

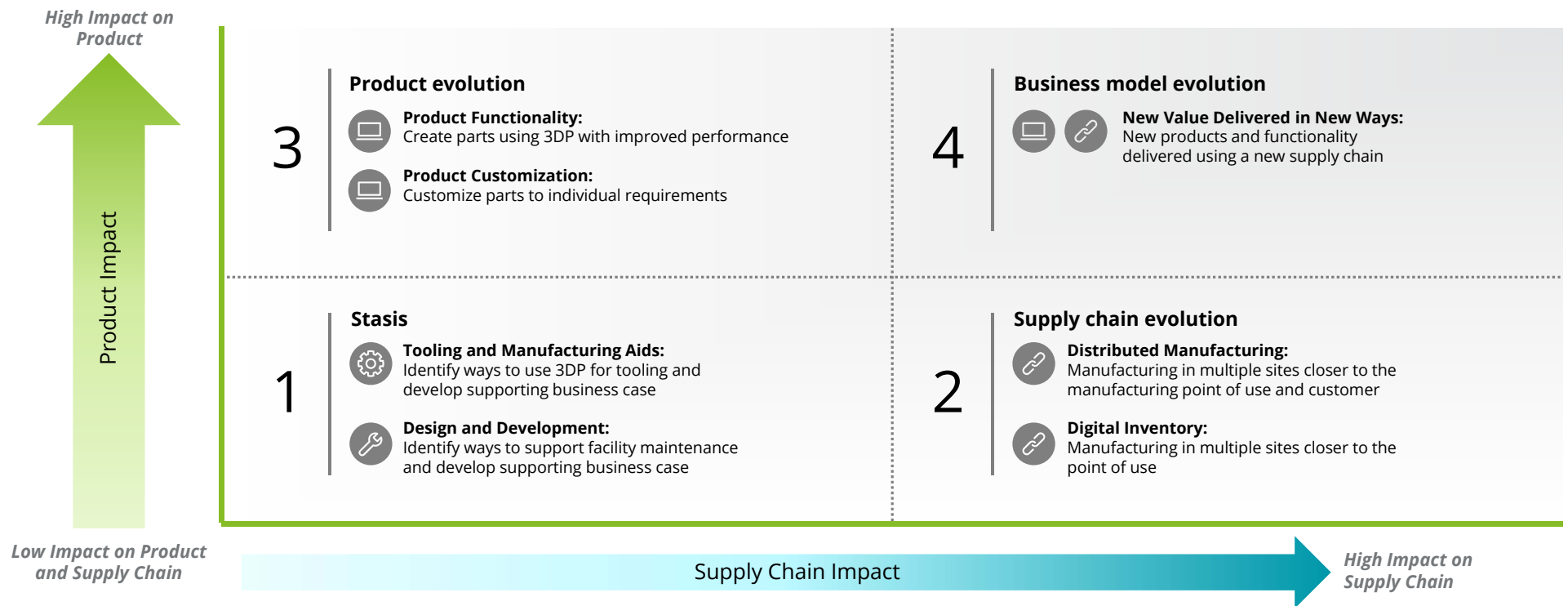


## Realizing value with AM: Return on investment (ROI)

Ian Wing  
Deloitte Consulting LLP  
iwing@deloitte.com

# Sources of Value

Different sources of value are created by quadrant in the Additive Manufacturing map



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## Sources of Value - How can AM add value?

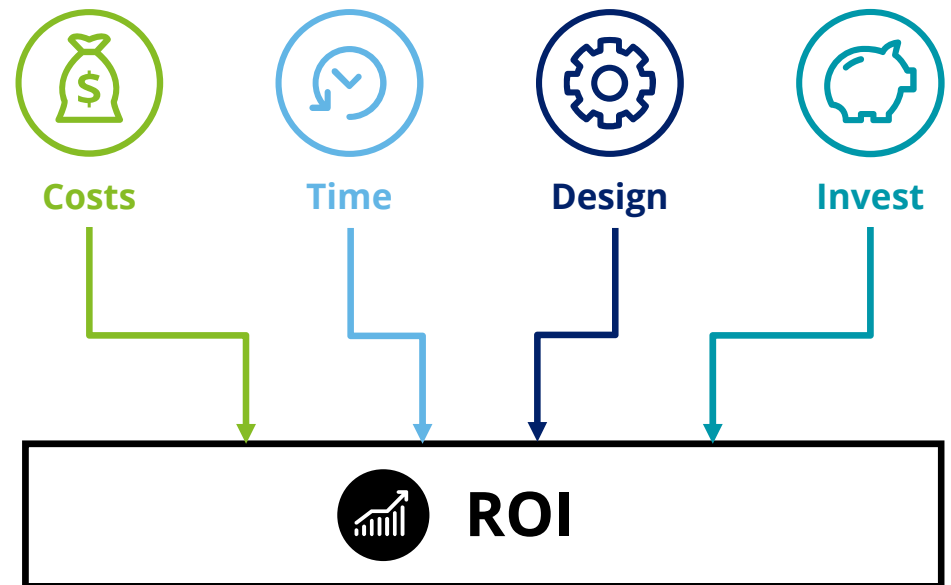
AM's value potential is derived in part from the reduction in both costs and time to a product's overall lifecycle

### Adding Value

AM can reduce costs from traditional manufacturing methods across a product lifecycle and **eliminate some cost factors**.

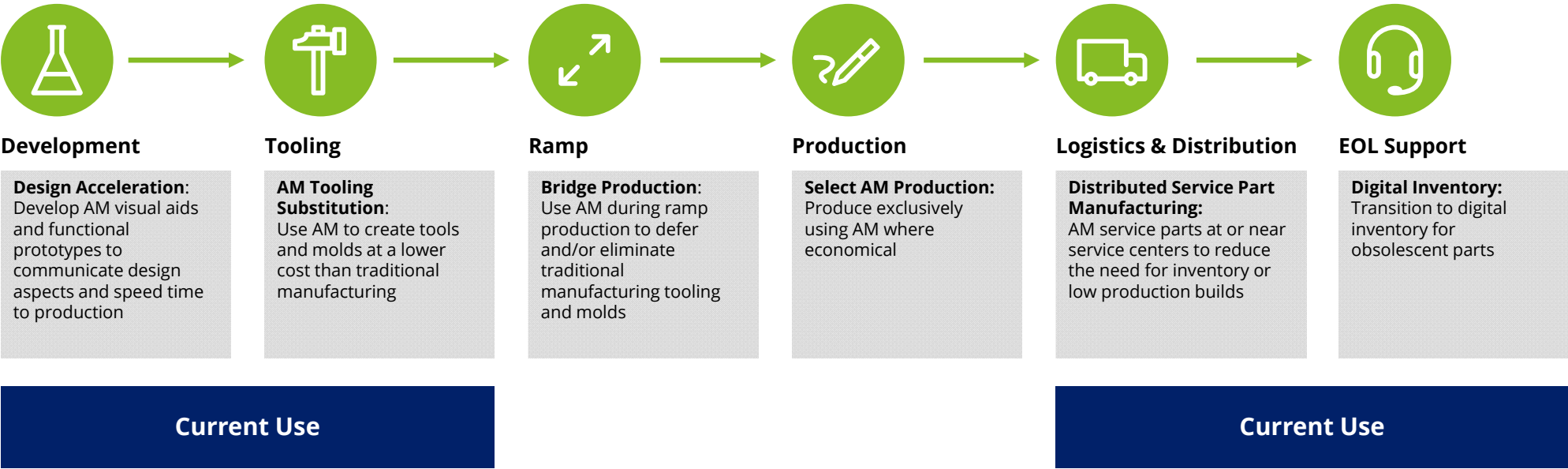
AM technologies can help companies **differentiate** themselves through improvements in time and design capabilities

### Key Analysis Components



# Cost Impact – Across the Product Lifecycle

Understanding AM cost impacts requires taking a holistic product lifecycle perspective



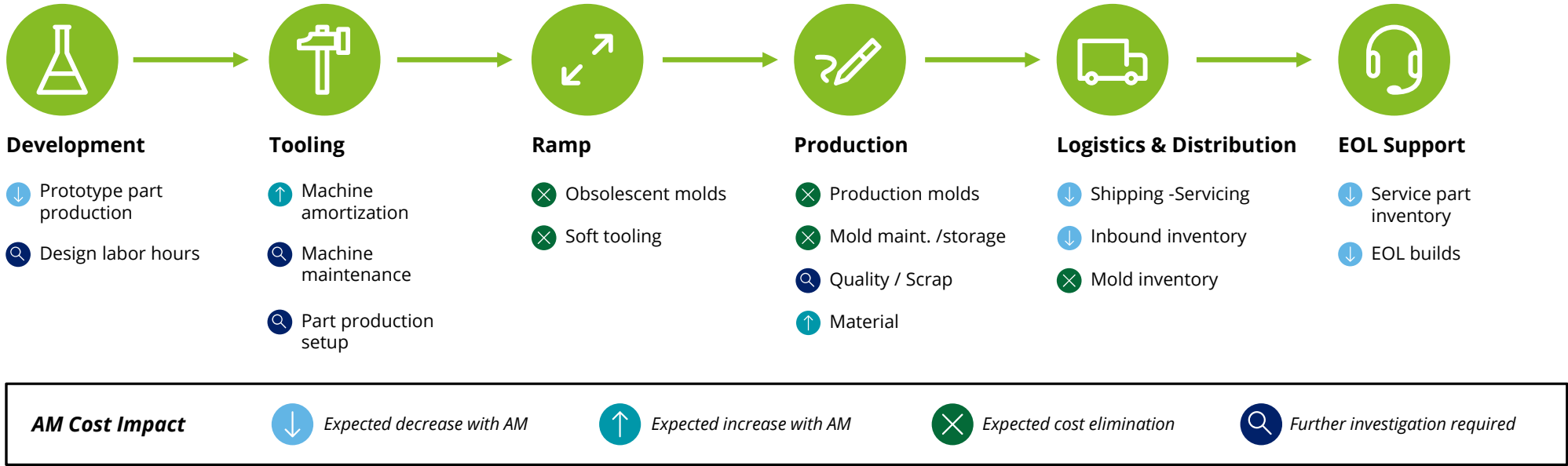
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# Cost Impact - The Cost Model addresses total systems costs

Expanding the scope of AM's cost analysis can improve the potential for cost reduction

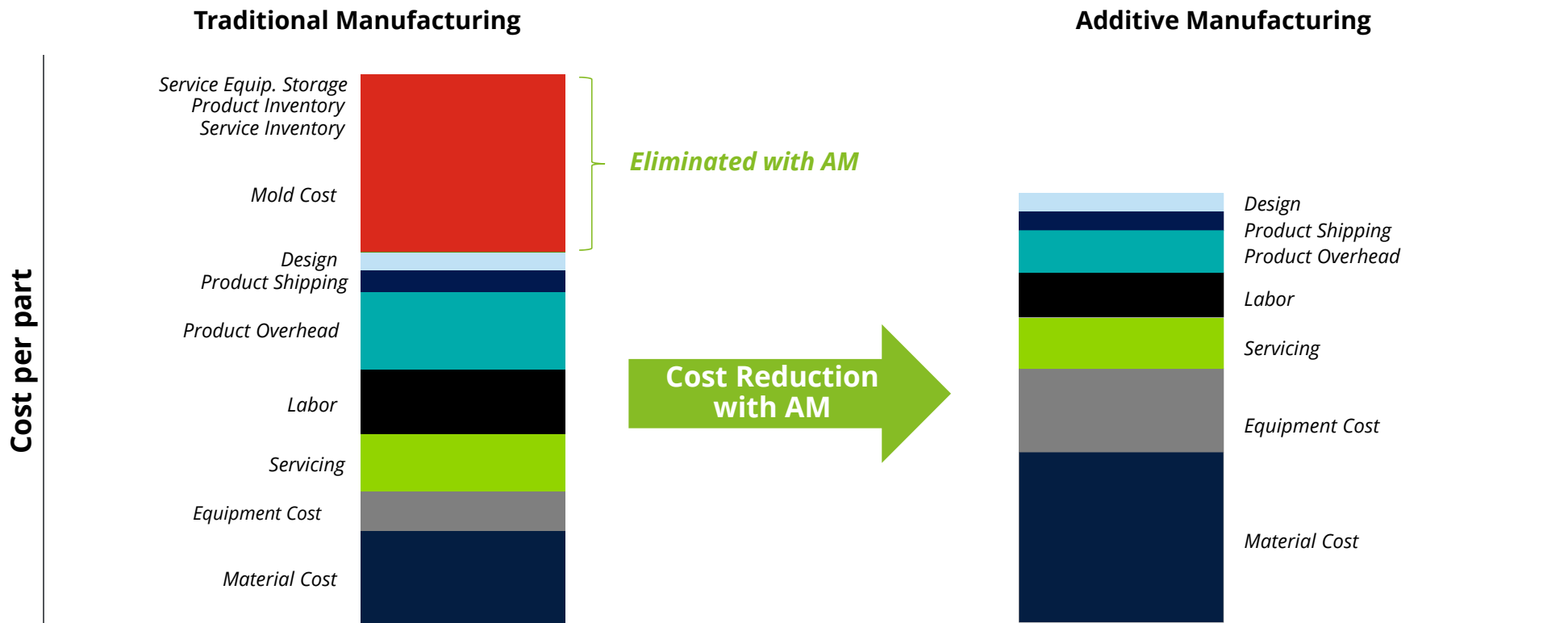
## Product Lifecycle Cost elements



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## Cost Impact - AM product lifecycle cost eliminations

AM can significantly reduce or eliminate several factors in the product lifecycle which can lead to reducing overall part costs

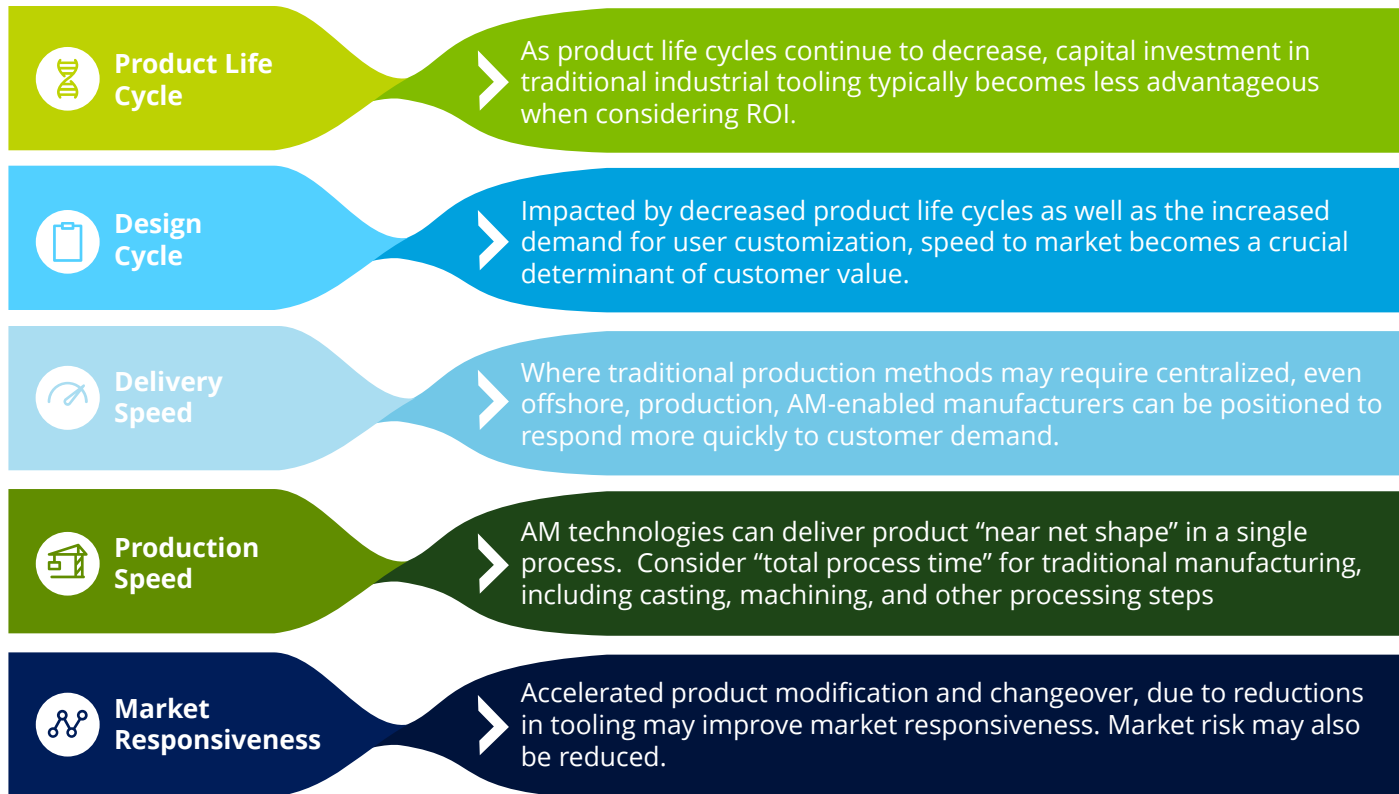


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## Operational Benefits

AM driven cycle time and speed can produce high value operational benefits




## Operational Benefits - Design Value

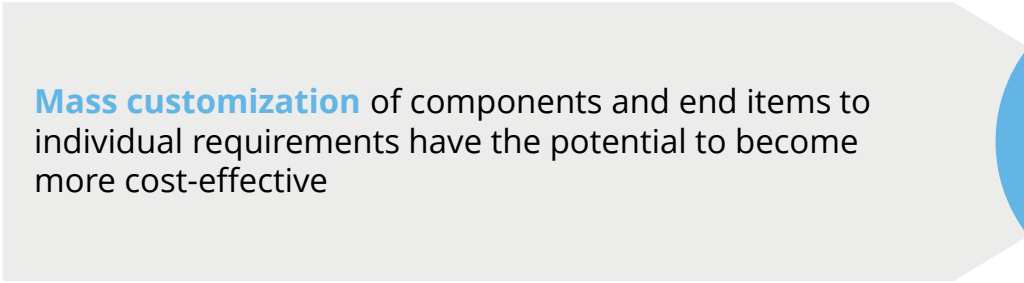
AM's possibility for component redesign and product customization offers significant value potential



### Component Redesign



AM lets designers focus on building **products optimized for performance** rather than for manufacturability



**Mass customization** of components and end items to individual requirements have the potential to become more cost-effective



### Product Customization



## Looking forward



### **Information Management**

- Developing an AM capability will require the necessary supporting IT elements including data storage, computing capacity, modeling and simulation software



### **Production Equipment**

- Production-capable AM systems are evolving rapidly, improving speed and accuracy that continues to expand business case opportunities



### **Raw Material**

- Kilo for kilo, material costs exceed their TM counterparts today, but companies are continuing to collaborate with materials suppliers to drive down costs



### **Workforce Development**

- Organizations should invest in developing and delivering extensive training to establish a skilled workforce for design, engineering, and production

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