



### Chairman's Message

#### Chair's 4<sup>th</sup> Quarter Comments

This year is just about over and we have wrapped up most all of the events for the year. Looking back, I can say that it has been a rewarding experience for myself and the other officers. The chance to get involved in a variety of activities, keep up to date on the latest technology, in addition to getting a first-hand view of what many companies are doing in their factories made for an interesting year.

Some of the highlights include our Officer Installation dinner at Barnaby's Steak and Ale back in January. Also in January, there was some information sharing at a symposium on simulation software. All attendees were quite satisfied at the information and insights that were shared.

In February, Chapter 39 toured **Genie Industries** in Redmond. Genie has put into practice a great many lean manufacturing techniques and has the ability to quickly implement changes on the factory floor as the need arises.

The ides of March brought us **Mike Bjorkman** from **Boeing Phantom Works** giving a presentation on ballistic machining. The subject was very interesting and later in May, **Robert Vaughn**, the pioneer of this field back in the late fifties / early sixties was in attendance.

April brought a presentation form **NovaSim**

**Corporation**. The presentation was "**Simulation Today and Tomorrow**". **Kerri Page** and **Jaret Hauge** did a great job of presenting the information. Chapter 39 would like to extend many thanks to **Harris Group** for lending support for the technical meeting.

May brought the Annual Meeting at the Westin in downtown Seattle. Two workshops presented in conjunction with the annual meeting were "Six Sigma Challenge" and "Lean Manufacturing Challenge". There was a great amount of learning, sharing, and networking and it was beneficial to all people who attended.

After our standard Summer break, September brought us a tour of **Ballard Power Systems** and **XCELLSIS Fuel Cell Engines** up in Burnaby, British Columbia. Chapter 39 members that attended got a look at the latest technology in hydrogen fuel cell stacks. XCELLSIS and Ballard Power Systems were quite open and happy to show us a great deal of what they are doing. The lunch supplied was very much appreciated as it took a lot of energy to wait at the border on the return trip.

October was our chance to tour **Advanced Digital Information Corporation** in Redmond. Many thanks to **Mike Weishaar**, **Paul Abdallah**, and **Ed Stinson**, our hosts for sharing the processes and the overview of scalable data storage systems, (See related story in the Bulletin).

The **University of Washington** Student Chapter #175 had the opportunity to tour the **Boeing Final Assembly Plant** in Everett, WA. The student chapter is doing well and we look forward to more activities with them. Prof Wayne Li is the new faculty advisor for the student chapter and can be reached through the chapter officers for further discussion or questions.

Our other student chapter at **Western Washington University** is doing well. So well that

#### 2001 OFFICERS – SME CHAPTER #39

Tim Bond – Chairman  
Tom Kato – Chair-Elect (2001 Chair)  
Mary Lynch – Treasurer  
John Erickson - Secretary  
Chapter voice mail (206-781-4207)  
<http://chapters.sme.org/039/index.html>

### Visit Our Local Student Chapters





they just received the SME Annual Award for Best Student Chapter along with a monetary gift to further the student chapter activities. Chapter 39 would like to extend many thanks to Mika Arriaga and Eric McKell for all their effort and coordination. The WWU student chapter also made a visit to WESTEC in Los Angeles to compete in the student project competition.

In regards to student chapters, we are also in the process of signing up **Shoreline Community College** as our next student chapter.

Our last major activity was in November at the **Harris Group**. The **Manufacturing Technology Advisory Group** and **Enterprise Manufacturing Intelligence** combined to make an insightful evening. Again, thank you to the **Harris Group** for lending us their facility. (See related story)

Chapter 39 belongs to all of us. I would like to thank all current and past members who have made or that are continuing to make contributions to the success of the chapter. I would also like to welcome all future members. I hope that myself or other chapter members will get to know you at future chapter meetings. I hope you can take two or three hours on a monthly basis to ensure Chapter 39's continued success. **Please get involved.**

Tim Bond  
Chapter 39 Chair

### New Members

Chapter 39 extends a hearty welcome to the following new members.

Friesen, Myron J. - October 2001  
Quinn, Clyde A. - October 2001  
Clayberg, Gary - September 2001  
Cox, Mark - September 2001  
Lally, Rick W. - September 2001  
Cleveland, Stephen - August 2001  
Frick, John K. - August 2001  
Griffin, Robert - August 2001  
Haas, Ronald L. - August 2001  
Higgins, Roger - June 2001  
Moran, James A. - June 2001

### November 15, 2001 Meeting

On November 15<sup>th</sup>, Chapter 39 held a technical meeting at **The Harris Group** building located in downtown Seattle. There were multiple items on the agenda that evening.

The first event was a presentation by **Jeff Hakalmazian** on "**Enterprise Manufacturing Intelligence**" (EMI) systems, which are encompassed within a broader classification Manufacturing Execution Systems (MES). MES has grown in breadth and depth, but "measuring what you value" is critical to your success in the e-business environment.

The second event was a presentation on the **Manufacturing Technology Advisory Group**, (MTAG) by **Lynn Brown**. MTAG is working towards winning the skills war. They are a partnership comprised of Washington business, education, government, labor and community to address the emerging technological needs of education and the manufacturing/engineering industry.

Of particular note of MTAG was the opportunity to get involved to any degree desired by the individual. The MTAG website has a link to their website via our chapter website. I urge all of you to take a couple or three hours a month and support MTAG on Chapter 39's behalf. If you have children or grandchildren in the Puget Sound area, you will find this a worthwhile activity.

Throughout the evening, members and guests enjoyed pizza, salad, and soft drinks. At the end of the evening, door prizes were awarded compliments of **The Harris Group**.

**Andrew Cross** was the recipient of the SME President's Award due to his unwavering support of the chapter through the past year.

The final activity of the evening was a voice vote for next year's office. Every member in attendance voted to accept the slate of candidates as presented.

### ADIC

SME Chapter 39 had the opportunity, recently, to tour ADIC's Marymoor data storage unit assembly plant. ADIC is a leading device-independent storage



solutions provider to the open systems marketplace. Mike Weishaar, acting as our host took us through the plant that is arranged in multiple, one-unit flow build lines, each dedicated to a single product type. Paul Abdalla, Production Manager, and Ed Stinson, ME Manager, conducted the tour of the facility and explained the improvements made since start up.

The results are impressive. In less than two years the team has been able to reduce the required direct labor by 40% with a simultaneous ramp up in production. Stand out elements of ADIC's systems include a serialized, bar coded BOM with labels, work instructions that are primarily graphic, and a two bin, point of use kanban system.

ADIC uses bar coding not only to capture information for service but also to provide in line quality checks that insure that the components the customer ordered are the ones installed. For example, final labels for the data storage products will not print out if all the scanning checks are not completed. Reliability has been so good that customers allow ADIC to package products directly into their end user boxes, reducing costs, and giving ADIC a competitive advantage.

The work instructions, also, include in-line checks but are primarily graphic, using illustrations of parts and symbols that are common across all build lines. This has allowed ADIC to substantially reduce training time at stations, easily share people between build lines, and select personnel based on who makes the best team member rather than who is the most experienced. The material systems, too, are graphic. Kanban labels include a picture of the part to provide a quick visual check as well as the standard information of part numbers, locations, and quantity. Using a two-bin system at the point of use has reduced time to replenish parts and cycle time variation significantly.

The enthusiasm for the changes and respect between the production and ME groups was evident as was the pride in their combined accomplishments. Their long-term goal? As Mike said, "We want this place to be the one everyone comes to to see how it's done".

### Touring the Fuel Cell Companies Xcellsis and Ballard

November 28th Chapter 39 organized a great tour of Xcellsis and Ballard, two Canadian companies prominent in the emerging fuel cell industry. In aftermath of the tragic event in New York, delays at the border were inevitable. However, I believe the about 30 tour participants felt the two very informative presentations, a chance to inspect a zero emission bus, and an elaborate lunch more than compensated for the three hour wait at the border, returning from Burnaby BC.

#### Xcellsis

The first presentation was given at Xcellsis, the fuel cell engine company. Xcellsis was formed in an alliance between Ford, Daimler Chrysler, and Ballard Power Systems to explore the use of fuel cells for vehicle propulsion. The Burnaby facility's 140 employees focus on heavy-duty transportation, to date mainly buses, while their German counterparts focus on passenger cars and vans.

The presentation covered the successes of their zero emission bus program and some proprietary information of how the fuel cells are used to convert hydrogen fuel into AC power driven propulsion. Some of the problems involved in using hydrogen fuel cells in vehicles, such as developing an infrastructure for fuel supply, were also discussed. A ride in a zero emission bus was on the agenda, but due to some technical difficulties we had to settle for a peak at the bus while it was being worked on.

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### Ballard

At Ballard Power Systems we were given a very impressive view of a company which appears to have the foresight and resources to do everything right in anticipation of a huge demand for their fuel cells. Ballard's 800 employees focus on development of the hydrogen fuel cells themselves, and the technologies and processes involved in mass production.

Ballard has apparently been able to streamline their operation prior to recently launching their first product, a compact power pack in cooperation with Coleman. Their integrated management systems and hybrid MRP/JIT approach seem to me a text book example and the envy of many manufacturers who would like to begin with a clean slate. If the enthusiasm and salesmanship we witnessed at Ballard is an indication of their future efforts, I am sure Ballard will continue to be a major stakeholder in the fuel cell industry.

We thank the representatives from Xcellsis and Ballard, as well as the Chapter 39 leadership, for a great tour. In addition to an inside look at the exiting emerging technology of fuel cells, the tour was educational also from a more general manufacturing perspective.

### SME Databases Link Qualified Professionals with Quality Employers

SME's Manufacturing Jobs Database and Resume Database summarize professional and personal information required by both job hunters and prospective employers. These databases are free and available to SME members.

The Manufacturing Jobs Database serves as a resource by posting engineering, technical and professional job openings. Members search the job openings by visiting the Jobs Database, under the Membership heading, on the SME Home Page ([www.sme.org](http://www.sme.org)). SME members interested in submitting resumes should contact the SME Customer Service Department at (800) 733-4763 (U.S.A. only) or (313) 271-1500 and request a Resume Database Information Sheet. Employers,

who are searching for qualified engineers, technicians and manufacturing professionals are asked to call Resume Link at (614) 923-0600 or e-mail at [socmember@resume-link.com](mailto:socmember@resume-link.com).

### SME Education Foundation The foundation of our future workforce

The Education Foundation of SME (SME-EF) recently awarded over \$245,000 in scholarships to 60 of the best and brightest engineering and technology students across the country.

"In support of a strong manufacturing base for the future, SME is working to better prepare tomorrow's practitioners meet the accelerated technical and business needs of the 21st century," said Randy Maiers, director of SME-EF. "Through our scholarship programs, SME is encouraging some of the best and brightest students to choose a career in manufacturing."

SME-EF is gearing up for the 2001 scholarship cycle. New scholarship awards have been made available and the Foundation looks forward to awarding more scholarships than ever before! Information regarding available scholarships for 2001 can be found on the SME-EF Web site at [www.sme.org/foundation](http://www.sme.org/foundation), or contact Ami Ross at (313) 271-1500, Ext. 1702 or via e-mail at [rossami@sme.org](mailto:rossami@sme.org).

### Manufacturing Enterprise Council Reports Progress

Created last fall to provide guidance for SME's technical activities, the SME Manufacturing Enterprise Council (MEC) reports significant progress toward reaching its goal of strengthening the Society's knowledge base. The mission of the Council is to serve as advisor on the strategy and processes by which the SME becomes the desired



resource for worldwide manufacturing knowledge solutions and professional networking.

Its efforts have been focused on creating a foundation for the future knowledge generation of the Technical Activities area and on developing initial goals to help SME respond swiftly to member technical information needs. Through the formation of three subcommittees, the Council has addressed several critical areas in developing knowledge-based services and products for members. The Architecture/Body of Knowledge Subcommittee is reviewing the technology groupings currently served by SME and reviewing opportunities for exploring new areas of importance to our members. The Decision-Rule Subcommittee of the Manufacturing Enterprise Council is developing a model to assist the Society in prioritizing and developing knowledge-based products. This Decision-Rule will provide the criteria and guidelines by which SME's resources are allocated to the development of technology-focused member benefits. The third subcommittee, the Information Sources Subcommittee, is charged with identifying sources of manufacturing expertise that the Society can use to develop products and services for its member and non-member customers.

The 2000-2002 Council is being chaired by Gustav J. Olling, PhD, FSME, LSME, CMfgE, PE, Executive of CAX Research and Development at Daimler Chrysler Corporation. Council members include: Hector C. Baro, CMfgE, Vice President of Manufacturing Operations, Scientific Atlanta, Inc.; John G. Bollinger, PhD, PE, John Bascom Professor of Industrial Engineering and Dean Emeritus, University of Wisconsin-Madison; Thomas G. Kinisky, Vice President R&D and Technology, Saint-Gobain Abrasives; Frank-Lothar Krause, Director of Virtual Product Creation, Fraunhofer Institute of Production Systems and Design Technology; Roger E. Lang, Executive Director of Manufacturing Engineering, Cummins Engine Company, Inc.; Thomas J. Sarama, Vice President of Engineering, Raytheon Aircraft; Patrick M. Shanahan, Vice President and General

Manager, 757 Program, Boeing Commercial Airplanes; Richard W. Shoemaker, Vice President and General Manager, Kohler Company; Mark C. Tomlinson, Vice President of Technology Integration, Lamb Technicon Machining Systems; George West, Vice President of Manufacturing, PACCAR Inc; and SME Ex Officio Richard L. Kegg, PhD, FSME, CMfgE, PE, Retired Vice President of Technology for Milacron, Inc.

For additional information, contact SME Technical Activities staff: Sandra Marshall, 313-271-1500, ext. 1826, marssan@sme.org.

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