

SOCIETY of MANUFACTURING ENGINEERS

TORONTO CHAPTER 26

MAY 2001



<http://www.sme-toronto-26.org>

The Potential of Mechatronics:

ATS AUTOMATION FACTORY TOUR

Wednesday May 9, 2001

TOUR LOCATION: ATS Automation Tooling Systems Inc., 250 Royal Oak Road, Preston Centre
Cambridge, Ontario, N3H 5M2, Tel: 519-653-6500, <http://atsautomation.com>
Light supper at 6:00 pm, talk at 7:00 pm

ATS wishes to have a list of all who are going. Please register with George Heintzman at gheintzman@sympatico.ca or Tel 416 467 8298 or FAX 416 467 1922

ATS is an outstanding example of a company which has taken advantage of the extraordinary changes in the technologies that make up Mechatronics. They make Automation products for a global market.

They have experienced disciplined growth. The number of employees has grown steadily. We see that profit on sales has been respectable since 1995 and that while employment has risen steadily sales per employee has also risen peaking in 1999. ATS sells in many sectors.

Automotive: An ATS integrated assembly system builds electric motors to the world class quality standard required by the auto industry.

Computer/Electronics: ATS offers industry leading capability in the design of high precision assembly systems for computer products such as this disk drives.

Health Care: Precise handling & accurate tracking is an absolute requirement in applications such as automated lab testing & analysis.

Directions from Toronto:

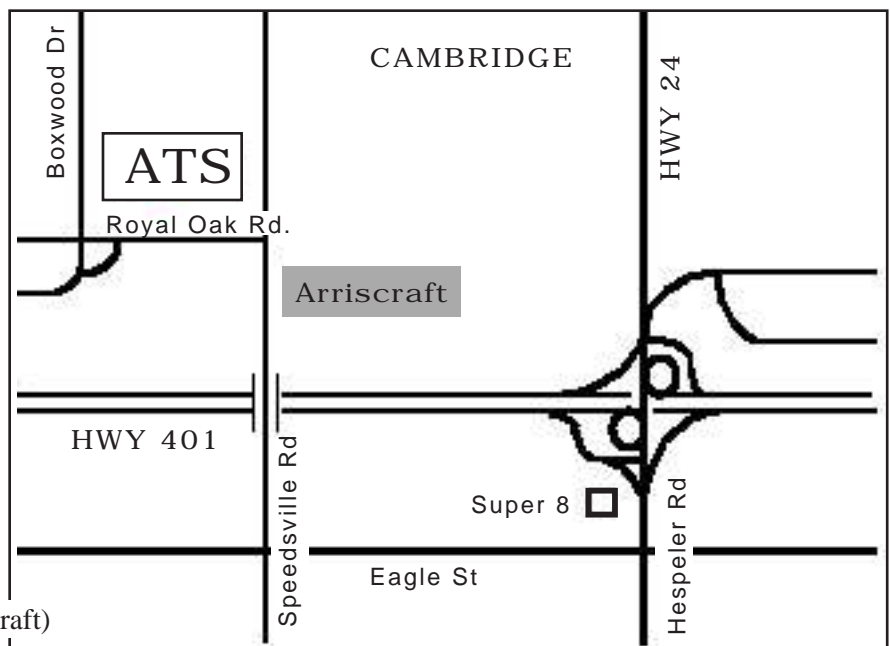
Hwy 401 West to Hwy 24 exit
Turn left (south) onto Hwy 24 (Hespeler Rd.)
Turn right (west) onto Eagle St.
Turn Right (north) onto Speedsville Rd.
Turn left (west) onto Royal Oak Rd. (by Arriscraft)

Consumer Products: High volume consumer products require reliable assembly and packaging with sub-second cycle times.

Semiconductor: ATS offers diverse solutions from material handling and high accuracy die placement to wet bench processing.

Fibre Optics: ATS experience in ultra high accuracy alignment, attachment and packaging, means custom solutions for challenging applications.

George Heintzman
gheintzman@sympatico.ca



Mechatronics Series:

For more information see our web site at <http://www.sme-toronto-26.org/smeto26/pages/Mapplc.htm>, or get in touch with Pierre Perron, 416-763-4689, pierre_perron@yahoo.com.

Location and Times

The last two meetings of the Mechatronics Series will be tours. Sign up is mandatory with Loris Giuricich, 416-448-2225, Lgiurici@celestica.com, or George Heintzman, 416-467-8298, gheintzman@sympatico.ca

PLEASE CHECK OUR WEB SITE FOR LAST MINUTE CHANGES! An email will be sent to all those who have already signed up. www.sme-toronto-26.org/

For information on books and links related to Mechatronics please see our Web site <http://www.sme-toronto-26.org/>

HQ SME RP Conference

SME's Rapid Prototyping and Manufacturing 2001 Event is taking place May 15-17, at the Cincinnati Convention Centre, Cincinnati, Ohio, U.S.A. SME new policy "Show your Member Card and Get in for FREE" will be in effect. 1-800-733-4763 or see Trade shows on the SME web site at <http://www.sme.org/>

HQ Certification Courses

Training opportunities for SME's Certified Manufacturing Technologist, Certified Manufacturing Engineer, and Certified Enterprise Integrator exams are listed below. The Review Course Schedule is:

Certified Manufacturing Technologist

April 26-28, 2001; September 27-29, 2001

Certified Manufacturing Engineer

May 17-19, 2001; October 25-27, 2001

Certified Enterprise Integrator

May 15-16, 2001; October 25-26, 2001

All courses are Located at SME Headquarters in Dearborn (Detroit), Michigan

Space is still available for these training programs. Visit our website for more information at:

www.sme.org/certification, For registration contact SME Customer Service at 1-800-733-4763! Registration is also available for the exam only!

Mechatronics Topics & Schedule

9. Wednesday, May 9. Tour of ATS Automation Tooling Systems Inc., Cambridge, Ontario, <http://atsautomation.com>
10. Wednesday, June 6. Tour - Innovative Automation in Barrie. (They are a mechanical assembly machine builder similar to ATS.

Some material from previous sessions is on the Chapter website at <http://www.sme-toronto-26.org>

Executive Meetings

NEXT MEETING: at 6:30 pm

May 3, 2001 - Thursday

At: **AFV Multimedia**
233 Evans Avenue
Phone: 416-239-2811

Interested parties are welcome and encouraged to join executive members at these meetings. For additional information on next meeting phone 416-467-8298 or e-mail: gheintzman@sympatico.ca or Ken-Dante@msn.com.

Upcoming Schedule 2001:

PLEASE NOTE: All Executive meetings are **Thursdays** at 6:30 pm

May 3 - Thursday

Tuesday June 19, at 28 Kildeer Cresc.

NOTE: Bulletin copy deadlines:

June Issue: May 8, 2001

September Issue: August 8, 2001

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Our continuing thanks to Professor Mark Fox, U of T, for hosting the Chapter's web site on his server at <http://www.novator.cm>

What We Were NOT Taught in School...

Review of Talk by George Heintzman on April 4, 2001
George gave an excellent insightful presentation on the development of soft skills and how important it is to improve them in order to have a successful mission.

Implementing a mechatronics project is a three dimensional experience. One needs to develop hard, project management and soft skills. The first two are usually nourished as we go through school. However, what makes a project successful is the ability to build a good team.

Planning and timing are critical when starting a project. George showed us different techniques to organize and clarify a project plan. He explained the precedence diagramming, critical path and PERT techniques as well as how to incorporate meaningful reports in a presentation.

Presentations, one can never tell enough stories!! George compared presentations to stories and provided us with an effective checklist to test the structure, context, language and exhibits of the story. Always make sure that the headlines tell the story. "Headlines should be a benefit statement so the customer knows why he is reading it." He also demonstrated the poise that one should carry when giving a presentation or during a meeting. For example, if someone has his arms crossed, give him a pencil to write something down thereby opening up to the discussion.

A valuable lesson that George presented us with was to LISTEN. In any profession, as he said, "Interests are the basis of effective negotiation,"

that's the concept of Legitimate Power. Many people are afraid of change because they do not know how to control it. He shared some anecdotes about why a change has not been implemented in a company and called it "The dead moose".

He also prepared a contracting review checklist to explain us the importance of understanding the relationship with the customer. Some of the points in the checklist require a lot of observation and dedication. However, once the resistance is identified the project will flow smoothly. Just remember to "Shut up and listen!"

Understanding people is very difficult, especially when one has to make a project work in harmony. George gave us some excellent models for understanding people in his presentation. It is very beneficial to be able to simplify or categorize individuals. This modeling allows us to delegate the appropriate task based on certain characteristics that the team player has to offer. For example, an analytic person finds it difficult to work with an expressive individual since they are opposite to each other. The former asks and controls while the latter tells and emotes.

To achieve excellence in a project, respect for each person's opinion and ability to contribute to the goal are essential. Remember in "Excellence the objective is paramount!"

One of the best statements was "Success is no accident; it is a continual progress toward predetermined personal goals."

*Karen Silva-Zapata
Student, University of Toronto*

Many Thanks to our BULLETIN PUBLICATION and WEB SITE SPONSORS:



Information and links at: <http://www.sme-toronto-26.org/>



Review of Talk given by George Heintzman April 4, 2001

Mechatronics IMPLEMENTATION AND TEAMWORK

The rapid evolution of our ".com" world has broken through geographic, social, political, and economic borders. As our global community continues to grow, more, and more we are required to interact cross-culturally. The resultant growth of the industrial sector has brought with it an increased demand for the engineering society to evolve beyond its own boundaries. Lines in the sand once dividing engineering and business disciplines have since been washed away by the tides of scientific and cultural change. The increasing complexity of today's market place and emerging technologies has heightened the demand for the engineering community to step out from behind our workbenches and into a more interpersonal /communication based role. We work in smaller and smaller specialized groups that must work with more and more small groups.

To summarize George Heintzman's presentation, 5 wallet sized check lists, and 75 page handout for this bulletin is a daunting task. The sheer volume of information could have easily been spread throughout several sessions. Therefore if you were unable to attend, I strongly suggest you get pick up a copy of the handout at the next session. George conducted an extremely informative evening, combining personal experience, academic knowledge and at times humour, to spell out the much-needed soft skills required for project implementation and teamwork. Meetings and team building, personality modeling, internal consulting, negotiation, and presentations are all integral parts of the engineering process. These soft skills or "all that other stuff" as defined by George, is something that as Engineers, Technologists, and Technicians we have

always shared as a weakness. George pointed out that the "soft skills are tough because we must use these skills when doing something else," practicing the hard skills. No matter how solid the design of the objective is, its implementation is dependent on the success of its marketing, communication and teamwork. Understanding the audience you are dealing with is key. One model of human personality traits is to break personalities into four types, Analytical, Expressive, Amiable, and Drivers. It is essential to address the types of individuals you are dealing with, as each requires a different approach. "I remember dealing with a supervisor who was an Expressive with sub Driver tendencies. He spoke through a note pad, every idea like an involuntary reflex had to be followed by a sketch and the words "so what do you think". I could talk until I was blue in the face and no matter how practical my proposed engineering changes were, I just couldn't get him to alter his practice. I guess one day out of pure frustration or possibly protest I didn't say anything, I just listened to what he had to say. That is when it hit me, he didn't really say anything. He was conceptually a brilliant man, however he had trouble expressing ideas through verbal communication. He couldn't hear. The only way for me to convey my idea was to grab a pen and start sketching." In addition to this model George covered 15 others.

One point that George seemed to neglect during his presentation was the importance of time management when conducting a presentation; he ran 20 minutes over.

Student, Ryerson Po

Program for Next Year, Sept start:

We have started to think about the program for next year. We need your ideas. The members of the program committee are Bruce Keeling, Robert Hope, and Loris Giurich. Please send any of us your ideas. Also please tell us if these ideas are of interest to you. So far the ideas suggested are:

- Patents - what are they and how you register one - the latest changes to make it easier for the little guy
- Lots of plant tours

- Export - packaging, standards, marketing, insurance, risks, financing etc.
- Advances in metal cutting
- Finding another job
- Manufacturing software

Let us know what you want e-mail, fax, or voice - but let us know.
George Heintzman