

SOCIETY of MANUFACTURING ENGINEERS

TORONTO CHAPTER 26

APRIL 2001



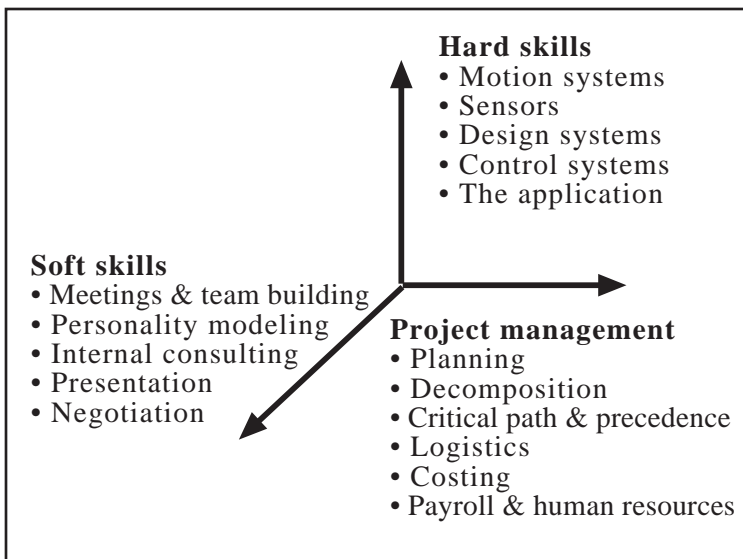
<http://www.sme-toronto-26.org>

The Potential of Mechatronics:

IMPLEMENTATION AND TEAM WORK

Wednesday April 4, 2001

TALK LOCATION: Room T216, 87 Gerrard St. East, Eric Palin Hall
 Ryerson Polytechnic University
 Light supper at 6:00 pm, talk at 7:00 pm



In April we will cover some of the other aspects of running a project. These three areas tend to be orthogonal or independent:

Hard skills

Project management

Soft skills

The topic we have already covered is hard skills. Project management when seen as a group of specific reports that must be produced and communicated is also easy for us to discuss.

The area that seems to be hardest for our members to practice is the soft skills or people skills. The reason is that these skills need to be thought about and practiced at the same time as you are doing something else important.

The handouts will include charts which can be used to communicate with others and business card sized check lists. These are designed to be consulted before, during and after you get into trouble doing the other thing which is important. In other words if we are trying to communicate an essential benefit of our new system we tend to think about the benefit and not the other person and how he/she might be perceiving our message. We tend to bury them in facts without telling them why its important - the benefit. We think of our needs instead of theirs. Our

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So far in this Mechatronics series we have seen the various components of Mechatronics:

- Introduction and the importance of objectives
- The importance of a business case to increase focus
- Motion systems
- Sensors
- Design systems
- Control systems
- And two outstanding tours showing how it all comes together

The Chapter 26 web site, www.sme-toronto-26.org/, and monthly Bulletins from the Chapter will give details of the talks and tours in this Mechatronics series. LOCATION: see above for this month's talk.

How to Attend: See page 4.

To Apply:

To apply, print and fill out the Application Form on our web site at <http://www.sme-toronto-26.org/smeto26/pages/Mapplc.htm>, and mail with your cheque to: Pierre Perron, 42 Glenlare Ave., Toronto, Ont., M6P 1C4.

Location and Times

The course will be held at Rm T216, 87 Gerrard East, Eric Palin Hall, Ryerson University in downtown Toronto. A light supper will be offered at 6:00 pm and the session will start at 7:00 pm. We will usually finish by 10:00 pm.

The fee for non-subscribers for each Mechatronics evening is \$65.

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/>

Hamilton SME Chapter 42

Allan Spence, Chair of Hamilton Chapter 42, sent the following note: "I put a link on our SME Chapter 42 - Hamilton District homepage to Toronto 26 in case some of our members want to attend Toronto events. Your members are welcome to ours too. We list them online. See <http://chapters.sme.org/042/homepage.htm>." For more information, schedules, etc., please check this web site.

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objective might be to succeed. Theirs might be to avoid high visibility failure and risk. To get them to change their behavior ("sign the friggin order") we have to meet their needs.

The content of this session:

Hard skills - nothing, nada, nix, nyet, voch, rien - we did this one already.

Project management - very little - there are much better courses on this subject with a discussion of what this comprises and the impact on a project if it is not done well.

Soft skills or interpersonal skills - most time on this: *Meeting skills* and setting objectives for performance of meetings; *Team building* what is it and the skills required; *Personality modeling*, how to recognize and feed other personality types; *Two corporate models* and how to deal with them; *Internal consulting*; *Presentation skills*; *Negotiation skills*.

This session will be the most useful 3 hours you have ever spent in a class room. You will increase your personal effectiveness. We look forward to seeing you there.

George Heintzman
heintzg@attglobal.net

Mechatronics Topics & Schedule

8. Wednesday, April 4. Implementation Team Work, Goal Setting, Managing People. George Heintzman. At Ryerson University.
9. Wednesday, May 9. Tour of ATS Automation Tooling Systems Inc., Cambridge, Ontario, <http://atsautomation.com>
10. Wednesday, June 6. Summary - Panel Discussion: The Future.

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
APRIL 5, 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: heintzg@attglobal.net or Ken-Dante@msn.com.

Upcoming Schedule 2001:

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

April 5

May 3

NOTE: Bulletin copy deadline:

May Issue: April 8, 2001

June Issue: May 8, 2001

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 Giuricich. 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

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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>

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SME Ryerson Student Chapter Tour of the Steam Whistle

The visit was organized by John Camarda. For many of the students this was their first visit to a factory. They weren't used to try to understand what they were looking at. They didn't notice that all the pipes were stainless which is expensive - that there were no welded pipes, only quick disconnect fittings so they can be easily steam cleaned. They didn't notice that the pumps came apart with thumb screws so they could be easily and frequently cleaned. All pump bearings were sealed and use non toxic grease. The bottles had a base that is slightly larger than the rest of the bottle so they will not rub together and wear off the label which is made from frit, silk screened on to the bottle and then heated to melt it permanently onto the bottle surface.

One thing that surprised the students is how every employee is involved in marketing. The janitor, the shipper, everyone is involved in customer satisfaction, quality, delivery, and explaining their contribution to customers. This is a general

trend which is important for them to recognize. As industry divides into more tiers with more specialties in each tier, more and more groups have to interface with more groups. In these smaller enterprises it is important that every employee sees themselves as being involved in the marketing customer satisfaction effort.

The students were very nice to me. They asked me to come on their next tour to help them look at plants more critically. They now understand the role of tours in their long term professional development. So I would urge chapter members to join all student tours and pass on their experience to the next generation. It is your responsibility if we want to continue to have a competitive democracy. If we want to have a society in which you want to raise your kids and retire.

*George Heintzman
heintzg@attglobal.net*

Many Thanks to our BULLETIN PUBLICATION and WEB SITE SPONSORS:



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



CONTROL SYSTEMS Talk by Dave Simpson, IBM, March 7, 2001

Excellent presentation. Dave is well qualified to talk on this subject. He started programming motor controllers and then moved up to PLC's and now manages the installation of multi level control systems.

Dave showed us in a very convincing way the progress of controllers which he defined as "the device implementing the link between cause and effect." He started by describing manual switches at the beginning of the century, then relays in the twenties and the more recent evolution of the PLC.

He had some impressive IBM charts showing the past and projected function, speed and cost of semiconductor devices and disk storage.

Another fascinating point was the impact of European political integration on the development of European standards which then spread to North America. Because the devices all look the same on the outside this has led to a fantastic reduction in cost.

Another trend is to build in all the required standard functions. For example a clock on a PLC used to be a separate plug in feature. Today it is standard.

Software function is coming in standard blocks so that often complete function can be assembled from pieces

which hook together with standard interfaces and recognize each other.

Dave took us through the evolution and impact of communication from mail, phone, fax, EDI, cellular, internet, to e-market. He gave many examples of how more perfect information is speeding the death of old products and decreasing cost.

Dave built an overwhelming case that the cost of control systems will continue to drop because the hardware is getting cheaper and more reliable and also the hooking together and programming of groups of controllers is getting easier and faster. This will lead to more flexible plants making custom products for specific markets.

His recommendations for the future are:

Always sell service with a product and always sell a product with a service.

Know yourself and your core competence. Be aware of how somebody could put you out of business and then implement his strategy. Have a big vision which you are continuously implementing in little steps.

Get outside help fast if you are in trouble.

REGISTRATION FORM - MECHATRONICS SERIES 2000-2001

Please go to the web page: <http://www.sme-toronto-26.org/smeto26/pages/Mapplc.htm>, print a copy of the registration form and mail with your cheque to the address below. Please keep a copy for your records. Fees are pro-rated for late sign-ups. Please photocopy for additional registrations.

*Send application form with cheque or money order made out to SME Toronto Chapter 26 Mechatronics, to:
Pierre Perron, 42 Glenlure Avenue, Toronto, Ontario, M6P 1C4*

*** Membership enquiries please phone 416-402-3146.*