

International Conference on
**Future Industrial Applications
of Additive Fabrication**



Date and Time: Friday 1 December 2006, 9:30 a.m – 5:30 p.m

Location: Exhibition Center Frankfurt/Main, Germany, Hall 8.1, Room Symmetrie 2

Organizer: DEMAT GmbH (Frankfurt, Germany)

Chairman: Terry Wohlers, Wohlers Associates, Inc. (USA)

Conference Language: English

Fee Per Session: EUR 70 + 16% VAT. GARPA members pay € 63, plus VAT per session. A special price for all 4 sessions is € 240, plus VAT. Includes entrance into the conference and trade fair, technical papers, lunch, GARPA reception and party, and a chance to win valuable prizes.

Registration: Click [registration form](#) or phone 49 69 27 40 03 30, fax 49 69 27 40 03 40.

Questions: Contact DEMAT, phone 49 69 27 40 03 30 or send an email to

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Description

Plans have been finalized for the 8th annual international conference at EuroMold. Each year, this conference covers the latest trends and what the future holds in rapid product development and additive fabrication. This year's conference will cover some of the most interesting developments globally. Experts from several countries will share their knowledge and expertise to help you make important decisions related to new business, research, and investment opportunities and challenges associated with additive fabrication. By attending this conference, you will be among some of the most knowledgeable and well-connected individuals in the world.

Program

9:30 Dr. Eberhard Döring, Chief Executive
DEMAT GmbH (Germany)

The Future of Additive Fabrication

Mr. Terry Wohlers, President
Wohlers Associates, Inc. (USA)

Additive fabrication has developed for use into three broad application areas: 1) design and concept modeling, 2) fit and function prototyping, and 3) custom and series production. Over the past two years, the hottest area of growth has been the relatively low-cost additive systems, often referred to as 3D printers, for concept modeling and design validation. Growth of 3D printer sales was an estimated 35.2% in 2006, according to *Wohlers Report 2006*. Meanwhile, the use of additive processes for rapid manufacturing is heating up for a wide range of applications and industries. Last year, an estimated 9.6% of all parts produced additively were associated with rapid manufacturing, according to the report. This compares to 3.9% in 2003.

Session 1 Aerospace and Defense

10:00 Applications at GE Global Research

Mr. Charles Gilman, Mechanical Engineer
GE Global Research (USA)

This presentation will discuss the use of additive fabrication in the Product Realization Laboratory at GE Global Research. Parts produced on the company's four additive systems support projects across the

Research Center. Gilman will show how they have used additive technologies to communicate research results, illustrate design concepts, create parts to support research projects, and perform limited run manufacturing. The presentation will also cover some of the strengths and limitations of using additive fabrication in a research group.

10:30 **Future of Rapid Manufacturing**

Mr. Jeff DeGrange, Senior Manager & Synergy Team Leader
The Boeing Company (USA)

DeGrange will discuss the necessary Manufacturing Readiness Level (MRL) to further advance the use of direct manufacturing (DM) technologies for a low production rate environment. Several key MRL steps and considerations are needed to establish DM as a viable, cost effective production technology. Among them are raw materials, manufacturing processes and procedures, education, design guidelines, process controls, cost estimating, quality control measures, and certified suppliers.

11:00 Break

Session 2 Automotive and Motor Sports

11:30 **Future Potential of Rapid Manufacturing**

Dr. Richard Hague, Head of the Rapid Manufacturing Research Group
Loughborough University (England)

Loughborough University has been active in working with industry to explore the use of rapid manufacturing and effectively implement it within businesses. Underway at the institution are significant research activities that are investigating new materials and processes, as well as the potential for radical new design opportunities across a range of industries and products. Another major effort is focused on the business supply/demand chain aspects and the benefits of low volume and custom products. Hague will provide case studies from automotive companies and other partners and outline the future potential of rapid manufacturing.

12:00 **Parts That Go on the Final Car**

Dr. Livia Cevoloni, Marketing and Sales Director
CRP Technology srl (Italy)

The quality and production time of high performance products for motor sports and automobiles can make all the difference. In the Formula 1 industry, everything is about time, from reducing it on the racetrack, to reducing it when developing new designs. Steve Nevey of Red Bull Racing explained that a wind tunnel car is continuously tested in as many aerodynamic configurations as time permits. He went on to say that the advantages would be immense if that precious next step could be taken to putting parts on the cars for actual racing. Material manufacturers have improved the physical properties not only for functional testing, but also for small volume production.

12:30 Buffet Lunch

Session 3 Medical

14:00 **Medical Modeling From a Surgeon's Point of View**

Dr. Fernando Urrutia, MD
Plastic Surgeon (Mexico)

The communication between doctors and the people running the systems for additive fabrication is important. Medical models are typically useful, no matter their size or complexity, when you are with a patient or in an operating room. And, having the right information is critical. Advances in medical modeling software and hardware are promoting a strong communication bridge between all the people involved. Dr. Urrutia will share his experiences on this and related subjects.

14:30 **Bespoke Product Development: Future Lifeline of the Medical Industry**

Dr. Michele Truscott, Senior Lecturer and Project Leader
Central University of Technology, Free State (South Africa)

Long-term growth in the additive fabrication industry will come from designs that are difficult, time-consuming, costly, or impossible to produce using standard techniques. Growth will occur with advances in the current additive processes, coupled with breakthroughs in new materials, which are expected to emerge over the next five to 10 years. These advanced materials will better satisfy the design requirements of many new products. The presentation considers currently available technologies and discusses recent advancements in direct metal fabrication and its potential for revolutionizing the medical industry.

15:00 Break

Session 4 Industrial, Architectural, and Niche Applications

15:30 **Rapid Product Development and the Future of Direct Digital Manufacturing**

Mr. Michael Siemer, President
Mydea Technologies Corporation (USA)

Modern 3D software tools and direct digital manufacturing are changing the world of design. Users of these technologies are no longer limited to engineering professionals, and this is helping to expand the number of applications. Siemer will discuss rapid product development applications that span across many areas, including industrial machinery, consumer products, theme parks, and entertainment. Siemer will also cover applications of additive fabrication for series production. He will conclude by reviewing technologies and applications that set the stage for the future of direct digital manufacturing.

16:00 **Emerging Application of Additive Fabrication to Architecture**

Mr. John Braun, President
Alchemy Models Inc. (USA)

As an early adopter of additive fabrication for architectural/engineering/construction (A/E/C) applications, Mr. Braun has positioned his company to overcome many of the challenges faced in making technology viable in the A/E/C marketplace. Starting with the goal of providing an attractive alternative to the traditional architectural model, Braun has overcome issues in data, software, and hardware. Also, he is working to prove that additive fabrication is much more valuable to the A/E/C industry than simply an alternative to traditional model making. Braun will also share his perspective on the future of additive processes for this industry.

16:30 Break

16:45 **Expert Panel Discussion**

Join the day's speakers for an interactive session of questions and answers. Seek answers to difficult and probing issues and problems.

17:30 **GARPA Party & Reception**

Meet representatives from the Global Alliance of Rapid Prototyping Associations (GARPA) and win valuable gifts and prizes.

