.

**A Message from Jim Womack of the Lean Enterprise Institute  
commenting on  
"Respect Science, Particularly in a Crisis"**

The current recession is the fifth in my working career. And it is beginning to feel like the worst. I can't imagine that any manager or improvement team member in any industry in any country isn't feeling a bit queasy at this point, as the world economy keeps recessing toward an unknown bottom. Where should we go to calibrate our North Star in times like these, to reassure ourselves that we are on the most promising path? Recently I've found one answer.

In carefully reviewing a new publication from LEI, I've had the opportunity to spend a lot of time with the "fathers of lean". By this I mean the small band of Japanese line managers who made the original breakthrough to create a lean enterprise and who were interviewed at length much later about what they did and why. The relevant point for this moment is that a small group of managers achieved a lean leap in a time of severe stress, making some of their boldest moves during the financial crisis of 1950.

As the Japanese economy entered a steep recession in that year, the Toyota Motor Company ran out of cash, which was tied up in inventory for products customers no longer wanted. The company fell under the control of bankers who chopped the company in two, creating separate firms to divide the marketing and sale functions from the product development and production functions. (These firms were only recombined in 1982 to create the current Toyota Motor Corporation.) Founding President Kiichiro Toyoda (new President Akio Toyoda's grandfather) was driven out in the process. The pursuit of what became the Toyota Production System, along with the product development, supplier management, and customer support systems, was the creative response to this crisis.

As I started to read these interviews I expected to discover that Toyota's managers had a clear plan all along. Surely leaders like Taiichi Ohno, Kikuo Suzumura, and Eiji Toyoda knew exactly where they were going and how to get there. I also expected to find a clearly chartered improvement team and a formal program to go with it. (Perhaps "The Way Forward", Toyota's recent tag line in its advertising?)

What I found instead was that a few line managers had some very simple ideas and an extreme sense of urgency: Minimize lead time from order to delivery (to free up scarce cash.) Remove waste from every step in every process (to reduce costs and enhance quality.) Take action now (because there wasn't much time.) But what they also had – and this was critical – was a tight scientific discipline. While they did act quickly, they also took the necessary time to document the current state, to state their hypothesis very clearly, to conduct a rigorous experiment, to measure the results,

--continued on Page 7--

## Consolidated Purchasing

- ACM's Purchasing Team met at Eckart & Finard on March 3<sup>rd</sup> with a roundtable discussion of procurement related issues as their agenda. Raw material procurement was again the main discussion item; material prices were described as 'stable to soft' with much competition as production schedules are effected by OEM pushouts. Following the roundtable, E&F's Rick Jones and Bryan Kisner briefed on their business model and provided a tour of E&F's hardware distribution facility.
- Suppliers having Agreements with ACM are:

	<u>Supplier:</u>	<u>Key Contact:</u>	<u>Telephone:</u>
Shop Supplies, Abrasives, Cutting Tools, etc	<b>Turtle &amp; Hughes</b>	Mike Kelly Dave Howard	203-497-1529 203-497-1555
Raw Materials: Nickel, Cobalt, Titanium – Sheet, Plate & Bar Stock	<b>Aerodyne Alloys</b>	Kirk Smallidge	860-508-1271

ACM is pleased to announce the Agreement with Aerodyne Alloys has been extended for the third consecutive year. Members whose annual sales volume exceed their prior year's sales with Aerodyne become eligible for a share of the ACM rebate. Please contact Kirk Smallidge (above) for specific details of this program.

- The next meeting of the Consolidated Purchasing Team will take place on Thursday, April 9<sup>th</sup> at 8:00am at Aerodyne Alloys, South Windsor.

## News from ACM Members

Please forward significant company news and announcements to Allen Samuel at [alsamuel@acm-ct.org](mailto:alsamuel@acm-ct.org) for posting on the ACM website and publication in the UPDATE.

### "Respect Science, Particularly in a Crisis"

--continued from Page 6--

and to reflect on what they had actually achieved, sharing their findings widely.

What they didn't have was a "program" or even a name for the system of scientific discovery they were creating. Indeed, the label "Toyota Production System" was only introduced in 1970 – after the system had been fully invented – to explain it to suppliers. What they also didn't have was a program office or a dedicated improvement team. The fabled Operations Management Consulting Division was introduced at about the same time as the label TPS and only after TPS was deployed across the enterprise. Toyota's remarkable act of creation – based on a scientific process of systematic discovery – was conducted by line managers as the most important part of their daily work. And – here's the really inspiring part – they did most of their research in midst of a fierce battle for survival.

In learning more about Toyota's achievements in the 1950s as the company struggled to survive, I've gained a new appreciation for the fact that we have no excuses in our current period of chaotic markets and falling demand. Systematic science works wherever it is applied to any process. And it is more and not less useful in the depths of a crisis. The only ingredient that may be lacking today is our determination to respect rigorous science in the current crisis. And that you can quickly rectify!

With best wishes for creative discovery in these chaotic times,

James P. Womack, Founder and Chairman  
Lean Enterprise Institute