



CANADIAN
PATTERN-
MODELMAKERS
ASSOCIATION

Report
10th International Pattern & Model Making Congress
Paris, France
June 14 - 16, 2006

INTRODUCTION:

Approximately 150 representatives from 6 different countries were present for the 10th International Pattern & Model Making Congress that was held in Paris, France and organized by the mould, pattern & model maker industry association of France (www.afim-france.com). The following individuals attended from Canada:

Mr. Les Payne, Executive Director, Canadian Tooling & Machining Association
Mr. Mrs. Horst Just, H.J. Machine & Pattern Ltd.
Mr. Mrs. Herb Deutschmann, HD Patterns & Matchplates Inc.
Mr. Mrs. Andrew McTear, Prothane Ltd.
Mr. Mrs. Sean McTear, Prothane Ltd.

OBJECTIVES:

- Participate in the 10th International Pattern & Model Making Congress and use the opportunity to network with other countries.
- Represent the Canadian model and pattern making sector and discuss technology changes specific to the industry.
- Obtain each representative country's report on business conditions.
- Visit local plants to assess technical levels of the French industry.
- Attend the technical seminars that were provided.
- Distribute our Canadian Tooling Industry Buyer's Guide

REGISTRATION & WELCOME DINNER (June 14, 2006):

Delegates arrived in the afternoon and registered during the welcome reception at a yacht club on the River Seine.

THURSDAY PLENARY SESSION & SPONSOR PRESENTATIONS (June 15, 2006):

Welcome address was provided by Ms. France Desjonquieres-Laly, President of AFIM and owner of MBB (www.mmbpro.com). All of the congress sponsors provided quality booth displays of their product lines during the conference. Plenary presentation sessions included:

A) **Innovations In Model & Mould Manufacturing:**

P. Christou, European Technology Manager for Huntsman in Texas (USA) highlighted developments of tooling boards; seamless modelling pastes; high temperature prepreg moulding materials; stereolithography (RP); vacuum casting; and "cliffhanger" (casting near net shape prior to machining profile of finished shape). Visit www.huntsman.com, click on "Advanced Materials".

B) **Resin Infusion Technology:**

J.F. Blanchard of Axson Polymer Technologies announced that Axson has launched a new range of resins dedicated to the infusion process together with a comprehensive pack of ancillary products including fabrics and vacuum accessories. Visit www.axson.com.

C) **Rapid Prototyping:**

Several topics pertaining to the direct manufacturing of metal parts & tools included:

- **Manufacture of Stainless Steel Parts:** G. Jandin and J.M. Berton of MB Proto reported that MB Proto has worked with MCP-HEK Group for over 2 years to produce steel parts using a selective laser melting process. Visit www.mcp-group.de.

- Laser Direct Manufacturing of 3D Multimaterial Objects: This presentation, by F. Bayle Enise of Ecole Nationale d'Ingenieurs de Saint-Etienne, included studies of different selective laser sintering processes; different powders; width of the laser sintering line; beam velocity V.; geometrical accuracy of fabrication; porosity; and micro-hardnesses were compared and analyzed. Email address is bayle@enise.fr.
- Manufacture of Injection Moulds Out of Standard Tool Steel Using Direct Laser Forming: This presentation, by Mr. Stephane Abed of CLFA Fraunhofer ILT/ENSMP, talked about direct laser forming and the advantages it offers to make use of standard metallic materials such as tool steel, aluminium and titanium alloys. It also allows production of inserts and conformal cooling channels (near the mould surface) to enhance cycle time reduction. Email address stephane.abed@mat.ensmp.fr.
- Powder Technologies and Applications: Dr. L. Lazzarotto of CETIM discussed a research and development project that is focussed on powder technologies and applications. It is an innovative method to produce moulds with different hard materials (tungsten, carbide and ceramics) and is a new technology for manufacturing polymer components at low temperatures. Visit www.cetim.fr.

THURSDAY EVENING DINNER:

The evening dinner was at the La Brasserie Mollard Restaurant, founded in 1867, with a distinctive 1900's décor.

FRIDAY PLENARY SESSION (June 16, 2006):

Plenary presentations on Friday morning included:

- A) **Model Making & Its Applications – State Of Art:**
Alan Bernard, doctor, engineer and university professor, of AFPR (which is a French association of Rapid Prototyping) presented a general overview of the tool and pattern manufacturing professions highlighting target positioning, handy scan, Vx-scan, and raindrop technologies, and discussed European findings and funding of R & D projects.
- B) **Development of Packaging – Pure Poison Perfume:**
F. Gauthier and D. Richard of Christian Dior discussed the redesign of the pure poison perfume bottle and their promotional video was viewed.
- C) **Evolutions in the Automotive Model Making Community:**
M. DeLafontaine, Manager of Stamping at PSA (Peugeot), reported on the massive use of virtual definition in the design creativity reducing the modeling needs and replacement of prototyping by numbers simulation – fully numerical seems unavoidable – technical people go further.
- D) **Country Reports:**
Country reports were presented by Canada, France, Germany, Great Britain and Italy along with a report from the International Special Tooling & Machining Association (ISTMA).
- E) **Next Congress Location:**
Following lunch, representatives met to discuss the location of the next international congress (11th). It was noted that following the 1988 meeting in Paris, France it was the turn of Toronto, Canada in 1991. Canada did not offer to host the next meeting, however Les Payne did offer to explore further dialogue with the ISTMA Board following his suggestion contained in the last paragraph of Canada's country report, which was agreed to.

FRIDAY AFTERNOON PLANT TOURS (June 16, 2006):

Canada's delegates participated in two of the afternoon plant tours as follows:

A) **D3:**

This company is a subsidiary of the Pininfarina Group that designs models and prototypes for the automobile industry. We were shown a Renault Egeus concept car.

B) **Manufacture De Sèvres:**

From its beginnings in Vincennes in 1740, the Manufacture De Sevres has been producing artistic works in ceramics. This is now a state-run institution that is supervised by the French Ministry of Culture. Visit www.manufacturedesevres.fr.

CLOSING DINNER:

The Congress closed with an evening at the Musée des Arts et Métiers – a museum featuring an exhibition on current and past technology of which the French are particularly very proud. A special dinner with fine French food and wine was served in the museum's beautiful gothic chapel. Upon departure from the museum we were unable to cross the street to reach the bus because approximately 5,000 – 10,000 roller blade skaters swept through the city stopping all traffic! We understand that this is a regular Friday night summer pastime in Paris.

COMMENTS & ADDITIONAL ACTIVITY:

A) **Comments:**

The lack of participation from Asian countries may suggest a possible problem with the planning of this meeting by the host nation. Most of the conference material and registration package was quite late in being distributed. While most of the pattern & model making sectors around the world are going through major changes, there remains many successful companies operating. The largest European pattern shops have long ago diversified into many other sectors to remain operational and competitive.

Many European countries still produce their own consumer products with distinctive and unique design features. This ability to competitively design and produce goods is the result of collaborative research and development work between the tooling manufacturer and their customer or producer. European technology centres seem to always be working directly with the tooling industry on many types of projects. Here in Canada we have the National Research Council (NRC) and the universities; however it does not seem to be the same type of business relationship that is focused primarily on the needs of private industry.

B) **Additional Activity - Composites:**

The UK pattern makers association representatives, upon learning of my visit to the United Kingdom, invited me to attend their annual meeting on June 27th, 2006. The Pattern, Model & Mould Manufacturers Association (PMMMA) has approximately 50 member companies and was meeting with the larger GTMA with the objective of closer relations with them. The PMMA is aware of our efforts with the Canadian Machine Tool Die & Mould Federation and were hoping to benefit from our experiences.

The meeting was held at NPL Technologies in Nuneaton (near Coventry), England. Part of the meeting involved a tour through NPL Technologies hosted by Tony Lowe. NPL is one of the largest pattern shops left in the UK and the original Nuneaton Patterns has undergone many changes over the last 10-15 years.

Tony joined our group visit to Germany in 1998 and as a result of this visit he moved his company aggressively into automotive Formula One model and prototype work. One year ago they started to produce composite parts for racing cars and the aerospace industry which required new staff training and heat treating capabilities. This diversification is a perfect fit with NPL's model making, pattern making, and CAD/CAM capabilities. Tony remarked that his future growth should come from this

department. NPL also has approximately 300 patternmakers working in their Mexico location. Visit www.npltech.co.uk for more information.

A further sign of this growing industry ...Composites Atlantic is a company in Lunenburg, Nova Scotia, Canada that employs 250 people and is co-owned by the Province of Nova Scotia and EADS in Europe which is the integrator of airbus in Europe. They expect to add 50 more employees as a result of recent contracts.

Respectfully submitted,



Les Payne
Executive Director, CTMA
Secretary/Treasurer, CPMA

LP/jmc