HPM CONSORTIUM

The Weekly Update

High Performance Manufacturing Consortium *Making World Class Make Sense*

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Important Dates to add to your calendar...

- ❑ **Beginning January. A full schedule of HPM-to-HPM Employee visits – or Leveraging Tours – on the 2nd & 4th Tuesday of each month. Watch for the schedule through to June 2005.**
- ❑ **Jan 11, 9-11 HPM Employee Leveraging Tour, Host: GE Multilin,** Markham, Register with Nicole by Jan 9th at 519-893-6260.
- ❑ **Jan 19,** 12:00-4pm **HPM GMT Meeting**, all HPM Directors or Alternates invited. **Host:** Hammond Power Solutions, Guelph
- ❑ **Jan 25, HPM Employee Leveraging Tour: Host: Tempress Ltd. Miss.** Register via Nicole
- ❑ **Feb 08, HPM Employee Leveraging Tour: Host: GE Inspection/Repair** Register via Nicole
- ❑ **Feb 16, 11:30-5pm HPM AGM Board Meeting.** Host: Orenda Aerospace, Malton
- ❑ **Feb 22, HPM Employee Leveraging Tour: Host: Velcro Canada,** Brampton. Register via Nicole
- ❑ **Mar 08, HPM Employee Leveraging Tour: Host: Canada Post, Toronto.** Register via Nicole
- ❑ **Mar 29, HPM Employee Leveraging Tour: Host: Hammod Power Solutions Guelph**
- ❑ **Apr 20th,** 12:00-4pm **HPM GMT Meeting**, all HPM Directors or Alternates invited. **Host:** GE Inspection & Overhaul
- ❑ **May 18th, 11:30-5pm, HPM Board Meeting Host**: Canada Post
- ❑ **Jun 6-10 (2005): "Implementing & Sustaining Lean Thinking Across the Enterprise"** An AME Regional major Practical Lean Conference in Edmonton. www.measureupforsucess.com

In 2005 Far More Commitment to Lean is Needed! *One quick status check is to simply look closely at:*

- **How much Value Stream Mapping is being done before key decisions are being made?**
- **What changes that you can point to are taking place because of VSM?**
- **Whether there is a definite Lean (or equivalent) strategy in place with a champion to drive it?**
- **Are people driving waste out systematically? – Keep in mind that you sure don't have to call it Lean to do it!**

Take a hard look at the following initiative led by John Bicheno, which is quite probably the only MSc in Lean Operations in the World.

A Post Merry Christmas from Yellowknife

*Hi there – **to all who are not on vacation** – from frosty Yellowknife, Capital of the NWT and a modern city of some 18,000 souls lying just above the 60th parallel. The average temperature this time of year is -31 degrees C which is pretty much just where it has been although it has ranged from -51C just before our arrival (with the wind chill which everyone chuckles about as they remind you that it is a 'dry' cold – hmmm) – to an invigorating and inspiring -38 C tonight (Saturday). Not a lot of manufacturing to be found, but certainly lots of opportunities for Lean whether in the diamond mines or the distribution systems that channel much of the supplies for all points north and to the mines.*

This week's newsletter comes directly from Yellowknife to you, just as over the years it has arrived from the UK, Australia, BC, Alberta, Newfoundland, Redondo Beach, Chicago, Cincinnati and many other locations thanks to the wonders of www.GOTOMYPC.com I find it fascinating to watch taxis and big Caddies not slow down one whit as they drive on the to lake and disappear out of sight – plus the odd dog team, and snowmobiles everywhere.

Lean Initiatives Gathering Steam for 2005

This June, members from the south-western Ontario consortiums of HPM and AfEE will be traveling to Edmonton **June 6-10th** to exchange hard data and experience on the newest **Implementation and Sustainment challenges**. They will be hearing from practitioners about what works and what does not. Joining the 400 attendees will be 10 Executive Masters students from UK companies who are participating in the new **MSc Lean Operations program at the University of Cardiff in Wales.** They will be accompanied by the **program's director John Bicheno – whom many of you may know as the author of "The New Lean Toolbox", "Cause & Effect Lean," and "Quality 75"** and many other books written in a style any member of the team can understand. The 2005 MeasureUP for Success Conference has invited them to share a Lean example in a UK firm, plus possibly consider a briefing or workshop on this innovative program at the conference.

Understanding the Admission Requirements & Suitability

The **MSc in Lean Operations** is aimed specifically at **practising operations managers**, with aspirations to senior level positions in operations-based organizations. Much of the Program is production, operations and manufacturing based, though services are also covered. It is anticipated that most participants are sponsored by their organizations, and all should have the support of their organizations.

Participants on the program should have a first degree. However, those with a professional qualification and suitable experience are also considered. In particular, applications from practising managers holding the Diploma from the

Institute of Operations Management, a CPIM, or a credit level pass in the Diploma in Manufacturing from Trafford Park, are considered.

The prime requirements of those wanting to join the Program are a desire to widen and deepen knowledge in advanced operations, as well as the commitment to set aside time for the modules, assignments and dissertation.

It may be that where the background or knowledge of an applicant is thought to be inadequate in relation to the needs of the program, admission may be made conditional upon meeting various prerequisites, some of which may be courses at Cardiff Business School.

Admission Procedures

The first stage is to gain an appreciation of the time commitments necessary for the Program, which can be obtained from information on this site.

The second stage, for most applicants, is to gain the approval of senior management in their company who should be made aware of the time commitments involved, and - importantly - of the substantial potential benefits to the company that a graduate of the course could bring.

. Thereafter, the application form should be completed. It should take around a month to process the application, including obtaining references. Interviews are held at Cardiff, or occasionally, at the applicant's location. There is a high level of interest in the Program, and the maximum group size is 14, so early application is recommended.

Duration and Study Time

The MSc in Lean Operations is a two year part time Program, modular in the first 15 months (Part 1) when students attend eight one week modules, most of which take place at student worksites throughout Wales and England.

There are also requirements to attend two examination days at Cardiff, and up to four presentation meetings. During Part 2, participants undertake a dissertation, most probably related to their place of work. There is a requirement to attend a short research methods course at Cardiff, and to participate in four presentation sessions. More detail is given in the MSc Handbook, issued at the start of the course.

Assessment

During the first part, participants are assessed by means of assignments, which are written after each module, and by two written examinations. At the end of the second year, participants submit a 20,000 word dissertation.

Program Fees

The Program fee is £6,750 per year, payable at the start of each year. Included in the fees are all tuition fees, course handout material, a selection of course texts, and certain travel costs relating to the study tour. Travel and accommodation costs are not included.

Location and Accommodation

The first module of the MSc in Lean Operations takes place in Cardiff, and most subsequent modules take place at sites in the UK, although some may be held in Cardiff.

Major Savings For a Major Conference on Lean

Take advantage of the **Early Bird until January 15**, 2004. **As a member of AME, CME or SME**, you pay **$800 CDN** ($640 USD)… After Jan. 15,th it is $975. CDN ($765 USD).

For non-members of AME, CME and SME, registration **before January 15th** is **$995 CDN** ($800 USD), and after Jan 15th it is $1,170 CDN ($925 USD)

Hard-hitting Keynoters such as Dale Crownover, winner of this year's Baldrige Award, Jim Clemmer, Dan Shunk, Jay Myers, Cindy Jimmerson, Gerry Price, and Gus Whalen will move your people to action. Much more to come. Check out www.measureupforsuccess,com

Examinations are held in Cardiff, while presentation days are held at sites to be agreed upon with the students.

The first day of each module starts at 9.00 am, and finishes at 5.00 pm, though there is some flexibility, depending on the topic being covered and the location of the session. Four days accommodation will need to be reserved, at the participants' own expense, for the other days of each module.

Study Tour – This year it's to Canada & the 2005 Lean MeasureUP for Success Conference in Edmonton, June 6-10th www.measureupforsuccess.com

Each year, the Lean Enterprise Research Centre organizes a study tour for the masters students it teaches. This usually takes place in the April following Part 1 teaching, and lasts for about 1 week. Locations can vary, though it normally takes place abroad (previous tours have been held in Italy, South Africa and the USA). Note that tour tuition and flights are normally covered (there is a cap each year on this), but accommodation and associated costs are not covered, so participants will need to fund certain travel expenses.

Personal Computers

Participants should have the use of a PC for the duration of the Program. They should have access to the internet and an e-mail address. It is a requirement that all assignments and submissions are typed.

Research and Information

Special arrangements have been made to allow participants to borrow books for longer terms from the Business School library than are available to Cardiff-based students. Multiple copies of relevant texts are available. The extensive electronic information facilities of the library are available at Cardiff, and there are ways allow remote access to this information. An introduction to the use of library resources takes place during the first module.

Lean Thinking & Practice ~ MSc Lean Ops: *Do you measure up to this checklist?*

By the end of this course students are expected to be able to:

- Demonstrate an understanding of the philosophy and principles of lean enterprise
- Demonstrate a working knowledge of the main tools and techniques used in lean enterprise
- Demonstrate a knowledge of recent developments, including cases and examples
- Give examples of the critics of lean enterprise
- Illustrate the methodology of "lean planning", particularly Hoshin Planning

Mapping Waste, Value & Time

- Identify the concepts of waste, customer value, added value and non-added value
- Demonstrate the importance of time and time-based competitiveness in operations
- Apply mapping tools and techniques in order to analyze waste, value and time
- Demonstrate an understanding of process management process re-engineering
- Show an understanding of continuous improvement (or kaizen) and of benchmarking

Quality Management & Standardization

- Demonstrate an understanding of the theory and practice of quality management including the integration of process chain systems, tools and teams with customer expectations
- Assess the work of Juran, Deming, Crosby, Kano, Ishikawa and Feigenbaum
- Explain the seven tools and a selection of advanced techniques such as QFD
- Assess TQM: practice and pitfalls; Summarize ISO 9000 and EFQM
- Show an understanding of the philosophies of service, quality, and of concepts such as The Service-Profit Chain, customer retention and Service Gap analysis

Changeover, TPM & Layout

- Describe the main components of 5S housekeeping
- Understand the core elements and describe TPM theory and practice
- Define & describe the principles concerning preventive maintenance, predictive maintenance, & condition monitoring
- Identify and describe the main procedures involved with changeover reduction
- Devise and organize factory layout based upon cells, group technology, and production flow analysis
- Analyze and apply the concepts of cellular layout and flexible manpower lines, cell balancing and takt time

Lean Scheduling & Materials Management

- Illustrate the difference between push and pull systems
- Assess kanban and batch sizing, finite and infinite scheduling, mixed model scheduling, mass customization and final assembly scheduling, scheduling alternatives: OPT, CONWIP, POLCA
- Level scheduling and supply chain scheduling introduction
- Lean thinking and independent demand inventory control
- Master planning, Capacity Management, MRP, Production Activity Control
- Push systems and pull systems (JIT, OPT / Theory of Constraints, MRPII, finite and infinite scheduling) Note: JIT scheduling will be dealt with in this module, but wider aspects of the JIT philosophy will be dealt with in the Lean Thinking and Practice course.

Supplier Development

- The changing nature of purchasing and supply: lean supply; the lean supply chain; supply chain system dynamics; logistics strategy; channel selection; supply chain inventory control; level scheduling and pull along the supply chain; quick response and ECR systems; supplier development and supplier associations

Teams & Change Management

- Illustrate the theory and practice of performance measurement, including setting up measurement systems and of measures which encourage and discourage lean operations
- Give an overview of managing people at work: organizational psychology and motivation models
- Demonstrate an understanding of introductory work designs and ergonomics
- Suggest types of teams and their management: quality circles, project teams, self directed
- Put together team models: Japanese, American, European archetypes
- Analyse team issues: leadership, facilitation, coaching, development stages
- Classify job skills, team working skills, problem solving skills
- Give examples of performance measurement: measures that encourage and discourage lean

Design & Performance Measurement

- Demonstrate understanding of techniques for, and approaches to, design which enable rapid production to customer requirements
- Compare and contrast current technologies for computer aided design, rapid prototyping, and computer aided manufacture. Where possible, the use of such technologies in the service sector will also be considered
- Apply the philosophy and basic techniques of value engineering and value analysis