### Foresight Summary For Magnesium 2005

<table>
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<th>Business Drivers</th>
<th>Issues</th>
<th>Technology &amp; Innovation need</th>
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| **Market Competitiveness**           | Cost of conversion to product  
Corrosion resistance                                              | Optimised casting processes  
Wrought alloys with faster extrudability, easier formability, etc. High volume production  
technique development. More corrosion resistant alloys. Techniques to eliminate  
galvanic corrosion. Low cost surface treatment for protection and aesthetics |
| **Superior product characteristics/Brand differentiation** | Application of Mg for lightest weight solutions  
Increased knowledge base for cost effective product design in Mg  
Light weighting in automotive  
Light weighting in aerospace  
Improved medical devices Mg in consumer products/electronics | Improve public awareness and perceptions of Mg. Education of potential users  
Lower cost alloys with improved properties and performance. Application of state of the art forming processes.  
Exploit EMR shielding and damping advantages. Cost effective decorative coatings. |
| **Material sustainability**          | Recycleability  
Use of hydrogen as a non-polluting transport energy source  
Identification, segregation of EOL vehicle scrap. Efficient recycling of EOL scrap to high purity standard. Special Mg alloys to utilise high hydrogen storage capacity in portable storage systems |                                                                                  |
| **Environmental concerns**           | Minimising automotive engine pollution. Reduced energy consumption  
Elimination of greenhouse gas emissions in manufacturing processes | Use of lightweight Mg engine and transmission components. Use of Mg for weight reduction in automotive bodies/chassis. Minimum weight Mg components in road/rail transport bodies. Replacement of CFC, HFC protective gases with cost effective alternatives |
| **Changing Demographics and lifestyles.** | Supporting an ageing population  
Sporting and leisure equipment | Lightweight Mg appliances for elderly and disabled. Lightweight robotic aids.  
Disseminate relevant material and performance data to manufacturers |

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