OVERVIEW OF THE EUROPEAN MIM MARKET
KEITH MURRAY, SANDVIK OSPREY LTD

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OUTLINE OF THE PRESENTATION

WORLD PM 2016

• European MIM Market in a global perspective
• Market status in North America and Asia
• Technology and Product trends
• Conclusions and outlook
GLOBAL MIM OVERVIEW

Estimated global MIM Production by region

- Americas
- Europe
- Asia Pacific

Estimated global MIM Production by sector

- Medical
- Automotive
- Consumer
- Electronics

Source: BASF / PIM International
MIM MARKET EVOLUTION

2009

$ 985M  CAGR: 15.2%  $ 2000M

Source: BCC Research

2014

2020

$ 3100M
NORTH AMERICAN UPDATE

THE FUTURE OUTLOOK REMAINS POSITIVE

- 2015 saw slower than expected growth in the US MIM market prompted by a decline in the domestic firearms market
- Despite this MIMA, the Metal Injection Moulding Association, reported modest growth in 2015 ‘in the lower single digits’
- This slowdown has driven a shift in the market mix
- Estimates predict 5-10% growth in 2016
- MIM in the USA continues to make inroads in the automotive market with applications covering engine, electrical systems and chassis components

Source: MPIF / PIM International
THE JAPANESE MARKET CONTINUES TO CONTRACT

Sales of MIM products in Japan

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<tbody>
<tr>
<td>Million Yen</td>
<td>18k</td>
<td>14k</td>
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<td>11k</td>
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Usage of MIM materials in Japan, 2015

- Stainless Steel: 65%
- Magnetic Alloys: 8%
- Fe-Ni base: 10%
- Low Alloy Steel: 3%
- Heavy Alloy: 3%
- Tool Steel: 3%
- Others: 3%

Markets for MIM Product in Japan, 2015

- Machinery: 24%
- Automotive: 17%
- Medical: 19%
- Information Equip: 11%
- Lock Systems: 19%
- Watches: 19%
- Communication Equip: 3%
- Others: 3%

Source: JPMA / PIM International
TECHNOLOGICAL DEVELOPMENTS
EXPANDING THE RANGE OF MIM MATERIALS

Aluminium - TU Wien

Advanced Nickel Superalloys - ZMP, RR Deustchland and Schunk Sintermetalltechnik

Magnesium – Helmholtz Zentrum Geestacht

Source: PIM International
TECHNOLOGICAL DEVELOPMENTS
PROCESS INNOVATIONS

Optical Metrology – Parmaco / Alicona

Automation / Inspection – Roboworker Automation

Source: PIM International
THANK YOU FOR YOUR ATTENTION