

Management Roundtable *presents*



THE SECOND ANNUAL

Lean Product Development Summit

JUNE 6 – 7, 2007 • CHICAGO

A two-day interactive knowledge exchange on the current state of lean product development efforts — learn key steps for implementation success, how to remove barriers and improve new product development speed, efficiency and quality



Summit Chairman:

Don Reinertsen, leading pioneer in the application of lean thinking to product development and acclaimed author of *Managing the Design Factory*.

Brand New Case Presentations:

Hear advanced practitioners from **Steelcase, SRAM, Badger Meter, Abbott, Kennametal** and others discuss their successful approaches to applying lean concepts to product development — learn about their challenges, solutions to potential barriers and key lessons learned.

Lean Methods Breakout Groups:

Facilitated breakout groups will afford you the opportunity to gain a multi-industry perspective on how to collectively identify potential implementation barriers and estimate the value of implementing lean methods. Come away with an action plan for implementation and a network of like-minded industrial contacts to continue future lean discussions.

Background

In June of 2006, Management Roundtable held the first *Lean Product Development Summit* which brought together an impressive group of over 90 practitioners representing multiple industries to discuss the current status of lean product development efforts and to exchange new insights on overcoming potential roadblocks and challenges for successfully applying lean techniques to product development.

For nearly four years, Management Roundtable has worked jointly with Don Reinertsen to address the increasing interest in tools and approaches to bring the benefits of lean thinking to product development. During this time frame we have offered thirteen sessions of the highly acclaimed course, *Achieving Lean Product Development: Techniques, Economics and Implementation* and have had nearly 400 practitioners attend. The intent of this forum is to provide practitioners that are currently engaged in lean product development initiatives with a collective learning environment to learn from each others' successes, brainstorm new approaches to overcome the challenges of implementing lean product development and build a network for ongoing discussion and future problem-solving.

Don Reinertsen will be the chairperson for this important forum and will share his latest insights and some advanced concepts on the topic of lean product development. Limited to just 75 attendees, the program format will involve a high degree of attendee participation. Attendees will be expected to provide feedback to case presenters, participate in breakout group discussions and give report backs to the group at-large.

If your company is currently involved in lean product development initiatives and not getting the types of results you had hoped for, the *Lean Product Development Summit* offers you an excellent benchmarking opportunity as well as a chance to problem-solve with other pioneers in lean product development.

About Management Roundtable



The Management Roundtable (MRT) is the foremost knowledge and networking resource for industry practitioners involved in product, service, technology, and business development. Practitioner-oriented and unbiased, MRT's focus is on strategies and processes that enable speed, innovation, profitability, and overall competitive advantage. Through its highly regarded conferences and publications, MRT has helped companies achieve their objectives since 1980. Its newest membership offering, the Management Roundtable FastTrack, (<http://fasttrack.roundtable.com>) offers direct, year-round access to leading-practice insights via teleconference and online reports.

Who Should Attend

Designed for product development and R&D practitioners that are applying lean concepts to product development activities, the **Lean Product Development Summit** will focus on further advancing the implementation of lean methods in development efforts as well as provide participants with methods to better estimate the value of lean interventions.

Participants will be expected to share their insights regarding their successes and challenges in applying lean concepts in NPD and be prepared to work collectively with other participants to brainstorm new approaches to overcome implementation barriers.

Specific business roles that would find this session of particular interest include **Managers, Directors** and **Vice Presidents** of:

- Product Development
- Engineering
- Process Improvement
- Program Management
- R&D
- Quality
- Six Sigma

Conference Agenda

WEDNESDAY, JUNE 6, 2007 SUMMIT DAY ONE

- 7:00 – 8:00** Registration and Continental Breakfast
- 8:00 – 8:10** Opening Remarks, Management Roundtable
- 8:10 – 9:30** **Keynote Presentation:**
Emulating Toyota: Be Careful What You Wish For!
*Don Reinertsen, Summit Chair
President, Reinertsen & Associates*
- 9:30 – 10:15** **Case Study:**
Key Steps for Implementing Lean Methods in Global NPD Teams
Tim Smith, Vice President, Engineering and Design, SRAM
- 10:15 – 10:30** Refreshment Break
- 10:30 – 11:15** **Case Study:**
Fixing an Overloaded Development Process
*Don Faber, Director of Engineering,
Badger Meter, Inc.*
- 11:15 – 12:00** **Case Study:**
Using WIP Controls in R&D
*Bernard North, VP, Global Research,
Development and Engineering,
Kennametal*
- 12:00 – 1:00** Lunch
- 1:00 – 2:00** **Keynote Presentation:**
**Lean Software Development /
Lean Product Development:
A Comparison**
*Mary Poppendieck, President
Poppendieck LLC*
- 2:00 – 2:45** **Case Study:**
Nordson *(invited)*
- 2:45 – 3:00** Refreshment Break
- 3:00 – 4:30** Breakout Discussion Group Meetings

- 4:30 – 5:30** Breakout Group Report Backs
- 5:30** Day One Concludes
- 5:30 – 7:00** Networking Reception

THURSDAY, JUNE 7, 2007 SUMMIT DAY TWO

- 7:15 – 8:00** Continental Breakfast
- 8:00 – 8:15** **Review of Day One Take-Aways,**
Don Reinertsen, Summit Chair
- 8:15 – 9:30** **Keynote Presentation:**
**Exploiting the Power of
Decentralized Control**
Don Reinertsen, Summit Chair
- 9:30 – 10:15** **Case Study:**
**Building and Deploying a Lean
Product Development Initiative**
*Anthony Orzechowski, Director of
R&D Quality Engineering, Abbott
Diagnostics*
- 10:15 – 10:45** Refreshment Break
- 10:45 – 11:30** **Case Study:**
**Lean Methods for Creative
Development**
*Tim Schipper, Office Lean Consultant,
Steelcase, Inc.*
- 11:30 – 12:30** Lunch
- 12:30 – 1:30** Panel Session
- 1:30 – 2:30** **Case Study:**
Boeing *(invited)*
- 2:30 – 2:45** Refreshment Break
- 2:45 – 3:45** Application Session — Building an Action Plan
- 3:45 – 4:00** Summit Conclusions and Action Items
Don Reinertsen, Summit Chair

Keynote Presentations



Summit Chairman—

Don Reinertsen

is president of
Reinertsen &

Associates, specializing in the management of the product development process. Before forming his own firm, he consulted at McKinsey & Co., an international management consulting firm, and was Senior Vice President of operations at Zimmerman Holdings, a private diversified manufacturing company. His contributions in the field of product development have been recognized internationally. He is particularly noted for bringing fresh perspectives and quantitative rigor to development process management.

*In 1983, while a consultant at McKinsey & Co., he wrote a landmark article in *Electronic Business* magazine that first quantified the value of development speed. This article has been cited in the frequently quoted McKinsey study that indicated “6 months delay can be worth 33 percent of lifecycle profits.” He coined the term “Fuzzy Front End” in 1983 and began applying world class manufacturing techniques in product development in 1985. His book, **Managing the Design Factory**, is recognized as a powerful and thoughtful application of manufacturing thinking to product development. Don is also co-author of **Developing Products in Half the Time**. Mr. Reinertsen holds a B.S. in Electrical Engineering from Cornell University and an M.B.A. with distinction from Harvard Business School.*

Emulating Toyota: Be Careful What You Wish For!

Don Reinertsen, President, Reinertsen & Associates

Many companies are trying to emulate Toyota's performance. Because they read that Toyota is a great company, they assume its financial performance is also impressive. This is a dangerous mistake. In this presentation, Don Reinertsen will go over the surprising facts.

For example, one would assume that a lean company, with little waste and hard-working assets, would have a high return on assets. The surprising truth: Toyota's average return on assets during the period 1997 to 2006 was only 3.9 percent. In contrast, a highly capital-intensive semiconductor business like Intel returned 16.1 percent.

One would assume that financial markets recognize Toyota's management skill and bright future prospects. The surprising truth: Over the last 10 years Toyota stock has underperformed the average stock in the S&P 500.

Although there are many useful things to be learned from Toyota, those who blindly copy Toyota face the risk of replicating its below average financial performance.

Exploiting the Power of Decentralized Control

Don Reinertsen, Reinertsen & Associates

Many companies assume that product development needs the same centralized control that has worked well in the repetitive world of manufacturing. We should prepare meticulous plans and create comprehensive information systems to quickly inform senior managers of deviations. These wise managers can develop clever responses and all variability will be vanquished.

There is powerful evidence that this approach is completely wrong for product development. For hundreds of years the Army attempted to deal with the uncertainty of war using planning and bureaucracy. It never worked. In contrast, the Marines have always emphasized decentralized control and initiative.

In this presentation, Don will examine what makes decentralized control work in environments of high uncertainty. He will discuss:

- The critical need to respond to emerging obstacles and opportunities.
- How to prevent decentralization from turning into chaos.
- How decentralization changes many common management practices.
- The implications of these ideas for product developers.



Mary Poppendieck

has been in the Information Technology industry for thirty years. She has managed solu-

tions for companies in several disciplines, including supply chain management, manufacturing systems, and product development. As a seasoned leader in both operations and new product development, she brings a practical, customer-focused approach to software development problems.

As Information Systems Manager at the 3M Hutchinson plant, Mary first encountered the Toyota Production System, which later became known as Lean Production. She was instrumental in implementing one of the early Just-in-Time systems in 3M, which resulted in dramatic improvements in the plant's performance. She subsequently led new product development teams, commercializing products ranging from digital controllers to 3M Light Fiber™.

A popular writer and speaker, Mary's classes on managing software development offer a fresh perspective on project management. Her book **Lean Software Development: An Agile Toolkit**, was published in 2003 and won the Software Development Productivity Award in 2004. A sequel, *Implementing Lean Software Development: From Concept to Cash*, was published in 2006.

Lean Software Development / Lean Product Development: A Comparison

Mary Poppendieck, President, Poppendieck LLC

Software development has a lot in common with product development: both involve bringing ideas to life through cycles of discovery. Great software, like any great product, stems from a deep understanding of a customer problem joined with a novel application of technology to solve that problem. But software has unique characteristics: you can't see or touch software, and even the most complex software product has a manufacturing process as simple as creating distribution files and perhaps burning a CD.

This talk will compare and contrast Lean Software Development with Lean Product Development. It will discuss specific areas where the unique nature of software development leads to a unique set of development tools, such as:

Iterations: Develop a deployable product every two to four weeks.

Velocity: Determine capacity through the reliable performance of intact teams.

Test-Driven Development: Mistake-proof the development process.

Nested Synchronization: Replace big-bang integration with continuous integration.

In addition, this talk will discuss lean product development techniques that are highly relevant in a software development environment:

Queuing Theory: Long development cycle times are largely the result of uncontrolled demand coupled with failure to divide work into small batches.

Cross-Functional Teams: Teams that promote early, frequent information exchange across the technical and customer community are the basis of product integrity.

“The Lean Product Development Summit equips its attendees with a unique knowledge set that is based both in theory and real world applications. I left the summit armed with knowledge obtained by the successes and failures of 7 different companies’ experiences with lean implementations. This was time well spent.”

Scott Pennestri, Isothermal Systems

Case Studies

Key Steps for Implementing Lean Methods in Global NPD Teams

Tim Smith, VP of Engineering, SRAM Corporation

SRAM, a leading provider of high quality bicycle components, like many companies, relies on the structure of global product development and manufacturing teams to develop its products. Over the past year, SRAM has been applying lean principles, specifically cost of delay analysis and queue management, within its product development organization to improve the speed, efficiency and costs of its development process.

In this presentation, Mr. Smith will discuss:

- The unique challenges of applying lean concepts within its distributed development teams
- The steps taken to create a cost of delay process — how to encourage adoption of the process as well as manage ongoing maintenance
- The types of decisions that can be made with cost of delay tools and the resultant impact on speed, cost and productivity
- How SRAM tracks, measures and manages queues within its functions that provide critical support to the development process (testing, measurement and prototyping) — review of case examples of specific queue measurement techniques
- Challenges met in their attempts to apply queue measurement techniques to core engineering and development tasks



Tim Smith, VP of Engineering and Design at SRAM Corporation, oversees and is responsible for continuous improvement of engineering capabilities, development of the design and engineering group in Taiwan, creation and maintenance of the corporate product development system and the implementation of lean principles in the product development organization. Mr. Smith has been with SRAM since 1996 and holds a BS ME from Iowa State University and an MBA from University of Chicago.

Fixing an Overloaded Development Process

Don Faber, Director of Engineering, Badger Meter, Inc.

The problem of fixing an overloaded development process requires more than good analysis. It requires building an organizational consensus and selling it to many stakeholders with very different motivations. Badger Meter has a complex mix of metering products combining mechanical, electronic, and communications technology. In this presentation, Don Faber will describe how they were able to systematically reduce overloads and the lessons learned along the way. Specifically, Don will address the following key issues:

- WIP — Why less is more
- How to build organizational support for this critical change
- How meaningful design reuse works to improve flow
- The critical role of project financial models
- Planning and ROI
- “Appropriate” Measurement



Don Faber is the Director of Engineering for Badger Meter Inc., one of the world's largest manufacturers of metering and meter reading products. In his capacity as Director of Engineering, Don's primary responsibility is New Product Development for all business units. Prior to Badger, he had 12 years of Engineering Management experience at Schlumberger.

Using WIP Controls in R&D

Bernard North, Vice President of Global Research, Development and Engineering, Kennametal

Many companies struggle to apply lean methods in the high variability world of industrial research. Over the last six years, Kennametal, a \$2 billion+ leader in providing tooling solutions, has increased sales from new products from 20 to 40 percent of revenue while simultaneously improving key financial metrics. A significant factor in improving performance was the WIP controls that lead to a dramatic reduction in lead-time. In this talk, Mr. North will discuss the multifaceted approach that made this possible:

- How they defined measurable units of work
- How they measure and control WIP
- How they set priorities within work queues
- What they learned in the process



Bernard North has spent 26 years at Kennametal Inc. in its research, development, and engineering functions, with close working relationships to manufacturing, product management, and sales disciplines. He is a strong believer in understanding and applying the theory of constraints, and the scientific method, to an industrial development environment.

Building and Deploying a Lean Product Development Initiative

Anthony Orzechowski, Director of R&D Quality Engineering, Abbott Diagnostics

Mr. Orzechowski will discuss the strategic and tactical aspects associated with the deployment of Lean Product Development practices in the R&D environment at Abbott Diagnostics. Specifically, he will address:

- Methods used to align the deployment of lean practices and activities with organizational strategy and objectives
- Key steps for introducing lean approaches into the organization, managing lean practices through portfolio planning and integrating them with on-going R&D operations
- Methods used to successfully grow organizational capacity to drive lean practices



Tony Orzechowski is Director of the Abbott Diagnostics R&D Quality Engineering organization. With Abbott Diagnostics since 1994 and has recently taken on development and deployment of Lean Product Development practices in addition to his R&D Quality Engineering management responsibilities. He is also an ASQ Certified Black Belt and a Master Black Belt at Abbott. He has over 20 years experience in the development, deployment and application of lean, six sigma and design for six sigma practices in manufacturing, transactional and product development environments.

Lean Methods for Creative Development

Tim Schipper, Office Lean Consultant, Steelcase, Inc.

Steelcase has been applying lean principles to its manufacturing facilities since 1996. After achieving repeated success in lean manufacturing, Steelcase extended its lean practices to office processes and made additional gains in efficiency and reduction in total cycle time; however, the wastes uncovered were often caused further upstream in the product development process. Thus, the natural progression of applying lean principles to the development process; lean was used in both the IT application development and product development areas.

Steelcase's lean approach for development involves using quick, iterative learning cycles in which the whole team works to complete the objectives of each cycle. Each learning cycle contains the elements of building and testing. The approach generates improved quality and speed through the use of visual controls and frequent management integration points. Several key lean concepts are used in this technique:

- Separate development from execution
- Split the development into quick iterative learning cycles
- Scope out each learning cycle with clear objectives
- Create flow in development by applying lean value stream-mapping and kaizens to supporting processes
- Generate and carry forward multiple concepts, optimizing product value and reducing design wastes.

By using these techniques, Steelcase's development time in IT and product development efforts has been reduced by over 50% on several key projects and costs have also been dramatically reduced.



Tim Schipper is the co-author of "Lean Methods for Creative Development: How to rapidly deliver solutions and capture knowledge by using lean techniques" (AME Target, August 2006). He has facilitated more than two dozen lean workshops at Steelcase, Inc. in Grand Rapids, Mi. He has led teams who have applied lean development techniques in both Information Technology application development and product development. Tim Schipper has worked as an Office Lean Consultant for Steelcase for the past 3 years of his 22 year career with the company.

Lean Methods Breakout Groups

Presentations from those who have had success implementing lean concepts in product development can be very inspiring, but how do you get it done at your organization? A significant take-away from this summit will result from your participation in breakout groups focused on one specific lean method and how other industries/companies are working towards implementation. As a participant, you will be asked to select your top two breakout topics of interest and come prepared to discuss the questions listed below each topic you select.

In these facilitated Lean Methods Breakout Groups, you will assemble with 8 - 10 of your peers to collectively determine implementation barriers, estimate the potential value (to your company) of successful implementation of specific lean concepts and create action plans and new approaches for moving forward with this opportunity. To encourage cross-learning on all topics, each breakout group will report back their findings to the conference as a whole.

Please review the proposed topics that follow, and when you register for the event, please identify your breakout group topic selections. If you would like to propose an additional breakout group topic, please contact Tracey Kimball at 781.891.8080 ext 214 or email her at tracey@roundtable.com.

“The seminar was extremely well run. The knowledge sharing which resulted from the breakout sessions generated ideas for improvement which could be taken back to my office and easily applied in my organization.”

Jeff Coult, Honeywell

A. Quantifying the Cost-of-Delay

Any systematic approach to Lean Product Development requires quantifying the cost of development process queues. The primary cost of these queues is the time they add to the critical path of project. Therefore, calculating credible costs-of-delay is essential to make good economic decisions about queues. It is also critical to influence management and organizational attitudes. This subgroup will focus on exchanging ideas on the calculation and use of cost-of-delay.

1. How much success have you had using cost-of-delay estimates to influence management decisions?
2. How long have you been doing this?
3. Who has been involved in doing these calculations?
4. What have been the biggest sources of errors?
5. How much effort did it take the first time?
6. How much effort did it take after the method became mature?
7. How do you disseminate this information to the entire team?
8. What benefits have you gotten from this information?
9. How would you change your approach if you had to do it again?
10. What do you consider to be the greatest challenges in using this tool?

B. Controlling Queues

Large queues in product development raise cycle time, increase risk, raise overhead, and increase variability. Reducing queues is central to obtaining the benefits of lean product development. Unfortunately many product developers have a poor understanding of the location and cost of queues in their processes. This group will examine how they were able find queues, to communicate the problem to others, to justify interventions to reduce queues, and to carry out these interventions.

1. Which queues did you decide to attack?
2. How and why did you choose these queues?
3. How did you estimate the size of these queues?
4. How did you estimate the cost of these queues?
5. What interventions did you consider to reduce the queue size?
6. Which ones did you eventually choose?

continued on next page

7. What advantages did you gain from having smaller queues?
8. Were there any disadvantages?
9. What was the hardest part of reducing queues?
10. What advice would you give other product developers trying to do the same thing?
11. How would you change your approach if you had to do it again?

C. Batch Size Reduction

One of the fastest ways to improve flow is to reduce batch size. Batch size reduction directly reduces inventory levels and also reduces variability in flows. But, when batch sizes are reduced the fixed transaction cost per batch must be paid more often. This means we must make a trade-off between the disadvantage of higher transaction costs and advantage of faster cycle times. Most product developers overestimate their transaction costs and underestimate the diseconomies of large batch sizes. This group will examine the economic trade-offs and organizational challenges of reducing product development batch size.

1. In which areas have you had the greatest success at reducing batch sizes?
2. What benefits did you experience in: cycle time, quality, cost?
3. Were any of these benefits larger than expected?
4. Were there any unanticipated costs?
5. What did you do to reduce the fixed transaction costs per batch?
6. Were there any psychological advantages to having smaller batch sizes?
7. Which areas do you consider to be high potential for further batch size reduction?
8. Have you had to make any changes in your product architecture to make smaller batch sizes feasible?
9. What advice would you give other product developers trying to do the same thing?
10. How would you change your approach if you had to do it again?

D. Managing Variability

Standard product development doctrine focuses on reducing the frequency of problems. We seek to achieve Six Sigma defect levels (3.4 ppm) by getting engineers to “do it right the first time.” Yet, innovative designs require trying new ideas, and this causes variability. Lean developers can reduce the cost of this variability without reducing defect levels if they reduce the consequences of defects. This can be done by truncating unproductive paths very quickly. This group will examine

“There were terrific presentations of real world examples of how companies have implemented lean objectives, what worked well and areas of improvement. The working sessions (breakout groups) were thought provoking and a great opportunity to brainstorm and compare with colleagues from various industries...”

Todd Owens, Plantronics

methods of sustaining innovation while still controlling the economic damage done by variability.

1. In which areas of your system is innovation essential for differentiation?
2. How do you focus innovation on these areas?
3. How do you accelerate learning in these areas?
4. How do you prevent disruptive innovation in other areas of the design?
5. How do you architecturally decouple critical areas from the remainder of the system?
6. To what extent have you been able to help your organization understand the difference between good and bad variability?
7. What has been the most effective way to communicate this concept?
8. How do you encourage engineers to achieve optimal failure rates when trying new ideas?
9. What have you learned about the need for variability in your process?
10. What advice would you give other product developers trying to do the same thing?
11. How would you change your approach if you had to do it again?

E. Accelerating Feedback

Rapid feedback is even more crucial in product development than it is in manufacturing because product development has higher inherent variability. Furthermore, this variability adds economic value. This group will examine techniques to accelerate feedback in product development.

1. Which feedback loops are most critical to the success of your development process?
2. Which of these did you decide to speed up?
3. How much improvement did you achieve?
4. What benefits did you gain from faster feedback?
5. Did you experience any disadvantages with faster feedback?
6. How did you deal with the lower signal to noise ratio of fast feedback?
7. What advice would you give other product developers trying to do the same thing?
8. How would you change your approach if you had to do it again?

F. Achieving Cadence

Most development processes are paced by increments of scope rather than the fixed time increments of cadence. This causes uncertainty in the arrival times of work to downstream processes, which increases queueing problems. In contrast, paced processes with a regular cadence creates economies of synchronization. This group will examine examples of cadence in product development.

1. In what areas do you use a regular cadence to pace the flow of process deliverables?
2. Have you always done it this way?
3. If not, what advantages and disadvantages have you seen using a time-based cadence?
4. Are there any specific areas in which you have lowered cost with cadence?
5. Have you made any changes in your product architecture to exploit cadence?
6. When do you change the cadence during the development process?
7. What areas are you interested in applying cadence to?

8. What advice would you give other product developers trying to use cadence?
9. How would you change your approach if you had to do it again?

G. Promoting Flexibility

Organizations focused on efficiency often create specialized resources that are incapable of responding quickly to change. Yet, it is hard to justify capabilities that are not fully utilized. In this group, we will explore successes practitioners have had in creating flexibility in people, processes, and resources. This group will examine methods to increase flexibility in the development process and resources.

1. How do you signal to workers that flexibility is valued?
2. How do you systematically broaden the skill sets of your staff?
3. Have you made progress aligning your compensation system and your need for flexibility?
4. What have you done to increase the flexibility of your process flows?
5. In which areas have you found it most economical to make resources flexible?
6. Where have you been able to use external resources as surge capacity for internal resources?
7. What amount of flexibility did you find sufficient for normal variation?
8. Do you have a deliberate escalation process for abnormal variations?
9. What advice would you give other product developers trying to create a more flexible organization?
10. How would you change your approach if you had to do it again?

Partial list of companies that participated in the first annual Lean Product Development Summit:

3M ■ Abbott ■ Advanced Medical Optics ■ American Power Conversion ■ BAE Systems ■ Baxter Healthcare Corporation ■ BD ■ Boeing Commercial Airplane Group ■ Boston Scientific ■ Business Productivity Consulting ■ Caterpillar ■ Cessna Aircraft Company ■ Crane Aerospace ■ Crown Equipment Corporation ■ DaimlerChrysler ■ Diebold, Inc ■ Eli Lilly & Co ■ Emerson ■ Evenflo ■ Goodyear Tire and Rubber ■ Halliburton ■ Honeywell International Inc ■ Hypertherm Inc ■ Ingersoll Rand ■ Isothermal Systems Research ■ ITT ■ Lord Corporation ■ Masterfoods USA ■ Medtronic ■ Medtronic Vascular ■ Microsoft Corporation ■ Netsmart Technologies ■ Nike, Inc. ■ Orbital Sciences Corporation ■ Plantronics ■ Reinertsen & Associates ■ Sodexo USA ■ Tefen USA ■ Teledyne Isco ■ The Boeing Company ■ Trane ■ Veridex, LLC ■ Viking Range Corporation

By participating in this summit, you will learn:

- *How to identify potential implementation barriers, estimate the value of successful implementation and create action plans and new approaches to move forward with lean initiatives*
- *How to effectively manage large queues in product development — learn how to identify queues, communicate the problem to others, justify the need for interventions to reduce queues and execute these interventions*
- *How to create a cost of delay process — how to encourage adoption of the process and manage ongoing maintenance*
- *What types of decisions can be made with cost of delay tools and the resultant impact on speed, cost and productivity*
- *How lean software development and lean product development compare and contrast — how to apply key lessons learned*
- *About the impact of decentralized control in environments of high uncertainty and variability — understand how decentralization can change common management practices and how to respond*
- *How to increase product development performance and dramatically reduce lead-times with the implementation of WIP (work-in-process) controls in R & D*
- *About methods used to align the deployment of lean practices and activities with organizational strategy and objectives*
- *Key steps for introducing lean approaches into the organization, managing lean practices through portfolio planning and integrating them with on-going R&D operations*

Dates: The **Second Annual Lean Product Development Summit** will be held on June 6 -7, 2007. Registration and continental breakfast begin at 7:00am. Summit begins at 8:00am on Wed., June 6 and concludes Thurs., June 7 at 4:00pm.

Location and Accommodations:

The conference will be held at the **Hyatt Regency McCormick Place**, 2233 South Martin Luther King Drive, Chicago, IL, 60616. A block of rooms has been reserved at a special rate. Call 312.567.1234 or 800.233.1234 for reservations and mention the *Management Roundtable Lean Product Development Summit*.

Program Fees: The program fee is \$2495. Attendance is limited to 75 participants. Fee includes program materials, luncheons, continental breakfasts, breaks and networking reception.

Team Discounts: Groups of 3 or more may deduct \$200 per person.

No Risk Guarantee: Your satisfaction is 100% guaranteed — money back or credit. If you are not satisfied with the quality of this program, let us know in writing and we'll refund your registration fee.

Cancellations/Substitutions: You may send a substitute attendee in your place at any time with no penalty (please inform us in advance, if possible). Cancellations made within 5 business days are subject to a \$200 administration fee. No-shows are liable for the full fee.

Conference Attire: We recommend "business casual" attire. It is highly encouraged that you dress in layers when possible, since conference facilities are notorious for temperature fluctuations.

Lean Product Development Summit

A two-day interactive knowledge exchange on the current state of lean product development implementation efforts

4 WAYS TO REGISTER:

Call: 1.800.338.2223 or 781.891.8080
(weekdays, 9:00am-5:30pm EST)

Fax: 781.398.1889

Web: www.ManagementRoundtable.com

Mail: Lean Product Development
c/o Management Roundtable
92 Crescent Street
Waltham, MA 02453

“It is by far one of the best assembled summits in the field of Lean Product Development with some of the best professionals in the field attending.”

Raul Carmona, Plantronics



Please accept the following registration(s):

(please photocopy for additional people)

See program and pricing information on page 11.

Please designate your top two lean methods breakout groups by placing a (1) and (2) next to each.

- _____ **A.** Quantifying Cost-of-Delay
- _____ **B.** Controlling Queues
- _____ **C.** Batch Size Reduction
- _____ **D.** Managing Variability
- _____ **E.** Accelerating Feedback
- _____ **F.** Achieving Cadence
- _____ **G.** Promoting Flexibility

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