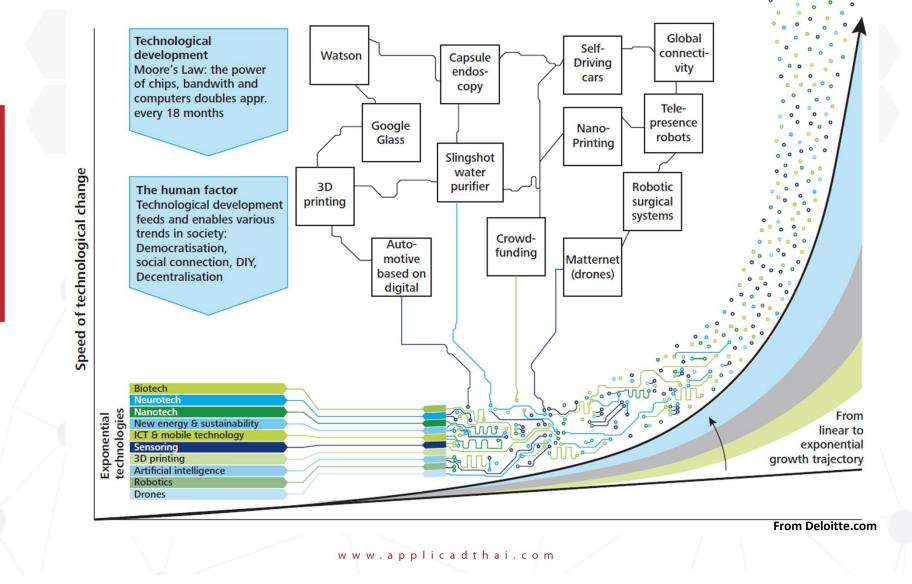
# Industry 4.0 The Future Revolution of Productivity and Competitiveness With 3D Printing



## Definition of Industry 4.0

		First programmable logic control system 1969	<b>4th industrial revolution</b> On the basis of cyber-phys- ical production systems (CPPS), merging of real and virtual worlds Industry 4.0	
	First assembly line 1870	<b>3rd industrial revolution</b> Through application of electronics and IT to further automate production	Industry 3.0	Degree of complexity
First mechanical weaving loom 1784	2nd industrial revolution Through introduction of mass production with the help of electrical energy			Degree of
<b>1st industrial revolution</b> Through introduction of mechanical production facilities with the help of water and steam power			Industry 2.0	
	¥	¥	Industry 1.0	
End of 18th century	Beginning of 20th century	Beginning of 1970s of 20th century	Today From Del	loitte.c

### **Exponential Technologies**



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# NEXT INDUSTRIAL REVOLUTION



# THE FACTORY OF TOMORROW



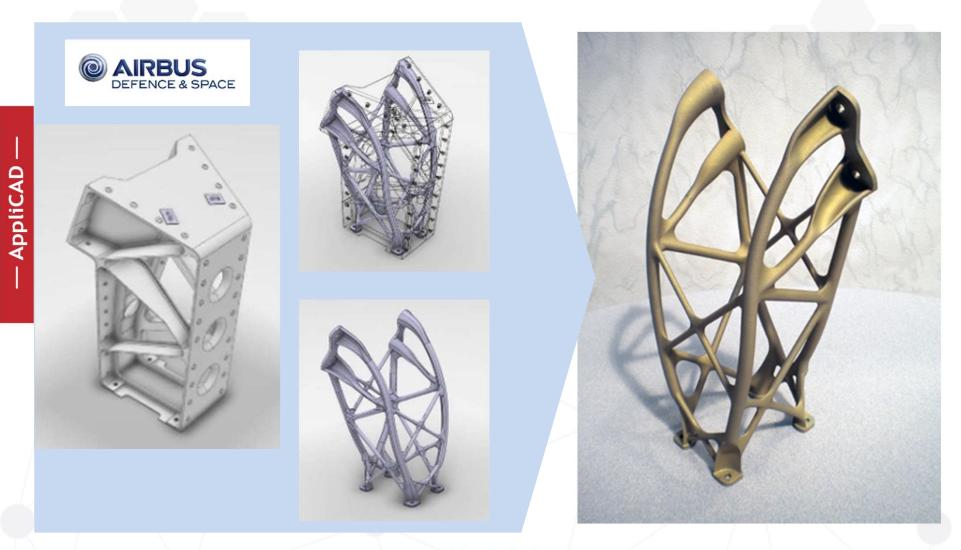
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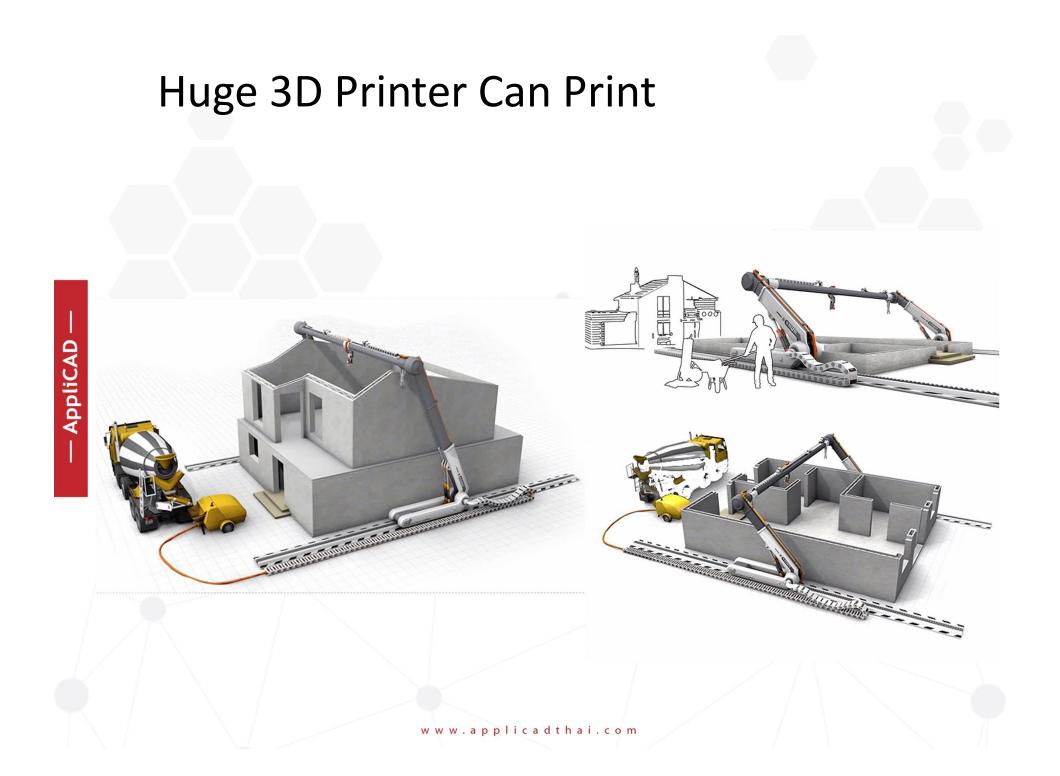
## What's 3D Printing?

### "Revolutionizing the Way Things Are Made"



### AIRBUS 3D PRINTED COMPONENTS



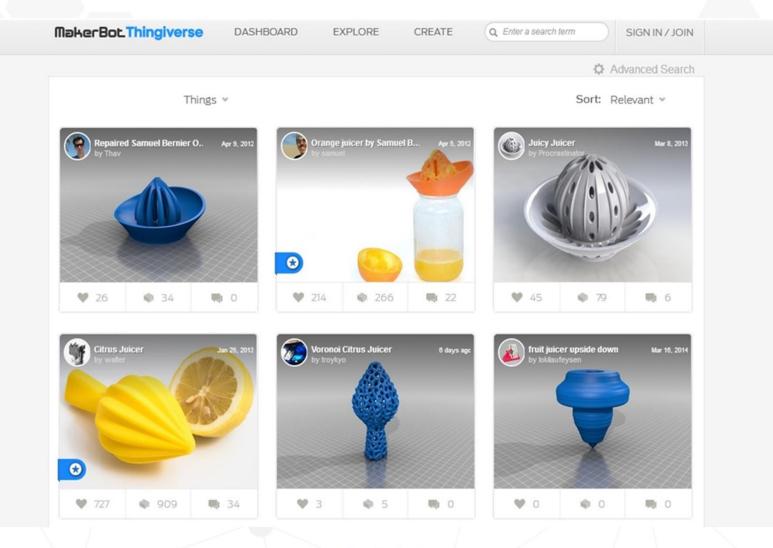




## **3D PRINTING IN PRODUCTION**



## **PERSONAL FABRICATION**



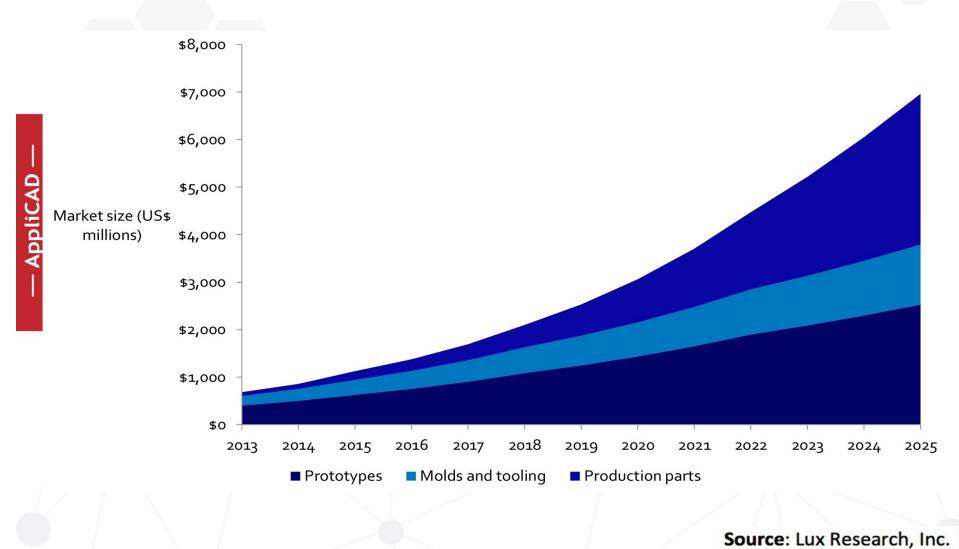
## **3D PRINTING MARKETPLACE AND SERVICE**

Ideas made real with 3D printing.



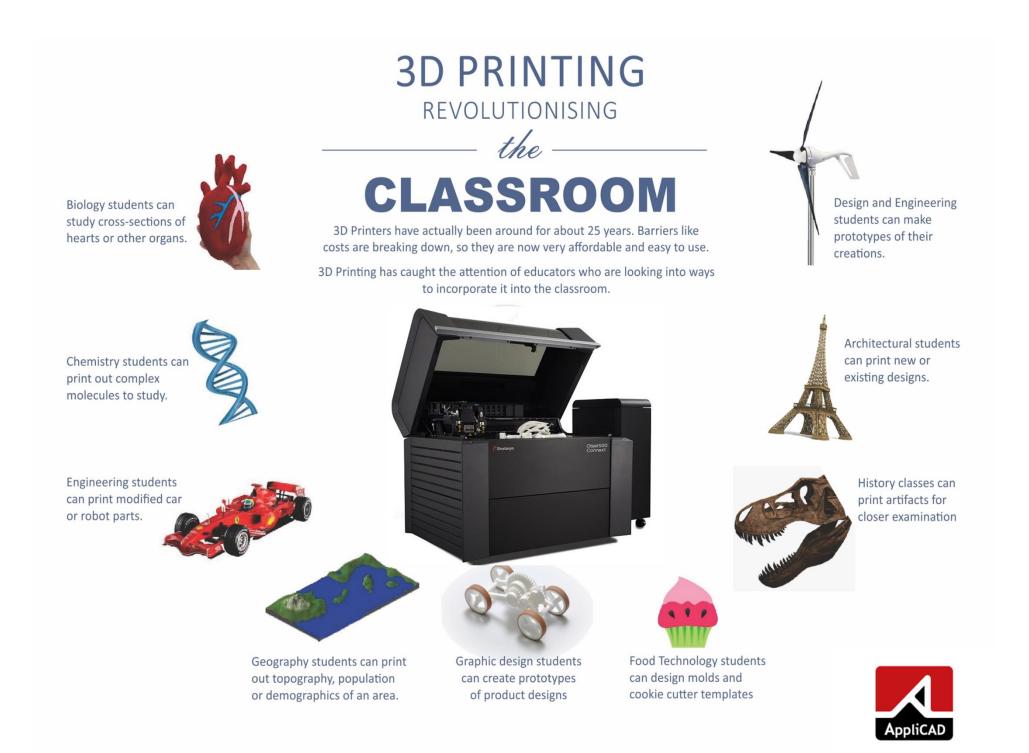
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### Market Trend for next 10 years



www.applicadthai.com

www.luxresearchinc.com

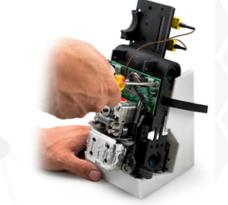


### A Solution for Every Product Stage









### **The Production Series**

Production. Without the line.



#### **The Idea Series** It's not just a 3D printer. It's an idea engine.

AppliCAD

#### **The Design Series** The power of prototyping. Maximized.





## Transform Design and Manufacturing



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IRAID

## A World of Material Possibilities



### Photopolymers

#### Widest Variety of Materials

- Rigid to rubber-like
- Opaque to transparent
- Simulated Polypropylene
- Digital ABS™

#### Realistic

- Smooth surfaces
- Thin layers



#### **Specialty Applications**

- Medical/Bio-compatible
- Hearing aids
- Dental
- High tear resistance
- Overmolding

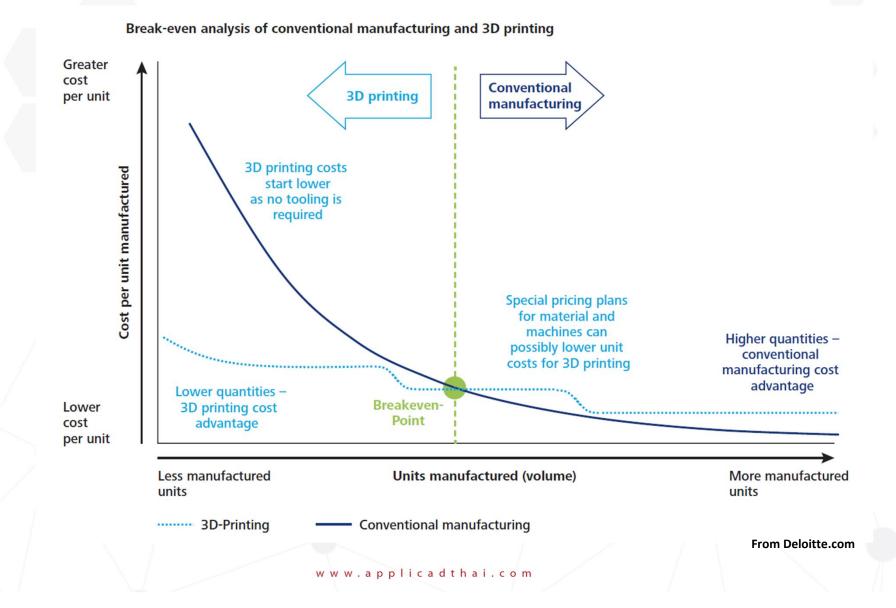
#### Colors

- Cyan, magenta, yellow, white, black and clear bases
- · Hundreds of hues
- Transparent color

## From Prototype to Tooling & Real part



### **3D PRINTING BREAK-EVEN**

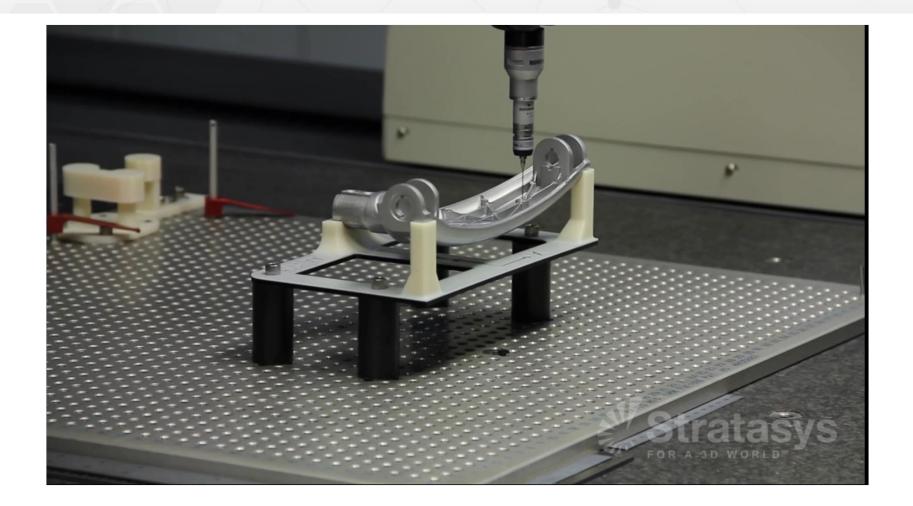


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# **Injection Molding**



# FDM Jig & Fixtures



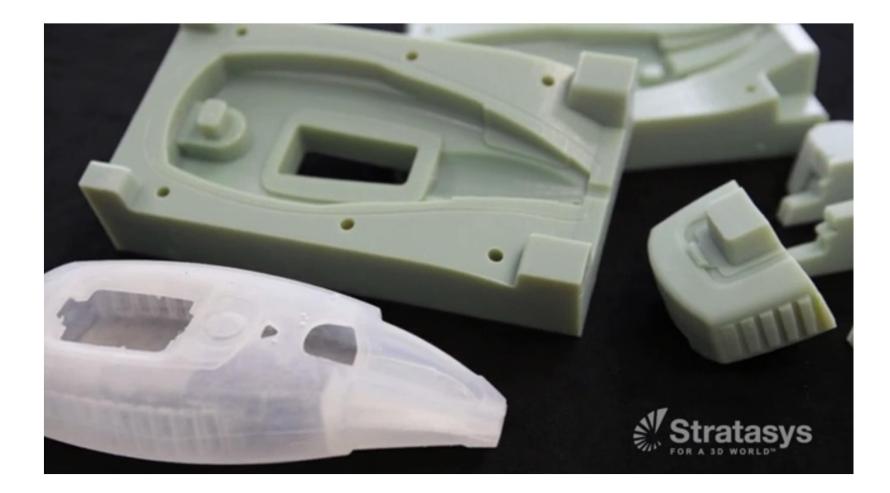
# End of Arm Tooling



# **PolyJet Jigs and Fixtures**



# Liquid Silicone Rubber Molding



# How strong is it?



