

Euro MIM Group Open Meeting

Location : WorldPM 2016, Congress Centre Hamburg

Sunday 9th October 2016 at 1630-1830h

Co Chairmen: Dr Frank Petzoldt and Dr Bruno Vicenzi

1. Welcome and Introduction of participants

Dr Frank Petzoldt and Dr. Bruno Vicenzi welcomed the 150 attendees

2. Trend Survey Feedback by Dr Bruno Vicenzi (Clayver srl)

Dr Vicenzi gave an overview of the Industry surveys which had received replies from 24 companies down from 30 last year. MIM surveys are conducted every year since about 12 years. The full feedback on the survey is available to EPMA members only.

The general assessment of the business is good but not as good as in the best years. The expectations for next year is positive.

The “state of business index” is still positive since 2010, but it goes up and down with a 4 year’ cycle. We seem to be at the end of a cycle in the lower position. We will see next year if this index goes up.

The “business trend over the next 12 months” is positive, but has the lowest value since 2010. Only 2007-2008-2009 were much lower.

The addition of new capacities is still high and is the highest value since 2011.

The main problems that slow down acceptance for MIM are awareness of MIM and price competition.

Best medium term prospects for MIM are medical and automotive. With automotive going up compared to previous years. Consumer goods is 3rd but with very high increase compared to previous years.

3. Market Overview by Keith Murray (Sandvik Osprey)

Mr Murray gave an overview of the MIM market from the viewpoint of Sandvik as a powder manufacturer including comparisons with the markets in USA and Far East. This indicated that although growth was continuing in Europe and USA the Asian market was still expanding at a faster rate to the extent that it now took some 70% of the world market.

There had also been some interesting changes in the distribution of sales by sector with Electronics making significant gains in the last few years. This is not in agreement from the Eu survey presented by B Vicenzi. The reason being Asia is using a lot of MIM part for electronics.

The MIM market evolution is expected to be a 3.100 Million \$ market for 2020. With Asia being the first market.

The significant issues for the next 12 months are linked to the acceleration for development of electric vehicles in the future, political instability in Eu (Brexit, election) and general slow economic forecasts for 2017.

4. Panel Discussion “What is the potential of MIM for end user’s business”

Dr. Petzoldt acted a moderator and the four speakers panel comprising Dipl. -Ing. Katharina Horke (Rolls-Royce for aerospace application), Dipl. -Ing. Karl-Heinz Otto (Tricumed for medical technology) and Marco Mulser (Fraunhofer IFAM) gave a range of interesting answers to a variety of questions.

The reason for using MIM are linked to

- Cost reduction
- Design freedom for complex shape
- Bio-compatibility
- Process stability
- High volume production

The challenges and wish list from the speakers and the audience are

- Quality checks
- Simulation of shrinkage, furnace, debinding
- CE marking
- Standardization driven by end users,
- Having same powder for MIM and AM that would allow easy transfer from AM prototype to MIM part
- More high temperature alloys
- Use of Magnesium for surgery as it would dissolve in the body
- Demonstrating that MIM parts are Green parts.

It was agreed that this was a useful and informative exercise.

5. EPMA Club Projects.

Some themes for club project were proposed.

- Zero defect program
- Updating and developing new MIM standards
- Developing new materials and powder grades
- Advanced process to include more functionality into components
- Tailored properties of MIM components
- Simulation of the process chain

ISO and simulation show interest from the participant. But no proposal so far has been done.

IFAM Dresden proposed a club project on “**In-situ analysis of the furnace atmosphere during thermal debinding via FTIR**”. Following the discussions, the project will be amended and circulated again.

6. MIM seminar 2017 Proposal

Following the trend survey, it is proposed to organise a MIM Seminar in 2017 oriented from MIM community to end users. The seminar will cover 4 topics:

- Automotive
- Medical
- Aerospace
- Electronics

Proposed date is April 2017

Committee is MIM steering committee & end users willing to join

7. EPMA brochure “Metal Injection Moulding”

This brochure will be enhanced with new MIM case studies. For this, new case studies are welcome from members and non-members. Objective being to have a document explaining what can be done with MIM. This will be beneficial for the whole MIM community

8. EPMA university / lifelong training

Considering the success of the summer school but the fact that summer school reach mostly people who have already some knowledge on Powder Metallurgy, a second summer school for non PM specialists will be set for 2018. For 2017 there will be the usual summer school (19-23 June 2017) and a short course “PM for non PM Specialist” (probably 11 & 12 May 2017).

EPMA is currently preparing a lifelong training module. It should consist of 5 weeks training (lectures + lab work) on the 5 main Powder Metallurgy sectors (Powder, MIM, HIP, AM, Press & Sinter) and 3 weeks’ internship. This module could be partly subsidized by the EIT-Raw Material.

9. Conclusion / actions

- Club Projects: members interested in proposed club projects or interested to propose new club projects should contact EPMA
- MIM Seminar for end users will be a success if MIM community advertise with end-users
- New case studies can be provided for the EPMA MIM brochure and EPMA “case study” website.
- EPMA summer school / short course “PM for non PM specialists”: members to advertise internally and externally as soon as the program is circulated
- EPMA lifelong training: companies willing to join the program to contact EPMA.
- All slides are available on EPMA website

10. Next open meeting will be at EuroPM 2017 in Milan October 1st to October 4th

The meeting closed at 1830h.