



# 3D PRINTING

## THE 4<sup>TH</sup> INDUSTRIAL REVOLUTION



3D printing is poised to transform the way we conceive, design, produce, distribute and consume... almost everything.

**Welcome to the digital industrial revolution.**

“ 3D printing is to goods what the personal computer was to information ”

### THE CURRENT LANDSCAPE

The global manufacturing sector

**US \$12 trillion**

**16%** of the world economy

**310 million** jobs

Top 3 manufacturers  
(% of global manufacturing output)



### THE DIGITAL FUTURE

## The future of manufacturing is 3D

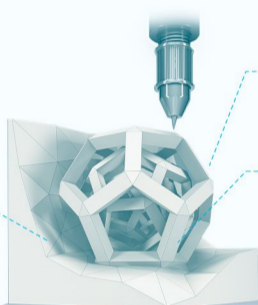
3D printing will transform manufacturing, shifting economic value and jobs across the globe.

#### What is 3D printing?

A process that allows a user to input raw materials and a digital file and receive a solid, 3-dimensional object as output.

**US\$ 4 – 6 trillion**

Impact of 3D printing on the global economy within 5-10 years



**5.7x**

Growth in total 3D printing market over the past 7 years

**12.9%**

Increase in global revenues from 3D print products (2015 – 2016)

Top 5 industries to be impacted

- ▶ Industrials
- ▶ Automotive
- ▶ Consumer products
- ▶ Healthcare and medical
- ▶ Aerospace

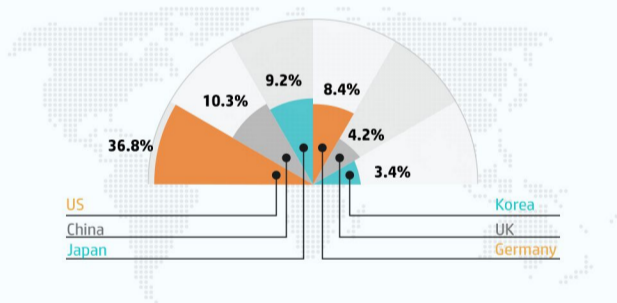
3D printing delivers multiple advantages for leaders

1. Jobs and economic growth
2. Technology and innovation leadership
3. Relevancy in manufacturing 4.0
4. New business models
5. Improved sustainability

### THE GLOBAL PICTURE

## A global phenomenon

Countries are already competing to be leaders in 3D printing. Those that don't invest now could fall behind.



#### Spotlight on the US

Companies including **Walmart, Ford** and **Boeing** have already committed to relocating **22,000** manufacturing jobs back to the US.

#### Spotlight on China

1. Committing **US\$245 million** to 3D printing R&D
2. Placing 3D printers in **400,000** elementary schools

#### Spotlight on the US

1. Unit sales of 3D printers rose **51%**
2. Installed base of 3D printers grew **37%** (2015-2016)

### 3D PRINTING IN ACTION

## 3D printing use cases

Industries are already seeing the benefits of using 3D printing in both prototyping and production.



#### Aerospace

3D Printing has helped optimize design for Airbus jetliner parts.

- ▶ **90% less raw material**
- ▶ **55% less weight**



#### Healthcare

3D Printing has streamlined the design of highly customized hearing aids.

- ▶ **70% less manufacturing steps**

## 3D printing is driving a new digital revolution in global manufacturing.

Countries that act now to capitalize on the shift will position themselves as design and manufacturing leaders for generations to come.



## HP. Leading the 3D printer revolution.

As the global 3D printing leader, HP is playing a key role in accelerating the reinvention of the **US\$12 trillion** global manufacturing industry.

To learn more about HP's revolutionary 3D printers, [visit our website](#).

Source: AT Kearney: 3D Printing: Ensuring manufacturing leadership in the 21st century, 2018.

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