

Directions 2014

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3D Printing – A Transformative Opportunity for Print and Manufacturing

Robert Parker
Keith Kmetz



#directions14

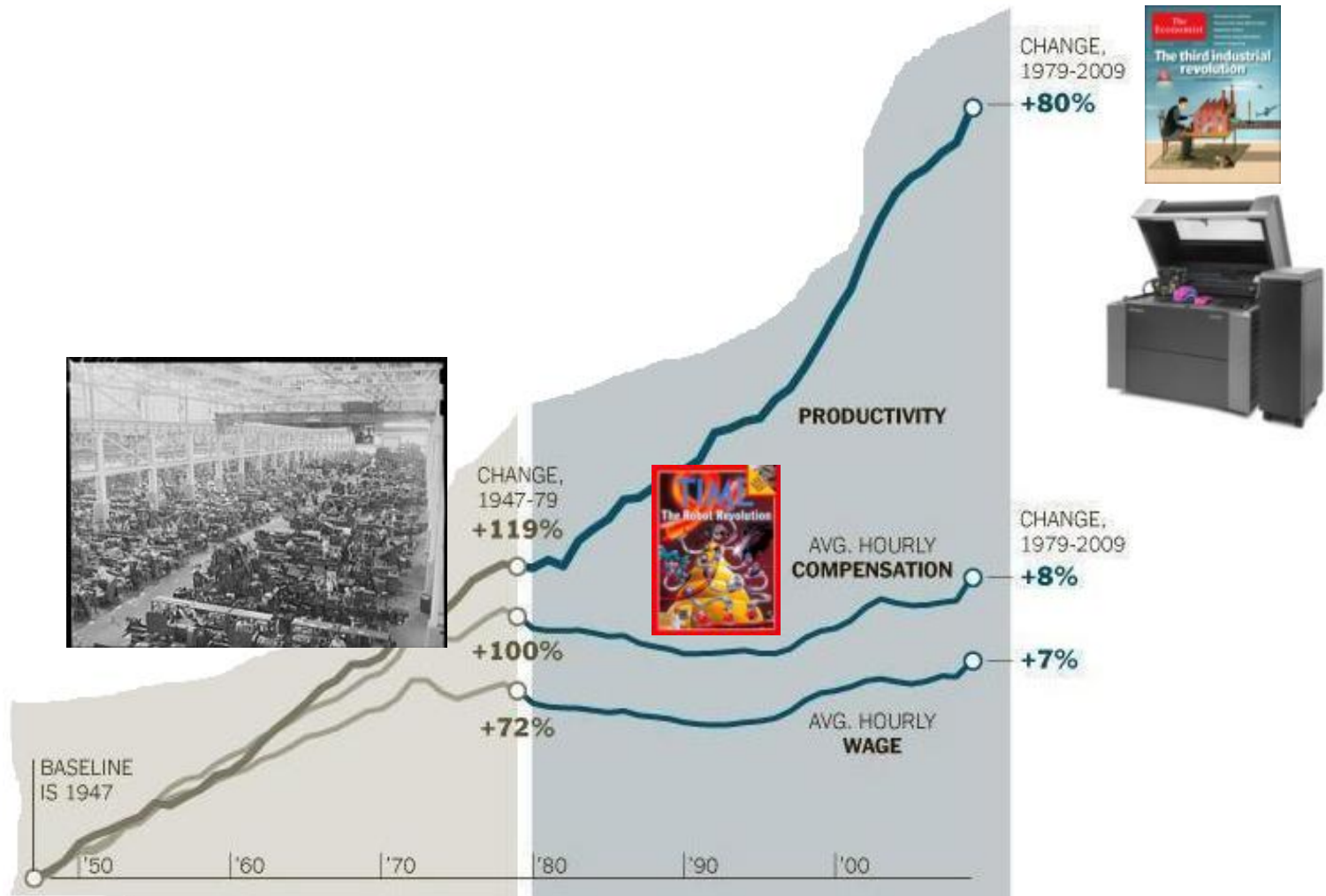


3D Printing and Advanced Manufacturing

The Impact on Product Value Chains



The Productivity Imperative



Five Critical Capabilities Enabled by the 3rd Platform

The 3rd Platform creates the underpinnings for business process transformation...and in some cases, business model transformation

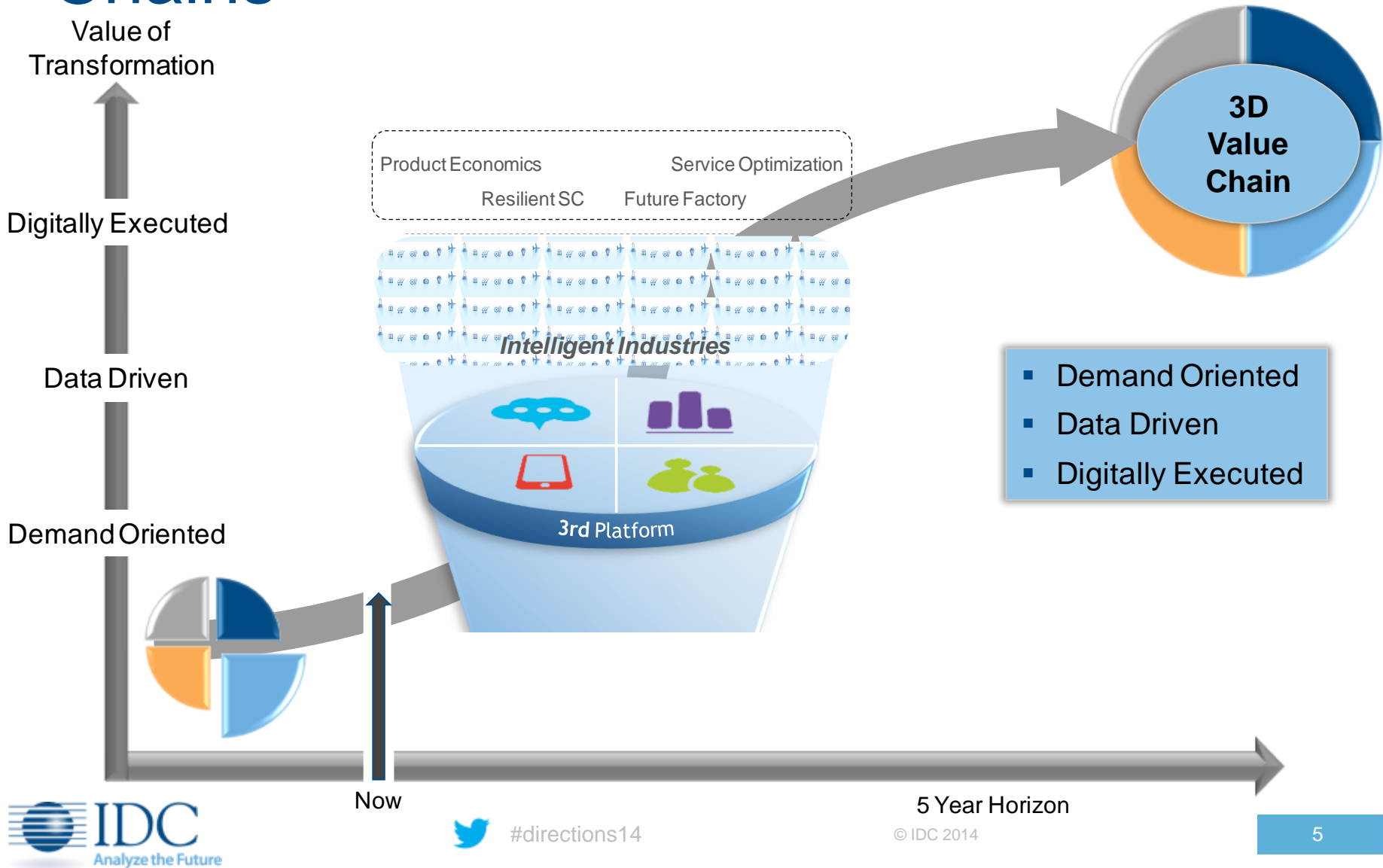
Businesses will be able to transform:

- How they **engage** with customers
- The **speed** at which they deliver their products and services
- How they **innovate**
- Their **resiliency**
- The **reliability** of their operations

With such high stakes, the business is increasingly taking a front seat in technology initiatives



Manufacturers Begin to Build 3D Value Chains



The Impact of 3D Printing

- Mass Customization
- Quality
- Innovation
- Service



Business Benefit and Future Attitudes

Demand Proximity

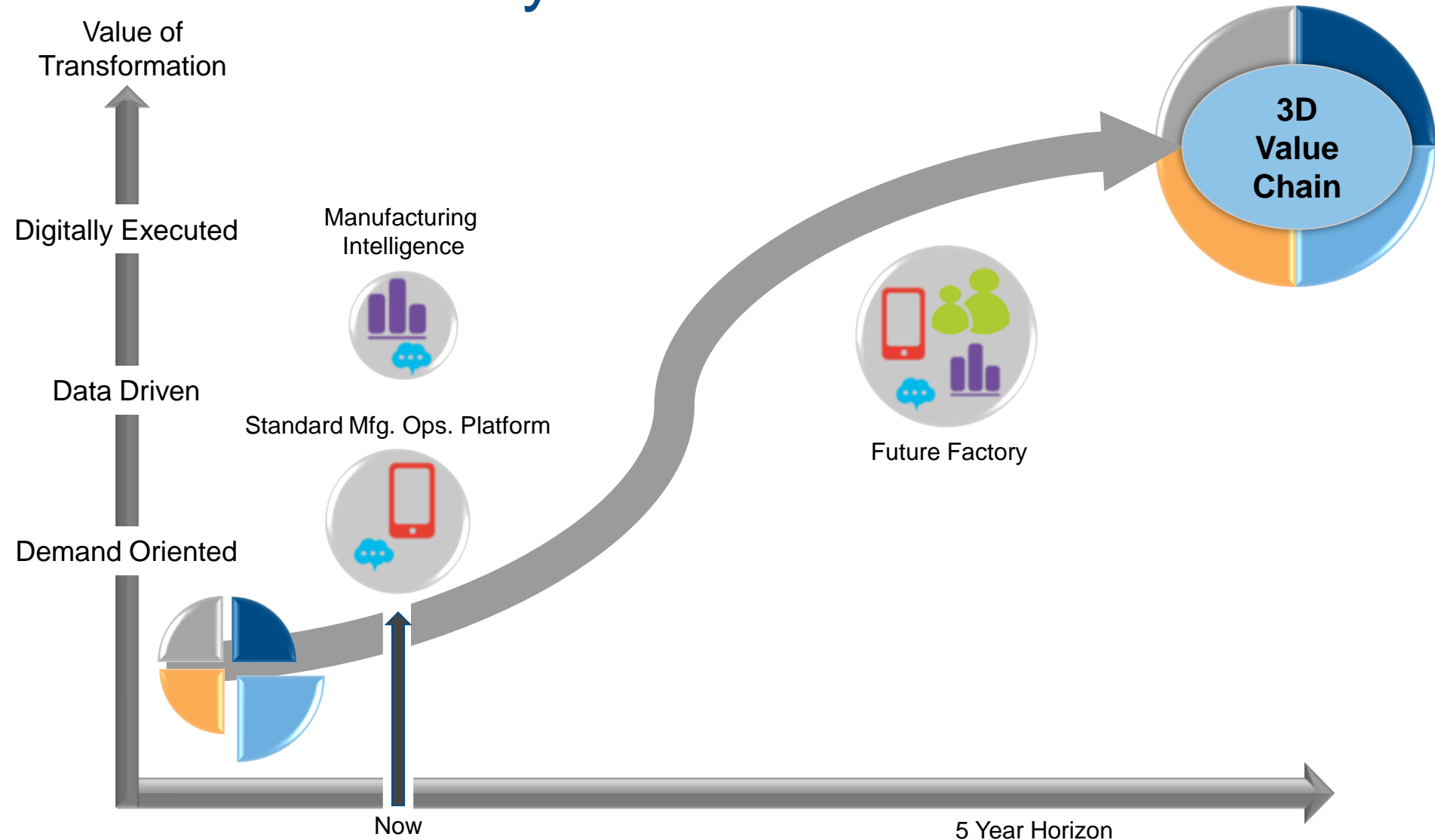


Design Freedom



- “We are no longer a tier 1 automotive supplier. We are a technology company in the automotive space” —Lynn Tilton, CEO Patriarch Partners, addressing employees at one of their portfolio companies.
- “What we get paid to do is consumer focused innovation” – Keith McLoughlin, CEO of Electrolux, on the company’s goal of getting products to market 30% faster.
- “The goal is a free market in talent, so the cream rises” - Zhang Ruimin, Haier CEO on the company’s goal of eliminating middle management.
- Robotic equipment has increased production volume 30% and reduced headcount by two-thirds according to Derrek Holland, President of Closet Doctor, a maker of organizers.

Future Factory



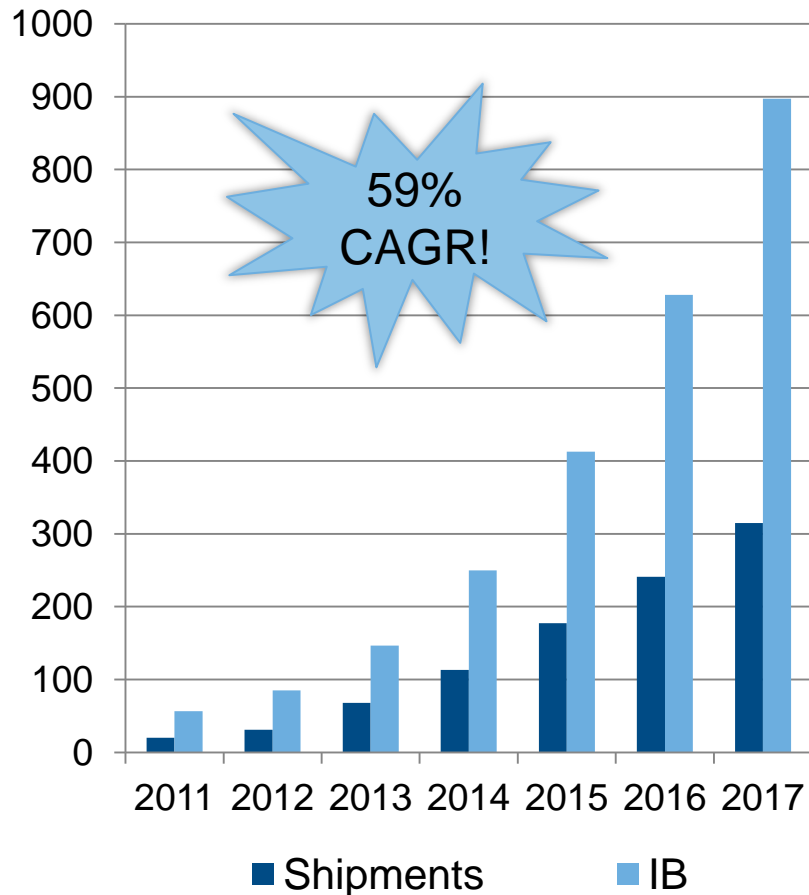
IDC's 3D Printer Definition

“3D printers enable the creation of objects and shapes made through material that is laid down successively upon itself via any number of print technologies from a digital model or file. 3D printers are typically used in additive manufacturing environments for use in industries such as architecture, construction, design and medical.”

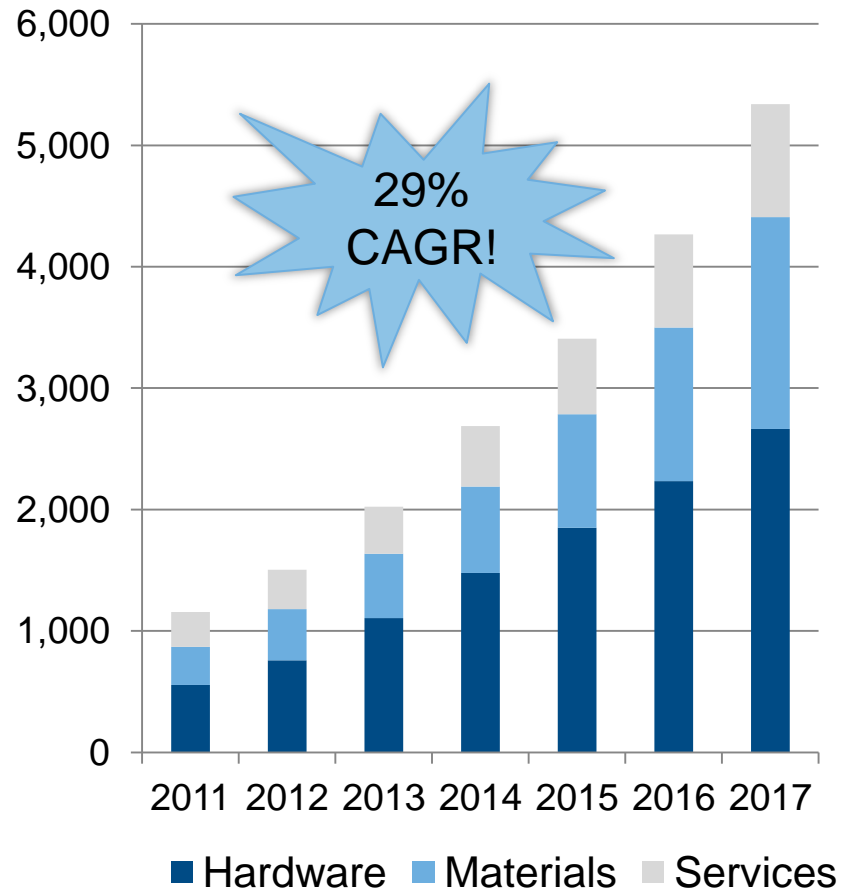


WW 3D Printer Market Opportunity

Units & Installed Base (K)



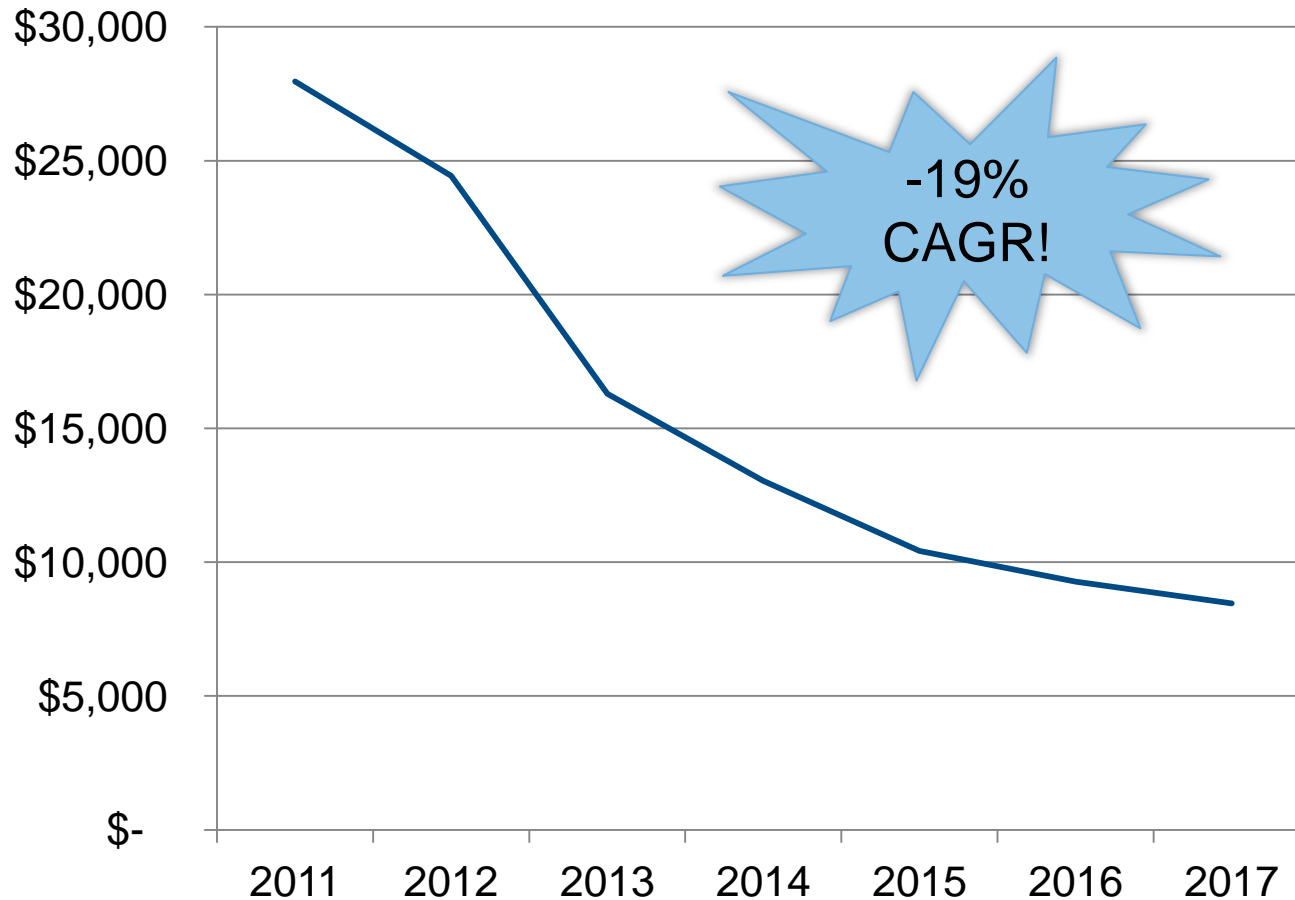
Value of Shipments (\$M)



*IDC Special Study – WW 3D Printer 2012-2017 Forecast and Vendor Shares, #244304, November 2013

WW 3D Printer ASV Trend

Average Selling Value

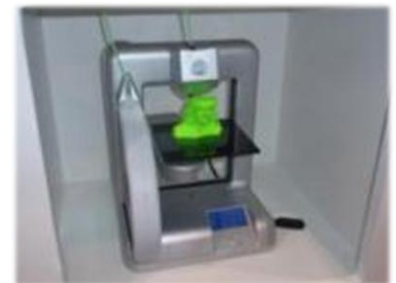
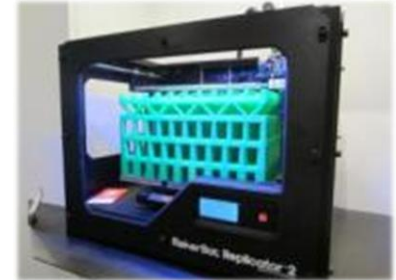


- Price ranges from sub-\$1,000 to seven figures
- Customers indicate short ROI after 3D printer investment

*IDC Special Study – WW 3D Printer 2012-2017 Forecast and Vendor Shares, #244304, November 2013

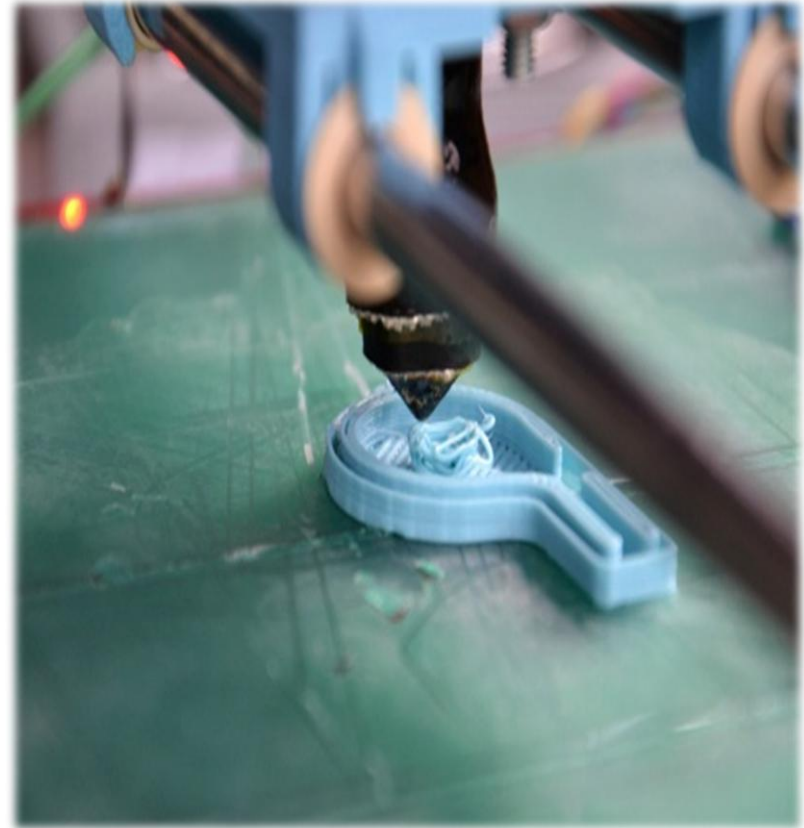
Market Drivers: Why The Excitement?

- Hot growth market with WW media attention
- Revolutionary business benefit
- Significant product evolution is available
- Appealing and known business model
- Influx of market participants



Market Inhibitors: Why Doesn't Everyone Have a 3D Printer?

- The “build” process is not broken
- Financial commitment
- 3D printing as a solution?
- Prototype or finished good?
- Machine reliability



2D and 3D Print Vendors Alliance or Competition?



- MakerBot in August 2013
- Objet in December 2012
- Solidscape in May 2011



3DSYSTEMS™

Nearly 20 acquisitions since January 2012

- Printer vendors (Z Corp, Phenix)
- Materials (The Sugar Lab, Village Plastics)
- Software (Geomagic, Digital Playspace)
- Technologies to facilitate 3D print (COWEB, Vitru)
- Verticals (Paramount, Vidar)



Canon



xerox

RICOH
imagine. change.

 **KONICA MINOLTA**

- Stretch their market legitimacy
- Partner or enter on their own
- Familiar business model
- Tie-in with existing vertical sales strategy

Tie in Vertical Market Activity

- Vertical selling strategies are core to the print market
- Unique “maker” needs enabled by 3D printers in specific verticals
 - Aerospace
 - Automotive
 - Education
 - Dental
 - Jewelry
 - Manufacturing
 - Medical
 - Recreational



Wide Availability of 3D Printers and On-Demand 3D Printing Services

- 3D printers are available through direct and indirect sales channels
- 3D printer on-demand services



Is 3D Printing For You?

- Does your business involve any creation of an end product at any level?
 - Goals and objectives
 - Known volumes and costs
 - Investment needs
- Can you identify inefficiencies, resulting in waste or competitive threats?
 - Are you comfortable with making a change?
- 3D printing might be worth exploring
 - Avoid radical change...identify 1-2 applications at your company
 - Try out through a service bureau

Questions?

Keith Kmetz

Vice President, Imaging, Printing and Document Solutions

kkmetz@idc.com

508-935-4256

Robert Parker

Group Vice President

bparker@idc.com

508-988-7861

