SLM is a Pioneer of the Additive Manufacturing Industry

1960s – 70s

Introduction of prototype tooling technologies by MCP Group, the precursor to SLM

2003

Launch of the SLM®250 own developed Mid-Size Machine

2009

Launch of the first selective laser melting system in the market, the SLM®250

2013

Launch of SLM®280 2.0 with Patented Gas Flow Upgrade

2016

Grand Opening of SLM Shanghai Application Center

2018

Launch of the SLM®500, 1st machine with quad-laser technology

2019

Commercial launch of NextGen machine

2021+

Commercial launch of the SLM®800 and SLM®280 Production Series
While Industrialization is the Natural, Timing of Broad-based Adoption Remains Uncertain

- **Current phase**
  - **Phase 1**: R&D & Prototyping
  - **Phase 2**: Transition & Transformation (Small series production)
  - **Phase 3**: High Adoption and Scaling (Mass production)

### Applications vs. Productivity

<table>
<thead>
<tr>
<th>Phase</th>
<th>AM adopters</th>
<th>AM suppliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Proof of concept</td>
<td>Strong focus on R&amp;D</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Parts selection and qualification / certification</td>
<td>Strong productivity improvements e.g. through multi-laser technology</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Full integration of additive in manufacturing chain</td>
<td>Industrialized machines Full automation</td>
</tr>
</tbody>
</table>
Capturing Even Only a Small Part of the Traditional Casting Market Already Offers Vast Potential for Additive Manufacturing

Casting Market 2018

- **Global casting market**: $124bn, 5% CAGR expected until 2025
- **Aluminium casting market**: $47bn
- **Aluminium die casting market**: $25bn
- **Target market**: 5% of aluminium die casting market, c.7,500 machines

Implied Potential Machine Market (Illustrative)

- Total aluminium used p.a.: c.155k tonnes
- Less materials required for AM: c.50%
- Average productivity per machine p.a.: "
- Result: c.7,500 machines

Source: Grand View Research, Company information
1. Assumes 25% of market volume is related to material costs. Assumes $2,000 per tonne aluminium.
2. 500 cc/hr * 8000 hr/year/machine * 2.67 g/cc.
NextGen Machine to Have Key Capabilities for Large Scale Production

<table>
<thead>
<tr>
<th>Parts / job</th>
<th>SLM®280 Single Laser (400W)</th>
<th>SLM®280 Twin Laser (400W)</th>
<th>SLM®500 Quad Laser (400W)</th>
<th>NextGen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17</td>
<td>17</td>
<td>31</td>
<td>80-100</td>
</tr>
<tr>
<td>Build time (hours)</td>
<td>45:32</td>
<td>25:15</td>
<td>24:30</td>
<td>~</td>
</tr>
<tr>
<td>Time / part (min)</td>
<td>160</td>
<td>89</td>
<td>47</td>
<td>&lt;15</td>
</tr>
<tr>
<td>Reduction (%)</td>
<td>44%</td>
<td>47%</td>
<td>&gt;66%</td>
<td></td>
</tr>
</tbody>
</table>

c.300% productivity increase
Increase of all AM market players demonstrates high importance and fast development of AM technology.

The Additive Industry is Not as Niche Anymore as it is Perceived – A Broad Range of Big Players is Active Across the Whole Value Chain.
Additive Manufacturing Fireside Chat
Presented by Meddah Hadjar

Pasi Kangas
VP Technology
Sandvik

Landon Luick
AM Technical Lead
of Blue Origin

Michele Antolotti
General Manager of
Beam-IT

Michael Kenworthy
Head of Additive
Divergent 3D

Meddah Hadjar
CEO of SLM
Solutions