3D Printing
What You Need to Know

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Focus Areas

- Modernize Manufacturing
- Materials Development
- Corporate Training
- Hardware Development
3 Things To Remember

1. There are actually 7 different 3D Printing processes
2. The technology is not mature and there are a lot of limitations
3. There are very few standards and regulations
Technology Overview
3D Printing Overview

- What is 3D Printing?
- How does it work?
- Where is it being used?
- Who are the stakeholders?
What is 3D Printing?

- Additive manufacturing, rapid prototyping, direct digital manufacturing, freeform manufacturing

- Process of joining materials to make objects from 3D model data, usually layer upon layer as opposed to subtractive manufacturing methodologies
Process Differences

Material Extrusion  Vat Polymerization  Powder Systems

Binder Jetting  Material Jetting  Sheet Lamination  Directed Energy Deposition

Key Takeaway: There are 7 different types 3D Printing technology
Process Differences

Industrial  Commercial  Personal
How does it work?

1. Design
2. Material & Process Selection
3. Printing
4. Post Processing
5. Validation
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Photo Credits

3D Printed Prosthetics

3D Printed Gun
http://3dprintingindustry.com/2014/12/02/ups-3d-printing-dildo-guns/

Aircraft Hinge
http://www.australiaunlimited.com/science/the-smart-leap-forward

Post Processing

3D Printing Material
http://www.3dprinter.net/tag/metal

3D Printer Image
http://www.fablabbcn.org/maquinas/makerbot-replicator-2/

Car Image