

SOCIETY of MANUFACTURING ENGINEERS

TORONTO CHAPTER 26

NOVEMBER 2003



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



Talk: Cost Effective Results Using Fast Metal Removal

Thursday November 27, 2003

Speaker: Andy Lux, Product Specialist, Iscar Tools Inc.

The Presentation:

The development of cutting tools during the last decade, especially for milling, hole making and multifunction turning applications, has been marked by significant innovation. The main goals defined by industry are fast metal removal (FMR) using higher feeds, greater depth of cut and higher cutting speeds, as well as high performance cutting (HPC) to achieve better surface quality, improved machining stability, better accuracy, longer tool life and higher productivity or profitability.

The introduction of new CNC machines, and machining centers, optimization of the manufacturing chain and full automation of tool and work piece replacement, has also led to the development of new tools with lower cutting forces, higher tool stability, balanced rotation at high cutting speeds as well as fast and accurate clamping of inserts and holders. Smaller work piece oversize, achieved today by the near net shaped processes, requires smaller depth of cut and less machine tool power. The use of Hard Cutting and Dry or MQL (Minimum Quantity Lubrication) can also improve profitability by minimizing cost per piece.

Minimizing production cost per finished product is related mainly to the productivity, or the machining rates and not to the price of the cutting tools themselves, which represents only 3 to 5% of the finished product costs. Following this direction, in the last 20 years, cutting speed was doubled, feed per tooth was also almost doubled, the possible depth of cut is 25% higher, the number of inserts on a cutter can be 50% higher and the overall possible loads are significantly increased.

The presentation will describe some of the unique ISCAR developments targeted to achieve cost effective results by using FMR technologies

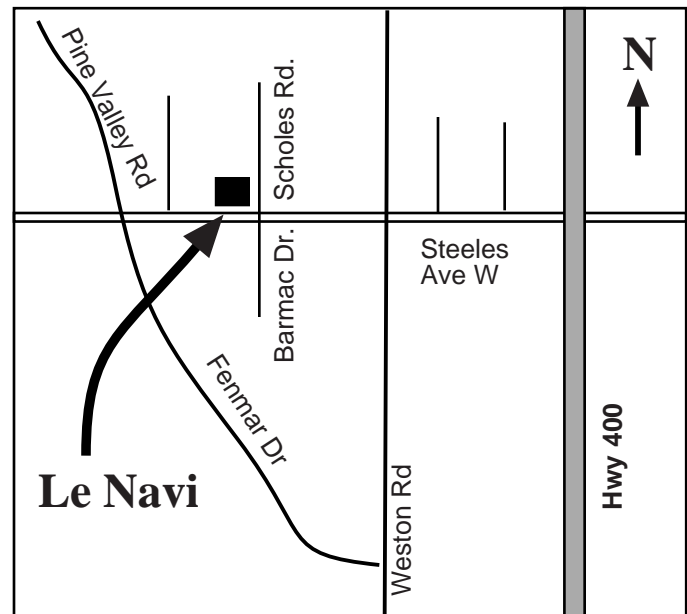
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5:30 Social, cash bar
6:00 Dinner
7:00 - 9:00 Talk

Le Navi Restaurante
4120 Steeles Avenue West
Woodbrige, Ontario
Phone: 905-850-8064

Directions:

The restaurant is on the north side of Steeles Avenue, a few blocks west of Highway 400. It has a very large sign.



Please sign up with Loris Giuricich by October 20.
416-448-2225 or e-mail to Lgiurici@celestica.com
\$35 for members (CMTDMF -Canadian Machine Tool, Die & Mold Federation- included), \$45 for non-members, student members \$25; includes meal tax & gratuity.

Mark Your Calendars: THIS SEASON: Topics & Schedule 2003-04

Thursday January 22, 2004: Tour of Mouldmaster

Thursday February 19: Automation Talk. Joint meeting with PMA**

Thursday March 25: Automotive Tour - Honda

Thursday April 22: Dofasco Talk. Joint meeting with PMA**

Thursday May 20: College Tour.

* CMTDMF = Canadian Machine Tool, Die & Mould Federation

**PMA = Precision Metal Forming Association

Slate of Nominees for 2004

The following candidates will stand for office for the year 2004, as follows:

Farhad Shafiei, Chair Elect,
Rick Marme, Secretary, and
Wen Chen, Treasurer.

Son Nguyen, this year's Chair Elect and Chair for the remainder of this year, automatically moves up to the position of Chair for 2004.

Elections will take place at the Program and General Meeting on Wednesday November 26, 2003. At that time nominations from the floor will be accepted. A seconder is required and the nominee must be present and clearly express the desire to stand for the office to which he/she is nominated.

Executive Meetings

EXECUTIVE MEETINGS 2003 6:30 pm start:

LOCATION: ApexiaNet/HiTech Institute offices at:

842 Yonge Street West, Suite 300 (Yonge and Bloor)

Wednesday November 5

Wednesday December 3

For additional information on the next meeting phone 416-701-7160, or snguyen_2050@hotmail.com

The SME Chapter 26 Bulletin

The SME Chapter 26 Bulletin is published eight or nine times a season by the Toronto Chapter of the Society of Manufacturing Engineers (SME). The SME provides support for people and industries in manufacturing by providing opportunities for networking, professional development and technical information.

Headquarters of this 70 year old professional society are in Dearborn, Michigan. For more information or to join, phone or email the Chapter Chair, Son Nguyen, at 416-701-7160 snguyen_2050@hotmail.com or Headquarters at 1-800-733-4763.

Talks and tours put on by the Chapter are listed on the Chapter web site at www.sme-toronto-26.org Headquarters web site is at www.sme.org

Your Company Flyer Bulletin Enclosure Special Offer!!

Chapter 26 is offering companies the opportunity to enclose their company flyer in our monthly Bulletin mailing. We have a special offer for the coming year. Enclosure in

one issue:\$300

four issues:\$1000

eight issues.....\$1800

We mail Bulletins 8 times a year (Sept., Oct, Nov, Dec/Jan, Feb, Mar, April, May) to nearly 500 manufacturing professionals in the GTA. For more information please get in touch with Ken Kogej, 416-274-2540 or Kendante.msn@attcanada.net

The piece to be included must meet the following criteria:

- 500 folded flyers ready for stuffing into a #10 envelope supplied by 1 week after copy deadline.
- Is of interest to our membership - is manufacturing oriented (we don't want life insurance or travel brochures)
- Weighs less than 3 sheets of 8.5 x 11 in 20 lb bond paper. Larger items could be negotiated.
- We reserve the right to reject pieces we do not feel to be consistent with our professional goals and objectives.
- We reserve the right to change any of the above items without prior notice.

Bulletin Copy Deadlines

NOTE: Send material to Jenny Ono Suttaby at jono@jentekcompany.com by the following dates for inclusion in the upcoming Chapter Bulletin:

December/January Issue: by November 15

February Issue: by January 15, 2004

The Joseph R. Benedetto Scholarship

The Application Form for the Joseph R. Benedetto Scholarship is available on the chapter web site at www.sme-toronto-26.org.

NB: Please -update Your Information

Please check that your information in the SME headquarters database is correct or renew your membership online!

Phone (toll free): 1-800-733-4763.

Website: <http://www.sme.org/>

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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.com				

Global Supply Chains

Todd Evans is a team leader for economic analysis and forecasting with the Export Development Agency. He flew in from Ottawa at 5pm and left on a 10 pm plane. His talk was excellent. He knew his stuff cold. He answered all questions directly and immediately. I love that in a speaker. The most important thing to understand is that global supply chains are happening at a great speed. Todd suspects that if you understand them and use this understanding you can make money. And that if you don't they will bite you.

For me the key idea is to understand China at both ends of the supply chain - as a supplier and as a consumer: Supplier - China as an exporter is:

- Growing exports and "Foreign Direct Investments" faster than any other country in the world - Growing productivity at 10% per year and is sustaining this rate over a long period - Average wage of the manufacturing worker is \$0.72 (vs US of \$20.32 or Canada of \$15.64)

China as a consumer is:

- Growing middle class (Disposable income class) - Banking and civil law are improving
- Mortgages were up 70% in 2002

Todd pointed out that global productivity is increasing leading to an overall decrease in Manufacturing jobs in the world. Just as we need fewer people to grow the food we need is equally true in Manufacturing where we need fewer people to make the goods we need.

The key to competition is quality. One example Todd gave was Dynacast in Montreal which won a six month world wide trial involving suppliers on three continents to make razor handles for Gillette; they had a higher price but the

surface finish and feel justified the difference in Gillette's mind.

Understanding your personal future is greatly assisted by understanding the world situation. Excellent presentation. Thank you Todd Evans.

Todd invites you to visit www.edc.ca/economics Copies of his presentation can be had from me or Ken Kogej.

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Postscript:

Dear Mr. Heintzman,

It was a real pleasure meeting you at last Thursday's SME meeting. I recall that you had a question on the share of China's investment coming from foreign investors. The official numbers for China show that around 12% of domestic investment in China is done through FDI (foreign direct investment). But the actual number is much higher since the official stats do not capture the large amount of FDI into China that is channeled through Hong Kong. In recent years, Hong Kong has reported that FDI has accounted for anywhere from 40% to 130% of domestic investment in Hong Kong -- but a large chunk of this is actually going into mainland China. As such, we estimate that FDI accounts for upwards of 30% of domestic investment in China.

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The last sentence is amazing. If the Yuan continues to be pegged cheap this trend will accelerate. The pressure will build. Foreign control will increase. The implications for the Chinese government are immense and the likelihood of change overwhelming.

*George Heintzman
gheintzman@sympatico.ca*

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AME Lean Manufacturing Conference a Success!!

Together over 1600 people from 20 countries from around the world gathered in downtown Toronto for the AME Measure Up for Success Conference October 6-10th. The whole week was all about sharing. It was thought provoking, and inspiring. The theme for this week was on leadership in the context of lean business practices. Corporate executives and world respected lean leaders gave insights from their experiences. There were lean workshops and 40 plant tours showcasing their lean initiatives.

The plant tour I chose to visit was of CTS in Mississauga. The company manufactured plastic injected molded components parts for the automotive industry. I was impressed with their visual systems. Everywhere you turned lean was visually communicated. 5S boards, safety awareness, company vision and key performance indicators were all kept very visual. The work force was involved and energized as a result of their recognition program. They utilized a simple recognition system that management truly lived up to. It was interesting that their JHSC members were the 5S specialists of the company and they had taught the president of the company about 5S, a great example of a "bottom-up" Gemba initiative. It was a truly visual workplace and a really great tour.

Some things during the week were reinforced to me: Lean must, must start at the very top. Lean leaders can't communicate and encourage enough. Companies most

often fail due to top management commitment. You must "ACT" and have the "A"bility to see waste, "C"ourage to call it waste, and the "T"enacity to get it done. Lean and six-sigma can work together in that lean allows for increased process flow, while six sigma can be applied to specific areas of the process in order to reduce defects. Lean has fairly firm roots in the manufacturing sector, but there is tremendous opportunity in the administration and service areas.

The highlight for many was Rudy Guiliani. He was inspiring to all of the attendees and he talked about his personal lessons learned in the context of leadership. But as inspiring I felt Rudy was to everyone, I couldn't help but remember what Masaaki Imai the founder of the Kaizen Institute said, "When you are making breakfast, you might have ham and eggs. In making this breakfast the chicken is involved, but the pig is committed! Which one do you want to be? The chicken or the pig? Maasaki Imai suggests that many are only involved with continuous improvement, and we must be committed to lean.

To anyone, I would recommend attending the annual AME conference next year which will be held in Cincinnati. It would be a learning experience for anyone involved with lean.

*Brett Ida
Irwin Seating Company Inc.
bida@irwinseating.ca*

DELCAM/Messier-Dowty

DELCAM/Messier-Dowty tour was like two tours in one. DELCAM is a supplier of CAM software and their presentation was excellent. Here are three of the points they made:

High speed machining uses very high RPM and surface feet per minute to remove a lot of metal quickly. Use climb milling so the cutter enters cool material (not material which has been hardened by heat from the previous cut). Use air coolant to avoid wide thermal cycles on the cutter. Avoid abrupt changes in feed - fillet all corners and use a cutter smaller than the fillet. Plan the cutter path to avoid variation in cutter load. Remove a

small layer of metal while traveling at high speed. Electronics, especially computers, have made a huge impact on machining - computers to plan and generate the path, controllers to handle huge amounts of data.

On the Messier-Dowty part of the tour I was impressed with the integration of design and manufacturing. I have always felt that the best opportunity for profit and customer satisfaction comes when designers understand the potential and the limits of the materials and processes involved. The factory looked clean and capable. I would trust them to make my landing gear.

*George Heintzman
gheintzman@sympatico.ca*