How 3d Printing Has the Ability to Revolutionize Production and Why it Hasn’t

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“3d printing has the ability to shake up many manufacturing industries but factors such as its complexity, price and learning curve are holding it back.”

What is 3D printing?
A form of Additive manufacturing: A processes in which material is joined or solidified to create a three-dimensional object, with material being added together.

3 most common 3d printing technologies
FDM: uses heat to fuse together layers of a thermoplastic polymer to create an object. Cheapest most readily available.
SLS: uses a high-power laser to fuse small particles of polymer powder.
SLA: uses light to cure a photosensitive liquid to form a solid. Highest quality

Benefits of 3d printing
• Small batches of goods to be produced for a relatively low cost
• Rapid prototyping
• Allows a high level of variation amongst iterations
• Personalized products
• Tests are performed on prototypes to uncover faults in a products design

Result: 3d printers can vastly reduce unit cost and lead time while increasing part performance.

What is rapid prototyping?
Rapid prototyping is a group of techniques used to quickly fabricate a scale model of a physical part or assembly using three-dimensional computer aided design data.

Materials:
Thermoplastics: ABS, PLA, PETG, ASA, TPU
Metals: gold, aluminum, titanium

Machines that uses to cost thousands of dollars and were as large as a fridge are being out performed by machines that cost hundreds of dollars and fit on your desk → increased access to powerful, creative technology

Don’t want to own a printer? Use a printing service - Shapeways 3D hubs

About this printer:
Power spec 3D Pro
Printing type: FDM
Maximum build size: 8.9" x 5.7" x 5.9"
Price: $800 (when first purchased)
Materials: ABS, PLA, ASA, TPU, PETG
Minimum layer height: .1 mm
Maximum layer height: .5 mm