

- Use unified process and technology frameworks to capture, share, and reconcile product design concepts, content, and context across all disciplines
- Leverage DFSS momentum to drive down time-to-quality by starting up front in the design cycle
- Understand how the Semantic Web supports information sharing and reuse and how OMG PLM services act as an integration platform
- Integrate software with electronic and mechanical design to meet the demands of mechatronics
- Assess how far PLM ontology needs to progress to fully meet design requirements

## Lean Transformation for Integration and Collaboration across the Product Lifecycle

Integration frameworks for targeting people, process, and technology for continuous improvement

September 19 & 20  
Plymouth, Michigan



## LEAN TRANSFORMATION FOR INTEGRATION AND COLLABORATION ACROSS THE PRODUCT LIFECYCLE



PLM Road Map™ 2007 opens with broad lessons from Dr. Durward K. Sobek II on the application of lean manufacturing principles to product development, and the lessons from Toyota that go far beyond streamlining processes by eliminating waste. The focus then moves to the challenges, successes, and lessons of supporting a transformation to global engineering with global information technology. We will then consider the role of agility in driving innovation for business. The next-generation framework for PLM is then outlined highlighting unprecedented flexibility to drive integration across the full lifecycle from conceptual customer needs, through design, verification and validation, to manufacturing. Find out what this means for you as our keynote speakers discuss the demands and benefits of a lean enterprise framework.

### What Should Be Lean about Lean Product Development?

#### **DR. DURWARD K. SOBEK II**

Associate Professor of Mechanical and Industrial Engineering, Montana State University

The application of lean manufacturing principles to product development organizations and processes is gaining popularity. While these efforts can yield impressive results, high-performing lean product developers such as Toyota go much further. Durward Sobek will lay the foundation for building truly exceptional product development systems. You will be challenged to abandon conventional thinking and consider a new perspective that has significant implications for the capabilities needed from human designers and from computer-based tools.



### Supporting Global Engineering with Global Information Technology

#### **DETLEF BIELOHLAWEK**

Global Director for CAD/Visualization Development and Deployment, Global Product Development, General Motors

GM Product Development has rapidly transformed from a group of regional engineering centers into one global development organization. To facilitate this, IT support initiated an effort structured to enable a global virtual engineering environment. Detlef Bielohlaweck will describe the path taken – from the communications and technical challenges experienced to the benefits that ensued. Learn more about the tools, synergies, opportunities, risks, and personal impacts encountered along the way.



### Driving Agility for Business Value

#### **MARK DUNLOP**

Client Business Manager For Internal Projects, HP Consulting & Integration (C&I)

Agility in IT is arguably the single most important factor in driving innovation for the business. By partnering with operations, IT represents a major resource to accomplish a successful transformation across all product design functions. Critical dimensions of IT Agility include organizational cost structures, enterprise architecture, and services offered in infrastructure, applications, and business information. These dimensions form the framework of a set of Agility Best Practices that can help transform your organization to provide more meaningful business services in a faster and more effective manner.



### The Future of PLM

#### **CHARLES C. "CHUCK" GRINDSTAFF**

Executive Vice President, Products, UGS PLM Software, A division of Siemens Automation and Drives (A&D)

The potential for the unification and integration of development, simulation, and production across the lifecycle is now fully realizable. The product data backbone already central to development in PLM architecture, however, must be extended to the production floor. The future integrated enterprise will unify product development and production to drive greater speed with the confidence needed to be the first-to-market. In this presentation, Chuck Grindstaff will offer a vision for the future of PLM.

Wednesday, September 19 – AFTERNOON

## INTEGRATING AND LINKING PLM SILOS ACROSS ALL DISCIPLINES

- In supporting parametrics for system development and requirements verification, how does SysML™ close the gap between systems architecture and analysis?
- What is the potential for Semantic Web technology to provide the interoperability needed to support multiple repositories with common data interchange formats?
- How can tracking critical design parameters dramatically improve the focus and control of product development?
- What successes and payoffs are achievable by implementing a standards-based integration platform with OMG PLM Services to meet the multiple and often conflicting demands of major customers that have locked on to divergent systems?

As PLM matures the payoff for integration, interoperability, and standardization rises dramatically. Drawing on successes at Motorola, a new approach in product development promotes collaboration with real-time interaction between product development teams, focusing on critical product performance parameters for immediate feedback throughout the corporation. New systems capabilities that manage, reconcile, and reuse the continuous flow of information from initial customer-needs identification, to product requirements management, to risk identification and mitigation, and through robust design analysis will be considered.

Wednesday, September 19 – AFTERNOON

## LEVERAGING DESIGN MODELS AND REUSE DOWNSTREAM

- What lessons can be learned from companies that have leveraged commercial technology to establish innovative processes for capturing and sharing knowledge?
- Which new initiatives and technology directions assist product development collaboration across disparate domains and across the worldwide supply chain?
- Which technology is available in product modeling to address downstream interaction with part geometry, even in a multi-CAD environment?
- How can the design modeling process foster design and physical component reuse?

The wealth of product knowledge and content authored in design engineering organizations is often trapped at the workgroup level, destroying the dramatic potential for the extended enterprise to leverage engineering content. Find out from leading-edge users how to exploit existing technology to capture and share product and process knowledge across the product lifecycle. Interact with users and vendors as they discuss the future of innovative technology solutions in design modeling that bolster downstream interaction with product designs and increased reuse of component models.

For Updates Visit

[https://cpd-associates.com/index.cfm?content=include\\_conference07.cfm](https://cpd-associates.com/index.cfm?content=include_conference07.cfm)

Thursday, September 20 – MORNING

## SIMULATION FRAMEWORK: THE NEXT STEP FOR SIMULATION DATA AND PROCESS MANAGEMENT

- What capabilities distinguish the strategies of the leading PLM vendors from traditional CAE software suppliers?
- What do leading users require for simulation data management?
- Given the challenges of CAE process management and optimization, what performance targets can be realistically fulfilled over the intermediate term, to drive quality while cutting cycle times and cost?
- How can tracking critical design parameters benefit simulation – beginning with customer needs, through requirements – and the integration of test results?

Accurate predictions of product performance across multiple physical domains are key to delivering a product to market in the shortest time and at the lowest cost. Designers and engineers must understand product behavior. A critical component of a simulation framework, simulation data management, must serve multiple disciplines with the full integration of design and multi-disciplinary optimization activities. Process management and optimization are equal priorities. This may change with the advent of SysML™ capabilities. Learn how to meet the challenges for driving analysis into the mainstream of product design. Find out how your simulation experiences compare with others.

Thursday, September 20 – MORNING

## DRIVING VALUE WITH INTELLIGENT PRODUCT STRUCTURES AND A MECHATRONICS FRAMEWORK

- How do manufacturers who consolidate BOM management outperform their peers in rework and change management?
- What data constructs offer the most coverage in product planning, conceptual design, and engineering validation?
- How can parts and CAD information across the entire spectrum of configuration options be reconciled?
- What are the prerequisites for implementing an integrated mechatronics framework?

The highest payback in development comes from accelerated communication in design and engineering, facilitated by intelligent product data structures spanning requirements, functional breakdown, physical architecture, and scaleable configurations. Management approaches for advanced product definition ensure the full reconciliation of changes across multiple domains. The most critical area where advanced product definition has to be applied to enable systems engineering principles is mechatronics. Mechatronics adoption works best with a series of smaller steps. This provides the basis for a comprehensive process management approach coupled with advanced modeling and simulation tools that drive optimal results.



For Updates Visit

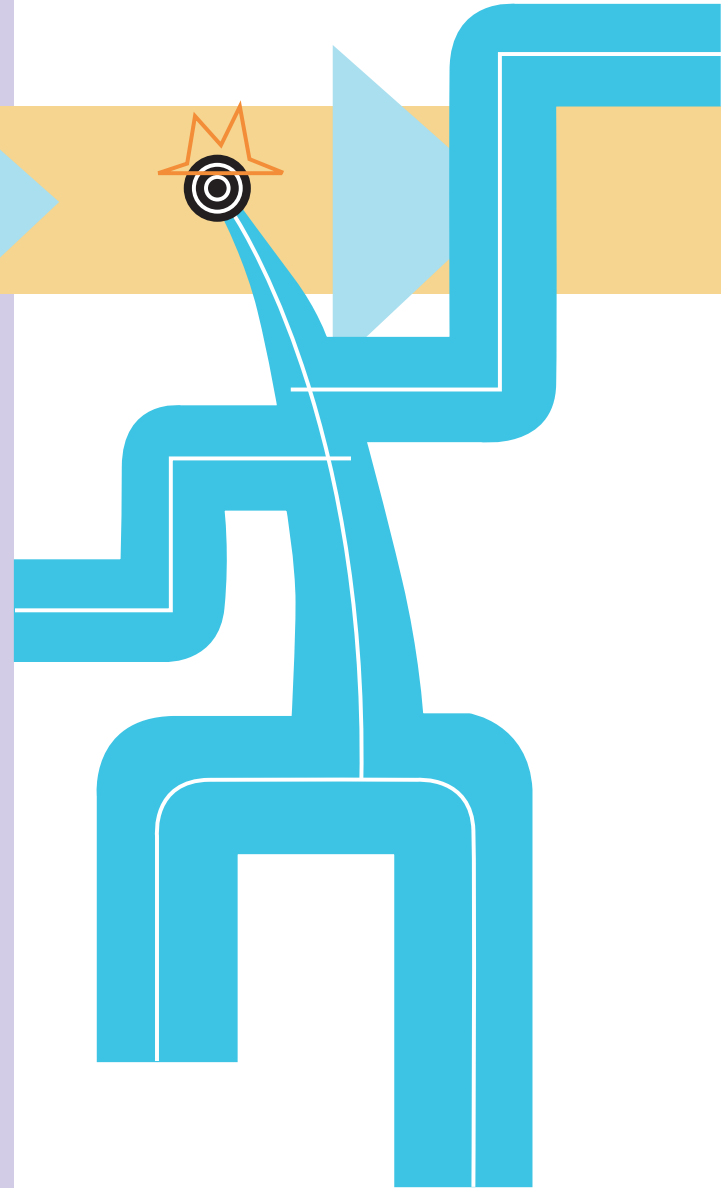
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Thursday, September 20 – MORNING

## MANUFACTURING SIMULATION TO IMPROVE PRODUCT ENGINEERING AND DELIVERY

- What advances in manufacturing simulation of die design and stamping can improve product quality and accelerate new product introduction?
- How can manufacturing simulation help integrate product engineering and production for reduced risk and increased productivity?
- To what extent can the Six Sigma method be applied to discrete-event simulation for an improved product manufacturing machining process?
- How can non-value-added activities in the commissioning-control systems process be eliminated by validating factory systems virtually?
- How can discrete-event computer simulation be used to evaluate the lean potential of a large-scale manufacturing line?

Most product developers recognize the benefits of digital analysis, and simulation of engineering designs, to optimize product quality and durability. Yet the manufacturing processes used to produce those products often have as great, if not greater, an impact on both product quality, compliance, and production efficiency. CPDA joins with the Michigan Simulation User Group (MSUG), [www.m-sug.org](http://www.m-sug.org), to explore the use of simulation of manufacturing processes as a decision support tool that helps bridge the gap between product design and improved delivery.



## THE PLM CHALLENGE TO ENABLE THE LEAN ENTERPRISE

PLM Road Map™ 2007 closes with Michael N. Kennedy stressing the importance for companies to integrate strategies for lean thinking in product development with their strategies for implementing PLM on a broad scale. Dr. Thomas P. Gielda will share Whirlpool's success in driving a PLM framework across design and simulation. PTC's Chad Hawkinson will concentrate on mechatronics, and contrast progress across industries and geographies – extending to Japan – for lessons learned and the next steps to take.



### Redefining Lean Through Set-Based Knowledge

#### MICHAEL N. KENNEDY

Co-founder and CEO of Targeted Convergence Corporation

Over the last two decades, the awareness of the Toyota Production System has evolved into the lean initiative that is changing manufacturing companies and the IT systems that support them. Lean thinking is now moving into product development and innovation processes. However, at Toyota, lean thinking is much more than streamlining the value supply chain; it is about harvesting the knowledge that drives the flow of products that customers want. Michael Kennedy will describe the cornerstones of the Toyota product development system and how it differs from lean thinking as applied to production processes. He will issue challenges for ensuring that PLM implementations enable this thinking.

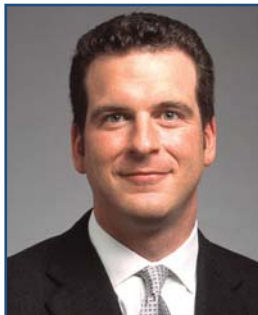


### Driving Simulation-Based Design in the Home Appliance Industry

#### DR. THOMAS P. GIELDA

Director, Global Mechanical Structures and Systems, Global Product Technology, Corporate Technology Organization, Whirlpool Corporation

With simulation-based design, Whirlpool drives simulation as an integral part of the design process to reduce physical prototypes, to evaluate design functional objectives, and to shape design decisions. Achieving this major paradigm shift requires a consistent data model to serve multi-disciplinary needs, coupled with standardized processes that promote reuse to fully leverage expert knowledge. With top-down design, integrated CAE methodologies directly contribute to reducing cost and boosting quality. In particular, the critical challenges of product and simulation data management must be considered. Tom Gielda will share lessons learned and update us on the progress achieved to date with Whirlpool's implementation of MSC SimEnterprise™.

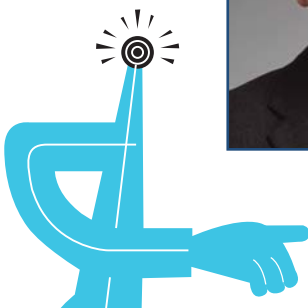


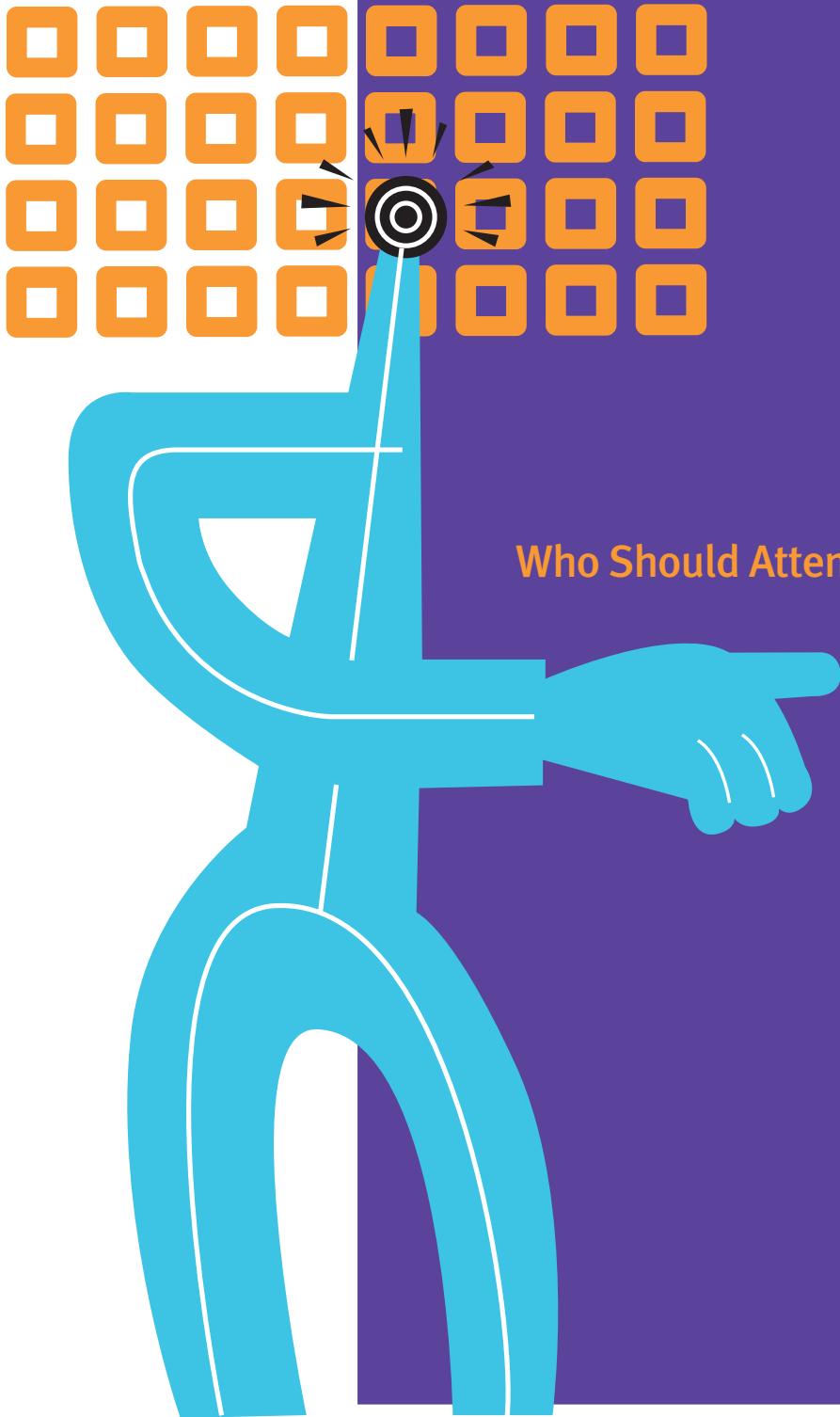
### Optimizing Mechatronic Product Development, Present and Future

#### CHAD HAWKINSON

Vice President, Product Strategy, Electronics, PTC

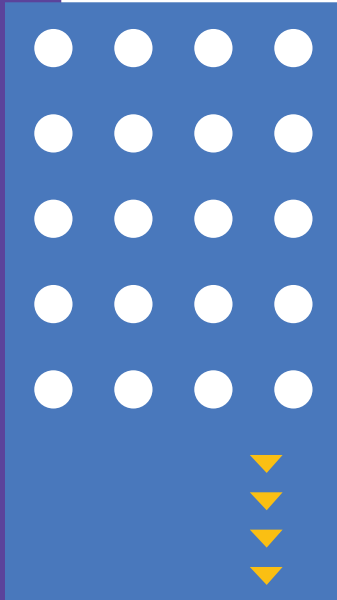
Today, companies struggle to manage the explosion of electronics and software content in their products. Increased technology content with tighter timeframes and a more complex supply chain are hurting cost, quality, and time-to-market. Chad Hawkinson will discuss current practices and frameworks from leading companies across industries and geographies to overcome the challenges in managing the mechatronic product development process. In addition, opportunities to optimize system design across disciplines will be discussed. Specific approaches in electromechanical integration, system design, and embedded software management will be presented.





## Who Should Attend?

- Engineering Executives
- Engineering IT Executives
- Supply Chain Management Professionals
- Product Platform Managers
- Systems Engineers
- Planning Managers
- Procurement Managers
- CAD Strategy Executives
- Outsourcing and Contract Manufacturing Executives
- Product Portfolio Managers
- Product Management Executives
- Process Designers
- Chief Engineers
- Engineering Process Development Managers
- Business Process Modeling Professionals
- Design and Simulation Experts





## Why Should You Attend?

### It's about **who you TRUST**

Do you need to find out what others in the industry are doing without spending lots of time searching for the right information? Listening is a hallmark of CPDA's analysts – each day they listen to client needs while developing an understanding about what PLM solution providers are doing to meet those needs. *Trust CPDA's analysts to deliver expert knowledge and advice and take away the inside track on new ideas and practical advice that is actionable right away.*

### It's about **the FUTURE**

How do you make effective decisions when you don't know what is down the road ahead? At PLM Road Map™ 2007 our analysts and speakers will help shed light on what your future may hold. *Take away a clearer understanding of what is around the corner.*

### It's about **CONNECTION**

How often do you think that you must be the only person with a particular set of problems? You would be surprised to find out just how many of your peers are facing similar issues, every day. *Take away shared ideas and experiences that can be used immediately.*

### It's about **making the technology WORK**

Do you need to bring your product to market in the shortest possible time? The ability to bring new and innovative products to market rapidly is critical to your success. The information you gain at CPDA's PLM Road Map™ 2007 will help you jump start the product development process. *Take away the knowledge you need to avoid costly mistakes and reap the benefits of saved time from shared experiences.*

### It's about developing **a sense of COMMUNITY**

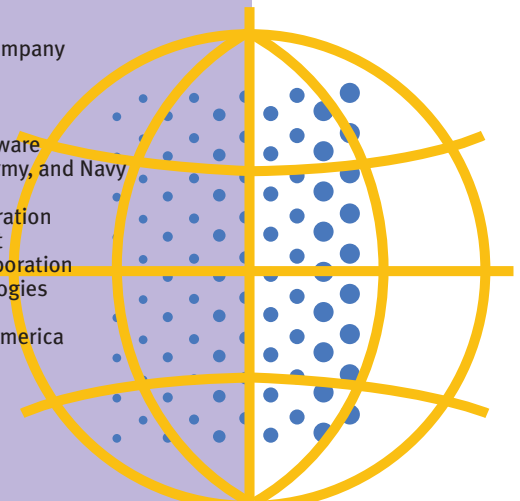
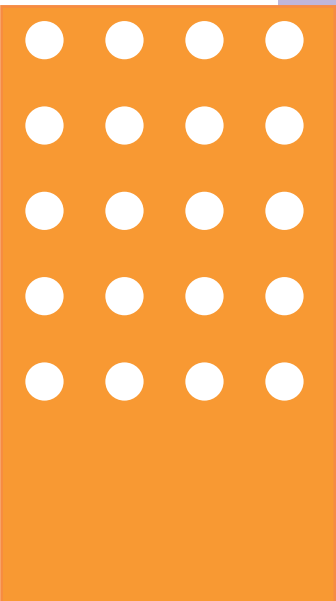
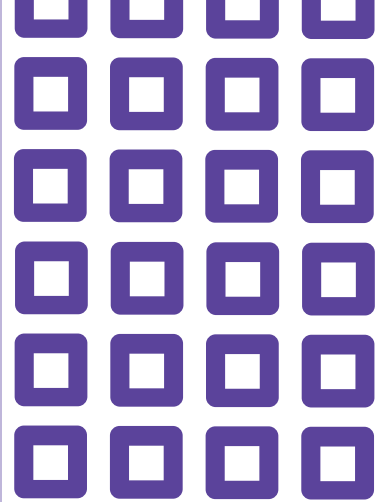
How often do you have the opportunity to rub shoulders with a large group of your peers? At PLM Road Map™ 2007 you will have plenty of time to spend with a group of like-minded individuals who have similar experiences. *Take away valuable additions to your network, people you will be able to call on in years to come.*

### It's about **finding the right SOLUTION**

Is the wide array of new products making it increasingly difficult to figure out what is available, and moreover, what will work best for you? Just keeping up with the latest and greatest solutions is a drain on your time. *Interact with our select group of leading solution providers in a no-hype setting and take away an understanding of what solutions are available now, what will be available, and what will work best for you.*

## Previous Attendees Include:

- 3M Company
- Abaqus
- Actify
- Adobe Systems
- Advatech Pacific
- Agile Software Corporation
- Airbus
- ALPS Automotive Corporation
- Altair Engineering, Inc.
- Altarum
- Amcor PET Packaging
- AMD
- ANSYS, Inc.
- Applied Biosystems
- Arena Solutions
- Arvin Meritor
- Autodesk
- BAE Systems
- BMW AG
- Babcock & Wilcox
- Bath Iron Works
- Bell Helicopter Textron, Inc.
- B.F. Goodrich
- The Boeing Company
- Bombardier, Aerospace Group
- Bridgestone/Firestone
- Cardinal Solutions
- Caterpillar, Inc.
- CD-adapco
- CENIT
- Centric
- Chrysler Corporation
- Cisco Systems, Inc.
- CoMet Solutions, Inc.
- Computer Sciences
- Cooper Tire & Rubber Company
- Cordis Corporation, Inc.
- Dana Corporation
- Dassault Systèmes
- DELMIA Corporation
- Delphi Automotive Systems
- Ezopen
- EASA, Inc.
- Eaton Corporation
- EDS
- Endecca
- Enductive Solutions
- Engineous Software, Inc
- ENOVIA Corporation
- ESI Group
- Exostar, LLC
- Faurecia
- Federation
- Fisher & Paykel Appliances
- Fluent
- Ford Motor Company
- Freudenberg-NOK
- Freescale Semiconductors
- GE Aircraft Engines
- GE Power Systems
- General Dynamics
- General Motors Corporation
- GlobalSpec.com
- The Goodyear Tire & Rubber Co.
- Gulfstream Aerospace
- Harley-Davidson
- Hayes-Lemmerz
- Hewlett-Packard
- Hitachi Ltd.
- HMS Products
- Honda R&D
- Honeywell
- IBM Corporation
- INCAT Systems, Inc.
- Infosys
- Intel Corporation
- Intier Automotive Interiors
- Invensys Software Systems
- John Deere
- Johnson Controls
- Keane, Inc.
- Kennametal
- Kubotek
- Lear
- LG CNS
- LMS North America
- Lockheed Martin Corporation
- Lucent Technologies, Inc.
- Magna Steyr
- Mentor Graphics
- Merant
- Messier-Dowty
- Methode Electronics
- Microsoft Corporation
- Molex
- Moog, Inc.
- MSC.Software Corporation
- MSX International
- NASA
- NCMS
- Nike, Inc.
- NIST
- OshKosh Truck
- PSA Peugeot Citroen
- PARTSolutions
- Pentair Enclosures
- Pratt & Whitney
- Procelerate Technologies
- Proficiency
- PROSTEP
- PTC
- Raytheon Company
- Right Hemisphere
- RuleStream Corporation
- Sandia National Laboratories
- Seemage
- Selectica, Inc.
- SGI
- Siemens AG
- Simmetrix
- Solidworks Corporation
- Sopheon Corporation
- Spatial Corporation
- Sun Microsystems
- Swagelok
- Telelogic
- Textron, Inc.
- The Timken Company
- Toyota
- Trilog
- TRW
- UGS PLM Software
- US Airforce, Army, and Navy
- VISTAGY
- Visteon Corporation
- Vaught Aircraft
- Whirlpool Corporation
- Wipro Technologies
- Xerox
- Yazaki North America



## To Register

Online: <https://cpd-associates.com?download=plmrm07>

E-Mail: [events@cpd-associates.com](mailto:events@cpd-associates.com)

Call: The PLM Road Map™ Hotline  
(800) 573-4756  
(251) 433-7049 – outside USA

FAX: Download registration form at:  
<http://cpd-associates.com/pdfs/PLMRM07.pdf>

### REGISTRATION FEES

- Register by August 24th – take \$200 off your registration fee.
- Bring-a-Colleague Discount\* – take \$200 off each registration.

Full Fare	One Discount	Two Discounts	Collaborative Research Program Partner**
\$1,495	\$1,295	\$1,095	<b>FREE</b>

*\*Bring-a-Colleague discount applies to both registrants. To qualify, you must register at the same time.*

*\*\*Call the PLM Road Map™ Hotline at (800) 573-4756 to find out if your membership in CPDA's Collaborative Research Programs qualifies you for this benefit.*

### TEAM REGISTRATION

Manufacturing Teams — optimize your ROI by taking advantage of our special pricing when you register three or more people from your team. Offer expires August 24th. Call the PLM Road Map™ Hotline at (800) 573-4756 for details.

### HOTEL AND VENUE INFORMATION

The Inn at St. John's, Plymouth, Michigan  
Tel: (734) 414-0600  
Group Rate: \$129 (Mention CPD Associates or PLM Road Map)  
*Reserve early – CPDA rate expires September 4th*



## About Collaborative Product Development Associates

Collaborative Product Development Associates (CPDA) is a provider of critical analyses for PLM decisions. CPDA offers the latest in-depth, objective information for assessing technology and business goals. Coordinated by a group of experienced analysts, its cohesive suite of collaborative research programs leverages the efforts of top software designers and leading-edge users. CPDA's differentiation is its specific, deep, and pragmatic approach to the market, and a hands-on understanding of the technology required to drive successful implementations.

CPDA's collaborative research programs include Design Creation and Validation, Design/Simulation Council, PLM Integration/Product Definition, and Product Value Management.



[www.cpd-associates.com](http://www.cpd-associates.com)

