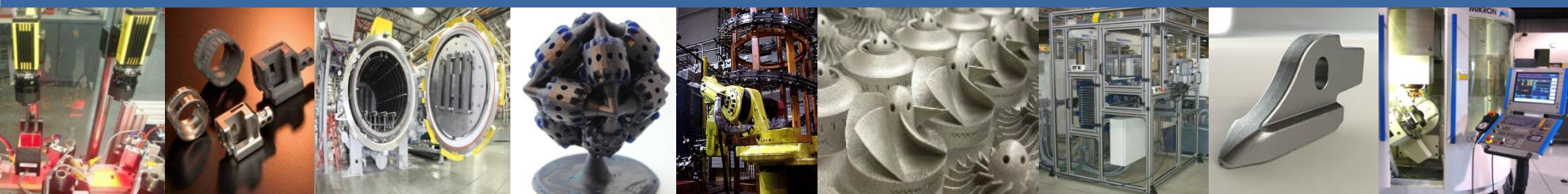




## State of the MIM Industry: North America



[www.ARCGroupWorldwide.com](http://www.ARCGroupWorldwide.com) | NASDAQ: ARCW

Thomas K Houck, Vice President of Operations (Powdered Metal Industry 25+ Years)  
Current MIMA President

- Joined ARC Group Worldwide in 2009 (7 years)
- Formerly held COO position with Cloyes Gear and Products 3 years
- Formerly held GM/Director of Operations US/Asia with Metaldyne (MPG) 8 years
- Extensive manufacturing, supply chain management and financial experience

## ARC Group Worldwide

- ARC Group Worldwide ([NASDAQ: ARCW](https://www.arcgroupworldwide.com)) is a leading global advanced manufacturing and 3D printing service provider. Founded in 1987, the Company offers its customers a compelling portfolio of advanced manufacturing technologies and cutting-edge capabilities to improve the efficiency of traditional manufacturing processes and accelerate their time to market. In addition to being a world leader in metal injection molding, ARC has significant expertise in 3D printing and imaging, advanced tooling, automation, machining, plastic injection molding, lean manufacturing, and robotics. ARC's mission is to bring innovation and technology to manufacturing. Focus on speed to market and holistic solution provider, Many technologies to offer.

- Strong Growth
- Increased Revenues
- Increased Capital Spending
- Increased Workforce
- Increased Exporting

- Stable Wages
- Stable Finished Goods Inventory
- Inadequate R&D
- 3-5 Year Outlook:
  - Economic Growth
  - Raw Materials
  - Geographical Expansion

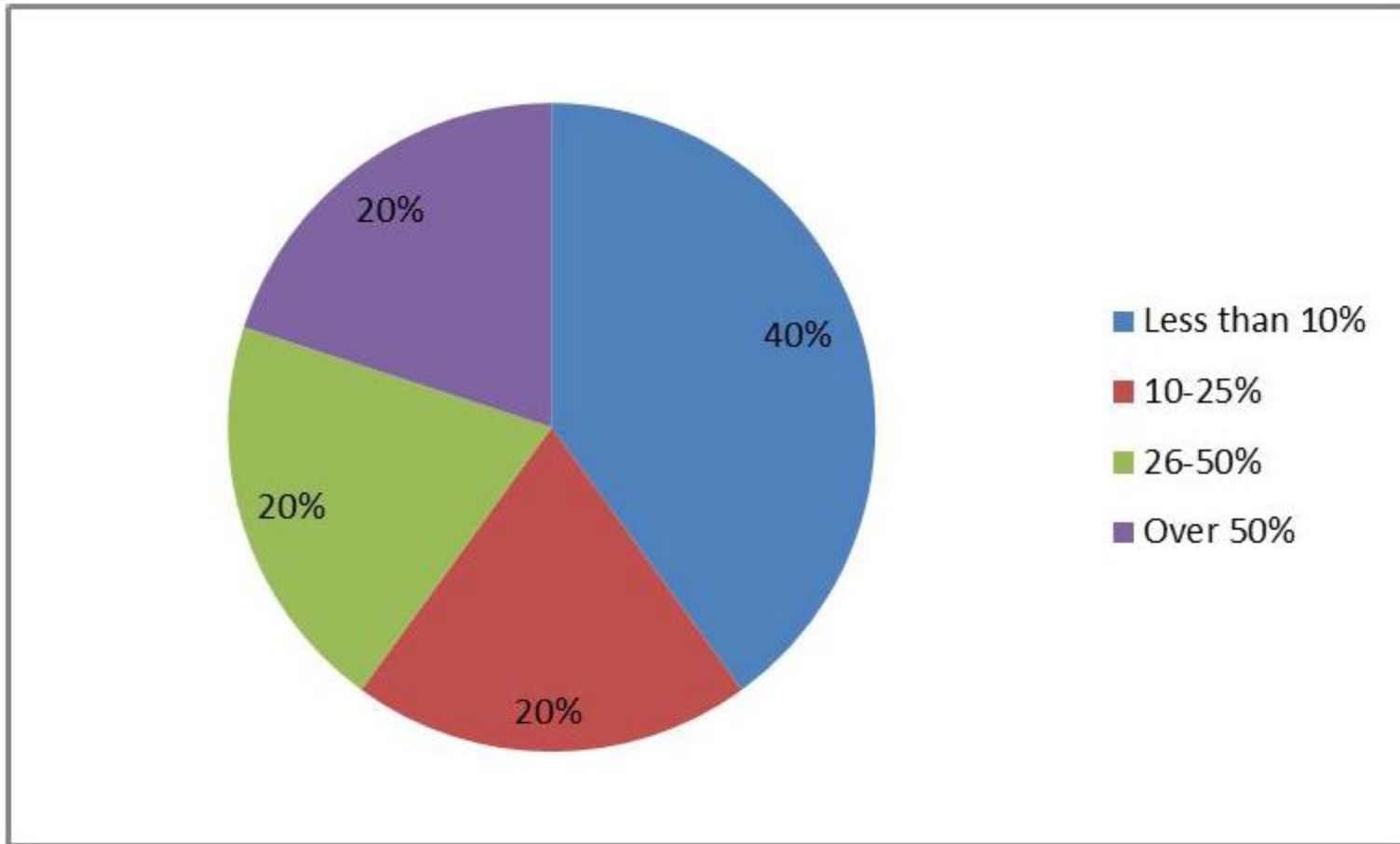
## **Key Business Challenges**

- Skilled Employees
- Customer Requirements
- Technology Advancements

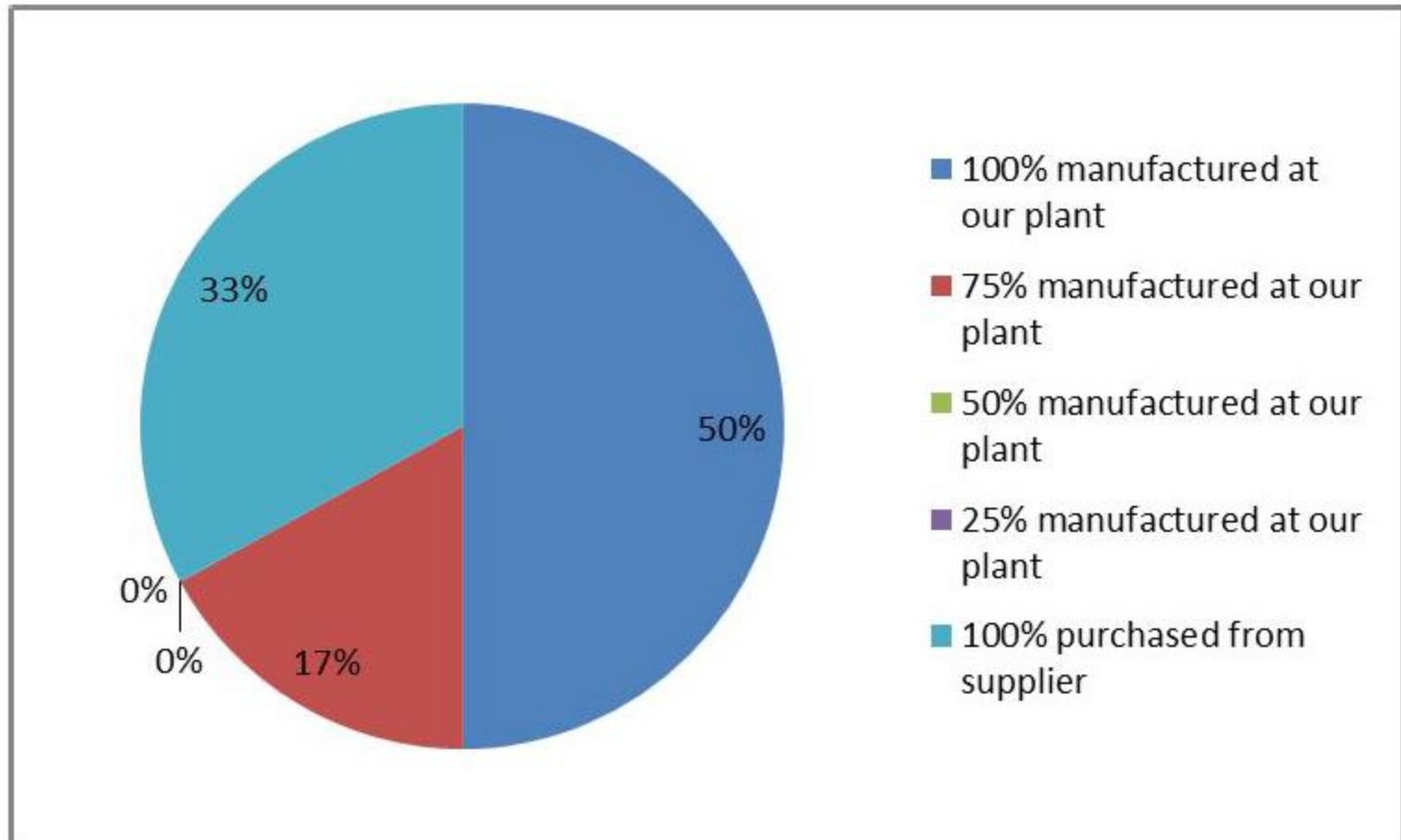
# **Manufacturing & Engineering Challenges**

- Reducing Time to Market
- Reducing Scrap
- Continuous Improvement

## Exported Products

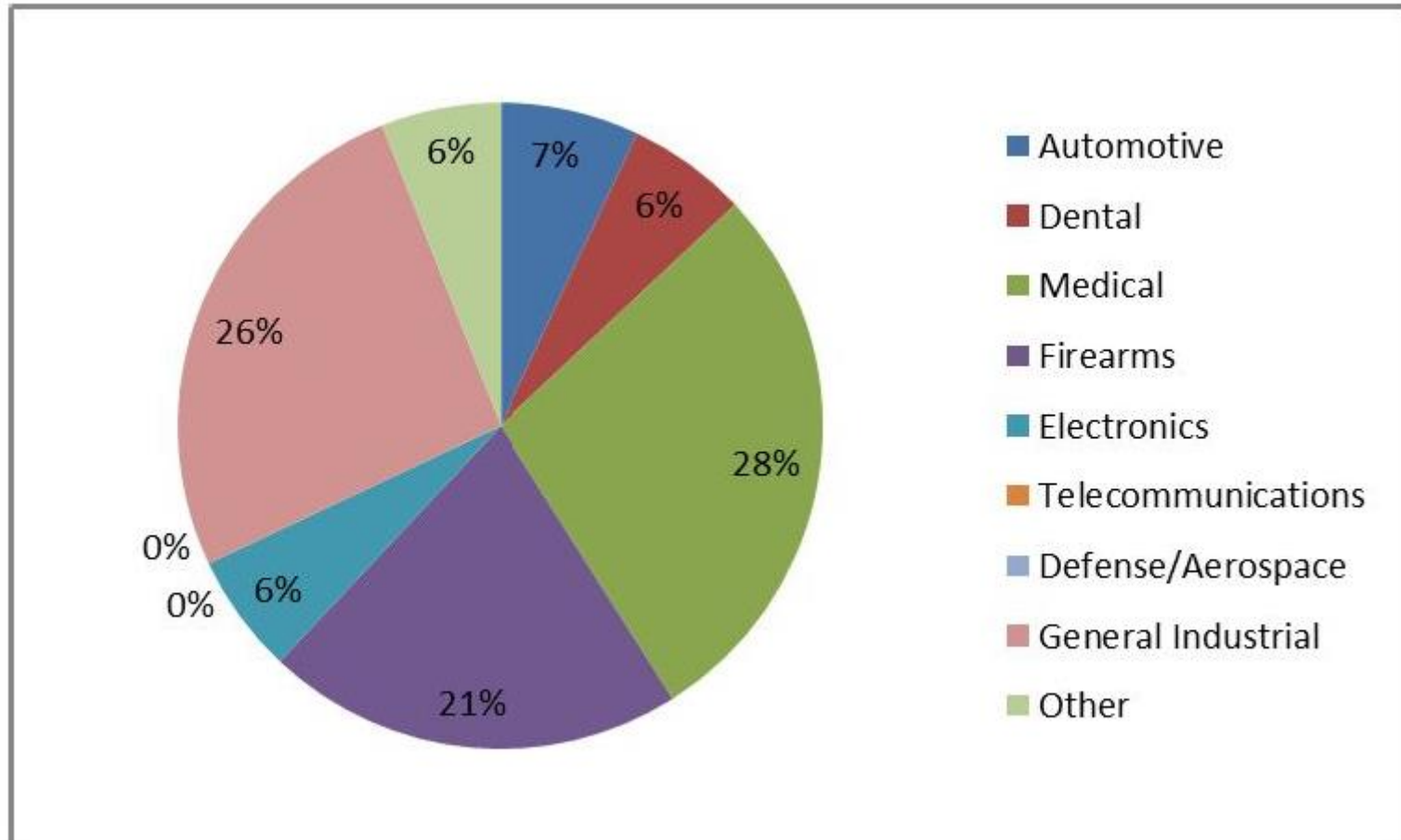


## Where Does Feedstock Come From?

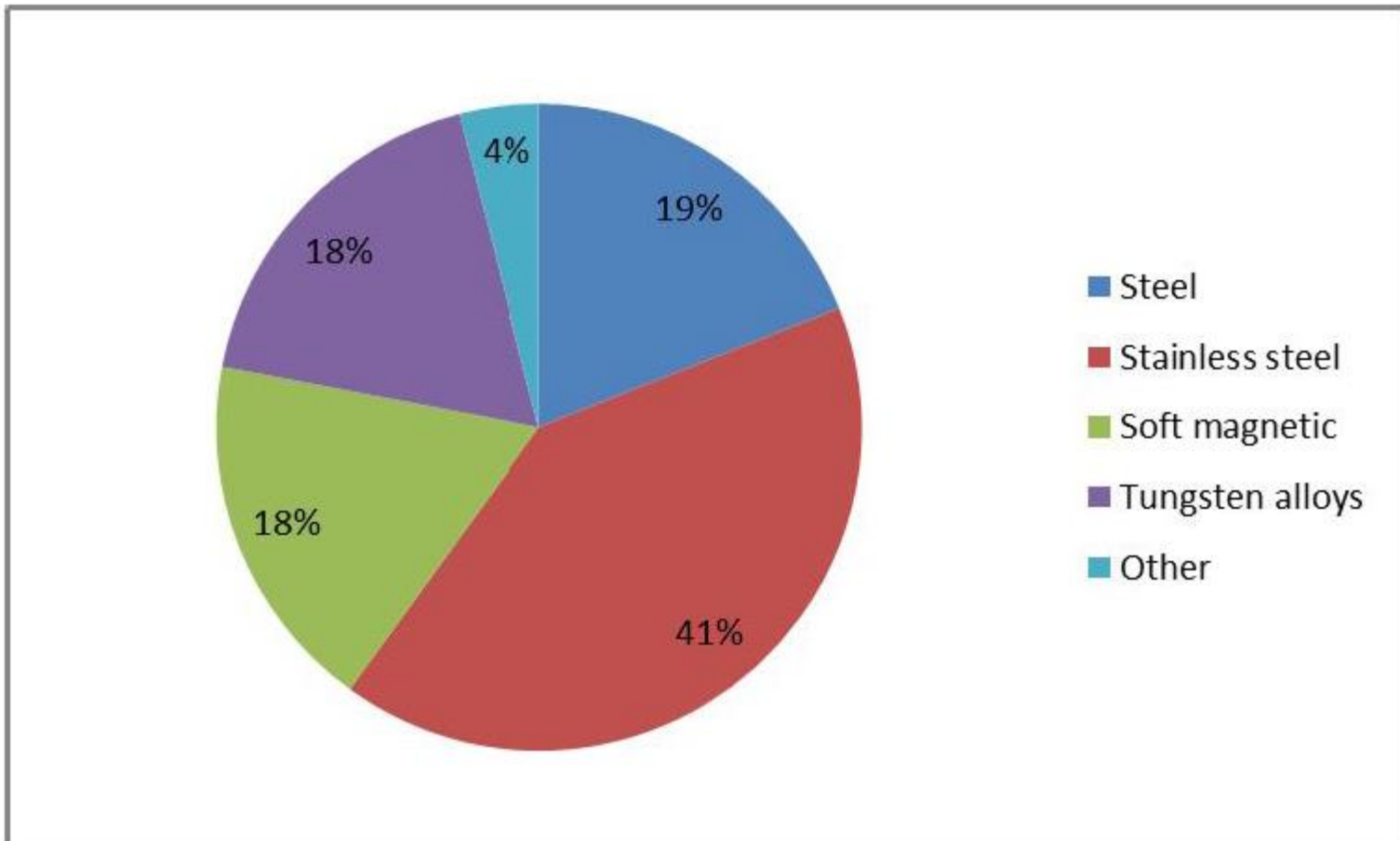




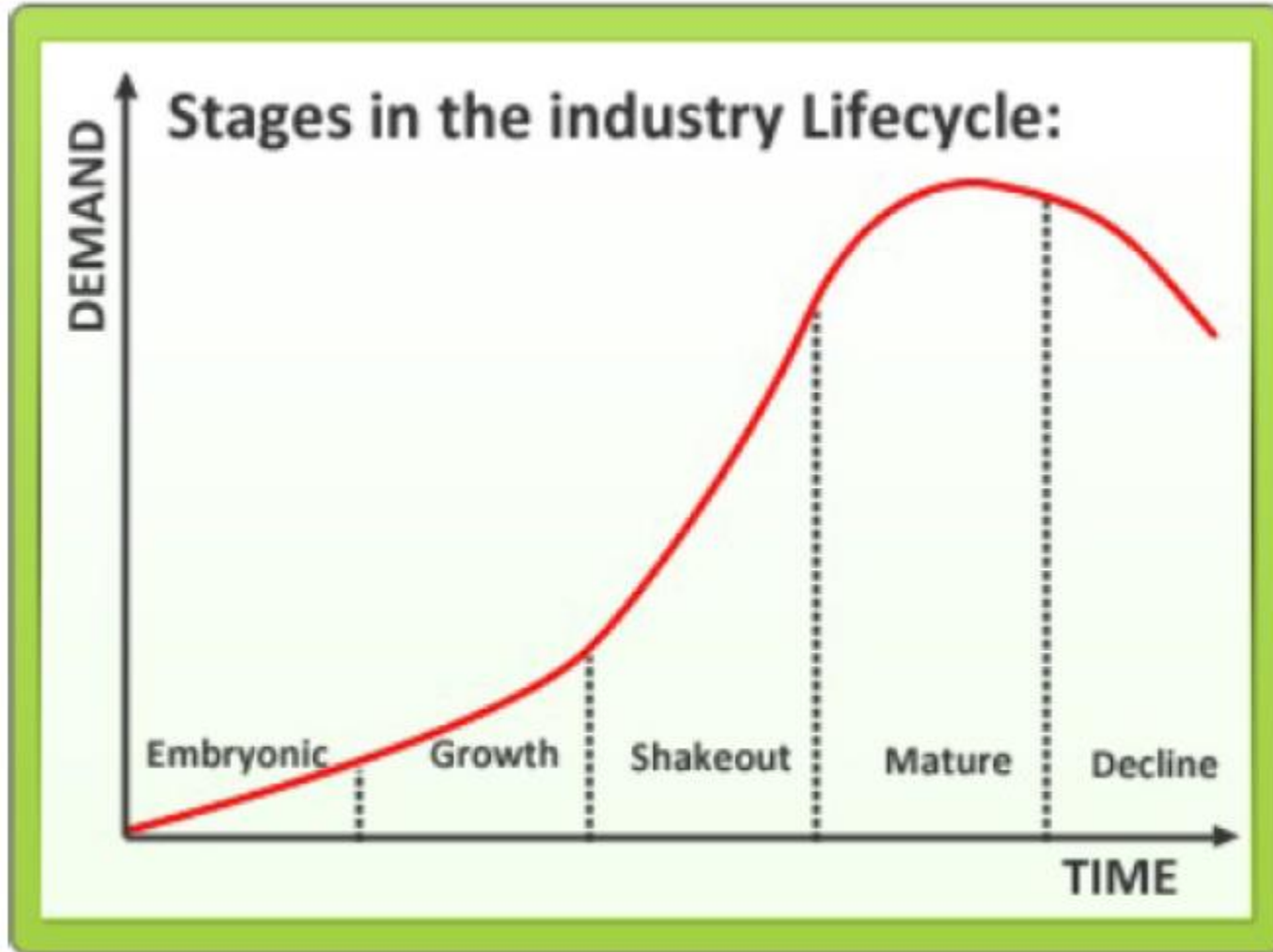
## What Industries Do We Serve? (By Weight)



## Materials (By Weight)



## Industry Lifecycle



## **Additive Manufacturing**

Is a disruptive technology threat - No

Pie in the sky technology that wont evolve - No

A complimentary tool - YES

Little or no threat to MIM - YES

## **Additive Manufacturing Growth**

Additive manufacturing, also known as 3D printing, is expected to grow at a CAGR of more than 25% by 2020.

Diverse market with vendors offering plastics, steel, nickel, cobalt-chrome, titanium and aluminum.

Plastics dominates 3D printing materials market in 2015, accounting for 50% of total market share.

## **Needed Technological for Economic Improvements**

- Rapid tool manufacturing
- Promote MIM more as an engineering solution rather than strictly a net-shape forming process
- Rapid prototyping
- Design for MIM from the start
- More opportunities in the automotive market with new turbo charger systems and smaller engines
- Wider awareness of MIM as a manufacturing option
- More education on MIM process in engineering schools to promote the technology

## **Global Market Growth**

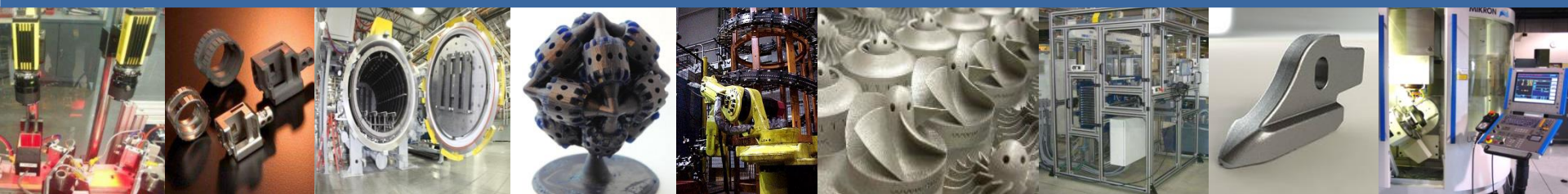
Global powder metal injection is expected to grow 11% during the period 2016-2020.

Five Major Segments for Growth:

- Medical and Orthodontics
- Automotive
- Consumer Electronics and IT
- Firearms / Defense
- Aerospace



**Thank You**  
*A Holistic Solution Provider*



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