Pre-Register & Save $75
See Inside For Details

EXHIBITS:
Monday, June 22, 2009 – Friday, June 26, 2009

PLANT TOURS:
Tuesday, June 23, 2009

CONFERENCE:
Wednesday, June 24, 2009 – Thursday, June 25, 2009

West Hall - McCormick Place
Chicago, IL, USA

Register Today @ TimeCompressionexpo.com

PRESENTED BY:
TIME COMPRESSION

CO-LOCATING PARTNERS:
MOLDMAKING EXPO 09

TECHNICAL CONFERENCE

EXHIBITS:
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West Hall - McCormick Place - Chicago, IL, USA
SOLUTIONS & STRATEGIES FOR ACCELERATING PRODUCT DEVELOPMENT

The first annual Time Compression Expo is all about acceleration. From the product technologies on display in the exhibit hall to the process solutions presented in the conference sessions, the focus of the event is speed. If you are involved in product development, speed is something you cannot ignore and Time Compression Expo is an event you cannot afford to miss.

Time Compression Expo offers high-quality, non-commercial conference programming that provides audience members with practical solutions for dealing with the challenges and complexities of their jobs. Topics are studied in seminars and panel discussions led by experts in their respective fields.

2009 Presentations Will Feature an End-User Application Approach on:
- Strategies for Cost-Cutting and Productivity Improvement
- Technology Innovation and Application
- Business and Management Issues

CONFERENCE HIGHLIGHTS INCLUDE:
- Opening Keynote: Time-Compression Technologies – From Concept to Production – Todd Grimm, President, T.A. Grimm & Associates
- Closing Keynote: The Main Steps & Barriers for the Implementation of Rapid Manufacturing – Dr. Max Ruffo, Additive Manufacturing & IMPC Manager, AMRC with Boeing
- Special One-Day Intensive Seminar: Leveraging Lean Product Development for Lower Costs and Higher Profits – Bar Huthwaite / Management Roundtable
- Admission to:
  - Time Compression Expo
  - MoldMaking Expo, NPE 2009
  - Specialty Pavilions

For a Complete List of Exhibitors visit www.timecompressionexpo.com
### CONFERENCE AT-A-GLANCE

#### WEDNESDAY  June 24th | 8:00 am — 5:00 pm

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:00 am</td>
<td>10:00 am   11:00 am 12:00  pm 1:00 pm 2:00 pm 3:00 pm 4:00 pm 5:00 pm</td>
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<tr>
<td>9:15 AM-10:30 AM</td>
<td>Opening Keynote: Todd Grimm, TA Grimm &amp; Associates</td>
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<tr>
<td>11:15 AM-12:15 PM</td>
<td>Lunch on Your Own/Visit Exhibits</td>
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<tr>
<td>12:15 PM-1:45 PM</td>
<td>Lunch on Your Own/Visit Exhibits</td>
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<tr>
<td>2:30 PM-3:15 PM</td>
<td>全程播放</td>
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<tr>
<td>3:45 PM-5:00 PM</td>
<td>Closing Keynote: Dr. Max Ruffo (Advanced Manufacturing Research Center with Boeing): The Main Steps and Barriers for the Implementation of Rapid Manufacturing</td>
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#### THURSDAY  June 25th | 8:00 am — 5:00 pm

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<tr>
<td>9:00 AM-9:45 AM</td>
<td>Eng. Stewart Davis (CRP Technology) Case Study: Tennis Racket Scale 1:1 Model using Windform Materials and SLS Technology</td>
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<tr>
<td>10:45 AM-11:00 AM</td>
<td>Accelerating the Design Cycle</td>
</tr>
<tr>
<td>11:30 AM-12:15 PM</td>
<td>Lunch on Your Own/Visit Exhibits</td>
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<tr>
<td>1:45 PM-2:30 PM</td>
<td>Scott Summit, Summit ID, LLC: Rapid Manufacturing: A Smart New Avenue</td>
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</tr>
<tr>
<td>9:00 AM-12:15 PM</td>
<td>Leveraging Lean Product Development: Streamlining Product Design and Development for Lower Costs and Higher Profits PART ONE: “The Lean Innovation Challenge”</td>
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<tr>
<td>LUNCH</td>
<td>全程播放</td>
</tr>
<tr>
<td>1:15 pm-5:00 PM</td>
<td>Leveraging Lean Product Development: Streamlining Product Design and Development for Lower Costs and Higher Profits PART TWO: “Lean By Design”</td>
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**EXHIBITS:** Monday, June 22, 2009 – Friday, June 26, 2009  
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**CO-LOCATING PARTNERS:**

- **MOLDMAKING expo 09**
- **Advanced Manufacturing Roundtable**

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Pre-register & **SAVE $75.00**  
See Page 11 for Details  
[timecompression.com/register](http://timecompression.com/register)
Note: The bus ride will last about an hour each way and be available to engage in discussions regarding where (FDM), silicone molding and urethane casting. Staff will be engaging Laser Sintering (SLS), Fused Deposition Modeling (FDM), silicone molding and urethane casting. Staff will be available to engage in discussions regarding where the industry is and where it is heading.

Note: The bus ride will last about an hour each way and be traffic dependent.

2:00 PM - 5:00 PM

GPI Prototype & Manufacturing Services, Inc. Plant Tour

GPI Prototype & Manufacturing Services combines additive manufacturing and rapid prototyping with 30 years of manufacturing experience. Visitors will see a state of the art production facility utilizing several prototype methods such as Poly Jet (Objet), RTV molding, casting, EOSINT M 270 Direct Metal Laser Sintering (DMLS), silicone molding and urethane casting. Staff will be available to engage in discussions regarding where the industry is and where it is heading.

2:00 PM - 5:00 PM

MoldMaking Technology

The transformation of Bytes to Benefits

Neil Ranney, Product & Applications Manager, Additive Manufacturing & IMPC Manager, Advanced Manufacturing Research Center with Boeing

The Impact of Rapid Manufacturing on Business Management

Not so long ago, time-compression technologies were simply rapid prototyping and reverse engineering—design tools that assist in reducing time-to-market. But times have changed and the technologies have advanced. Discover the full breadth of applications, wealth of opportunities, and the challenges that arise from the technologies that are now known as additive fabrication and 3D imaging.

10:45 AM - 11:30 AM

Dr. Max Ruffo, Additive Manufacturing & IMPC Manager, Advanced Manufacturing Research Center with Boeing

The Transformation of Bytes to Benefits

Neil Ranney, Product & Applications Manager, Additive Manufacturing Services

Using 3D Printing to Help Manufacturers Meet Capacity Needs

Access Business Group, a product development and manufacturing organization for the nutrition, personal care, home care and beauty industries has leveraged 3D printing technology to significantly improve their product designs and time to market. By leveraging 3D printing in their injection molding process Access Business Group is able to go from design to finish part in a single day alleviating the pains of the complicated and seemingly long processes of traditional injection molding methods. During this session Access Business Group will take the audience on the anomalies associated with the outcome of the final product(s). These include process, orientation, machine set-up, processing parameters, operator skill and experience, and secondary processing opportunities. Defining and controlling these variables are important to any users of the technology.

12:15 PM - 1:45 PM

Lunch on Your Own/Visit Exhibits

1:45 PM - 2:30 PM

Daniel J. Maas, Business Development ProMetal, RCT, Ex One Company

The All Digital Casting Process: A Complete Overview of the Rapid Casting Technology (RCT) 3D process does not require a pattern to produce the casting, low volume service parts that do not have available tooling, low volume product development applications and low volume niche production are ideal candidates when response time, set-up charges for small batch production, and tooling costs must be minimized. Contrasts will be made for a casting going through product development using the traditional approach as compared to the all digital casting approach. Then the sequence of events for the digital casting product development process, from part design to mold design to mold production to casting inspection will be detailed. Examples defining how the digital environment enables increased velocity and knowledge capture will be cited.

2:30 PM - 3:15 PM

Scott Summit, Principal, Summit ID, LLC

Rapid Manufacturing: A Smart New Avenue

Rapid Manufacturing represents a shift in thinking, rather than simply a new manufacturing means. It stands to alter a product’s economic model, the fundamental design process, and meet the user’s needs in unexpected new ways. Scott Summit will present perspectives on Rapid Manufacturing as demonstrated in his experiences with the Discovery Channel and CNBC, and present a suite of bespoke product solutions aimed to address the needs of amputees.

3:30 PM - 4:15 PM

Carl Dekker, President, MET-L-FLO

Additive Fabrication (3D Printing) to Accelerate their Racing Development and Innovation as well as other key tools and technology that keep JGR cars at the front of the pack each weekend.

THURSDAY, JUNE 25, 2009

9:00 AM - 9:45 AM

Stewart Davis, Director of Operations, CRP Technology USA

Case Study: Tennis Racket Scale 1:1 Model Using Windform® Materials and SLS Technology

Rapid prototyping represents the most advanced technology in getting to the finished testing model quickly. Windform materials on the other side were studied by CRP’s R&D in order to allow the creation of perfectly unique in getting to the finished testing model quickly. Windform materials on the other side were studied by CRP’s R&D in order to allow the creation of perfectly functional prototypes. At the end of 2007 CRP developed a new collaboration with a worldwide customer, a leader in the production of tennis rackets. The project included testing of clip prototypes collocated on the external side of the tennis racket. It was imperative that the aesthetic evolution of the project remain as similar as possible to the original as it played a role in the global preview of the new 2008/2009 Sports collection: a 1:1 scaled tennis racket prototype.

4:15 PM - 5:00 PM

Mark Bringle, Technical Systems Manager, Joe Gibbs Racing

Technology in NASCAR: How Joe Gibbs Racing Utilized 3D Printing Technology to Increase Their Competitive Advantage

Joe Gibbs Racing is one of the leading teams in NASCAR, their team of drivers includes #18 Kyle Busch, #11 Denny Hamlin, and #20 Joey Logano. Get a rare inside look at how a NASCAR team operates & stay competitive. Mark Bringle from Joe Gibbs Racing will give an overview of the challenges their design engineers & fabrication shop face each week to stay competitive on the racing circuit and how they tackle these challenges. Included in the will be a brief overview of how since 2004 the design and manufacturing engineering teams at Joe Gibbs Racing have been using Additive Fabrication (3D Printing) to accelerate their racing development and innovation as well as other key tools and technology that keep JGR cars at the front of the pack each weekend.

See Page 11 for Details
that exist for customized manufacturing. Being developed but also the wide range of applications illustrates not only the practicality of the technology but also the potential applications for customizing medical implants, prostheses, and orthotics. The variety of these products includes customized motorcycle helmets and seats, designed and manufactured by CAD/CAM developer Delcam. This paper will describe how the project developments were used to produce a variety of products supported by the European Community and coordinated currently being undertaken in Europe, and probably the largest project on rapid manufacturing is the Custom-Fit project.

Custom-Fit is the largest project on rapid manufacturing within the Custom-Fit project supported by the European Community and coordinated by CAD/CAM developer Delcam. This paper will describe how the project developments were used to produce a range of components, all developed for individual use. These include customized motorcycle helmets and seats, a special seat for a toy car for a disabled child, and interior and exterior prosthesis. The variety of these products illustrates not only the practicality of the technology being developed but also the wide range of applications that exist for customized manufacturing.

Custom-Fit is the largest project on rapid manufacturing within the Custom-Fit project supported by the European Community and coordinated currently being undertaken in Europe, and probably the largest project on rapid manufacturing is the Custom-Fit project.

Metal Plating of RP Models
The surface finish of RP plastic models has traditionally proved to be a limitation of the various RP technologies. Metal plating of RP parts can drastically improve these limitations and in some cases, eliminate them altogether. This discussion will inform on how applying the plating process has demonstrated improvements with mechanical properties such as strength, creep characteristics, and aging stability. We will also discuss how plated RP parts can be used in more aggressive and corrosive environments, which would not be possible with original plastic parts.

2.45 PM-3:30 PM
Paul Armstrong, Director of Sales & Marketing Mark Garfane, VP Engineering & Quality Armstrong Mold Corporation
Fast Turnaround Die-Cast Prototyping Options
This presentation will cover a variety of processes able to provide die cast spec alloy cast aluminum prototype parts in as little as a few days. Many of the rapid prototyping modeling techniques will be introduced with more traditional casting processes enable fully functional prototypes in days instead of weeks by bypassing the need for tooling. Design considerations, process overviews, applicable alloys and case studies will be part of this presentation.

3:45 PM-5:00 PM
Closing Keynote
Dr. Max Ruffo, Additive Manufacturing & IMPC Manager, Advanced Manufacturing Research Center with Boeing
The Main Steps and Barriers for the Implementation of Rapid Manufacturing
Depending on the business sector there are very different technical and managerial requirements. The main concept of barrier along product development and differences between sectors will be shown together with a “common” approach that started in NASA many years ago to evaluate technologies for a given application. This will be combined with an introduction on “The AMRC with Boeing, a new approach for elimination and prevention”.

INTERACTIVE EXERCISE: Attendees will also participate in an interactive exercise designed to provide hands-on experience for implementing the techniques of lean design.

FEATURED INDUSTRY CASE STUDY: Steelcase, Inc.
Learn how lean design principles are applied at Steelcase, Inc., a global leader in the office furniture industry.

YOU WILL LEARN:
• The hidden economics of your product’s design and how to manipulate this to your advantage
• The 8 primary values that all customers crave and the 7 wasteful design solutions that defeat six sigma quality and low cost
• How to minimize risk by ensuring product reliability and quality while reducing costs and cycle time
• About the Five Laws of Lean Product Design and the Lean Design Checklist
• The Seven Essential Lean Design Skills and how to apply them
THURSDAY, JUNE 25, 2009 9:00 AM-5:00PM

1 Day Program
• $350 advance purchase/$425 onsite purchase
• One-Day Conference Pass
• Admission to Keynotes (both days)
• Conference Proceedings

About the Instructor
Bart Huthwaite, Sr. is a world renowned expert in innovation leadership. He is the founder of the Institute for Lean Innovation and the thought leader in the emerging business process known as “Systematic Corporate Innovation.” This is a method for giving managers the knowledge to make corporate innovation understandable, repeatable and very importantly, measurable.

Huthwaite has mentored managers and teams in corporate innovation worldwide at more than 1,000 companies over the past 30 years. He is the author of numerous books, most recently The Rules of Innovation and Lean Design Solution: A Practical Guide to Streamlining Product Design and Development. He is also the creator of the InnovationCUBE, a method for bringing a higher level of innovation to any project.

About Management Roundtable
The Management Roundtable (MRT) is the leading knowledge and networking resource for product developers. Practitioner-oriented and unbiased, our focus is on providing actionable information about new strategies and processes that enable speed, innovation, profitability, and overall competitive advantage. Founded in 1980, Management Roundtable publishes research reports and hosts events on key areas of product development. MRT’s online service, FastTrack was launched in 2004 to provide continuous, unlimited access to new insights and networking opportunities.

Agenda
9:00-9:20 Welcome and Introduction: What it Means to be “Lean”, Gregg Tong, Management Roundtable
9:20-10:30 The Lean Innovation Challenge: Combining Game Changing Thinking with Cost, Quality and Speed, Bart Huthwaite
10:30-10:45 BREAK
10:45-11:45 Walking the Talk: Applying Lean Principles to the “Process” of Product Development, Bart Huthwaite
11:45-12:15 Industry Case Study: Lean Product Development Process Management at Raytheon, Speaker TBA
12:15-1:15 Lunch
1:15-2:45 The Five Laws of Lean Product Design, Bart Huthwaite
2:45-3:00 Break
3:00-4:15 The Seven Essential Lean Design Skills
4:15-4:45 Industry Case Study: Transforming Product Cost through Lean Design, Tim Schipper & Mark Swets, Steelcase
4:45-5:00 Wrap-up / Final Q&A

TIME COMPRESSION TECHNICAL CONFERENCE
Wednesday, June 24, 2009 - Thursday, June 25, 2009

One Day Pass:
$175 advance purchase/$250 onsite purchase
• One-Day Time Compression Technical Conference Pass
• Admission to Keynotes (both days)
• Conference Proceedings
• Show Pass

Two-Day Pass:
$350 advance purchase/$425 onsite purchase
• Two-Day Time Compression Technical Conference Pass
• Admission to Keynotes (both days)
• Conference Proceedings
• Show Pass

PLANT TOURS
Tuesday, June 23, 2009
$30 per person, per tour
Advanced registration is required and the host company reserves the right to prescreen and decline attendance. Travel to and from the host facilities is one hour or more, traffic-dependent

THE MANAGEMENT ROUNDTABLE SEMINAR
Thursday, June 25, 2009

One Day Pass:
$350 advance purchase/$425 onsite purchase
• One-Day Management Roundtable Seminar Pass
• Admission to Keynotes (both days)
• Conference Proceedings
• Show Pass

EXHIBIT HALL ONLY REGISTRATION
Pre-Registration: $60.00
Onsite: $90.00

DESTINATION:
Chicago, IL
For more information on Chicago, visit http://www.choosechicago.com/Pages/default.aspx

HOUSING:
For housing information, visit http://www.npe.org/attendee/attend/housing.asp

QUESTIONS?
Contact Lisa Dodge, Time Compression Show Manager
Call: 734-709-3822
Email: ldodge@timecompress.com
Visit Us: www.timecompression.com