

Reinvent prototyping and manufacturing

See how you can unlock the full potential of 3D printing with **HP Multi Jet Fusion technology.**

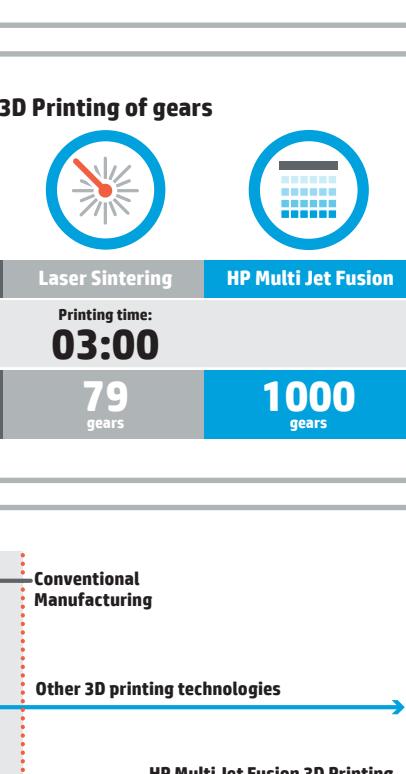
HP's proprietary multi-agent process



Precision at speed

30 million drops delivered per second per inch

Extreme dimensional accuracy and fine detail¹ through multi-agent printing.



Thermal control of every layer

Predictive corrections at the voxel level. Uniform melting processes achieve optimal mechanical properties.²



Up to 10x faster³

HP's proprietary printing technologies combines speed and quality with predictable results.

3D Printing of gears		
Material Extrusion	Laser Sintering	HP Multi Jet Fusion
Printing time: 03:00		
36 gears	79 gears	1000 gears

Breakthrough economics

Conventional Manufacturing

HP 3D printing can deliver breakthrough economics providing a cost per part advantage over conventional manufacturing.



Lowest cost per part⁴

Optimize cost and part quality, with cost-efficient materials that offer industry-leading reusability.



Industry-leading materials reusability⁵

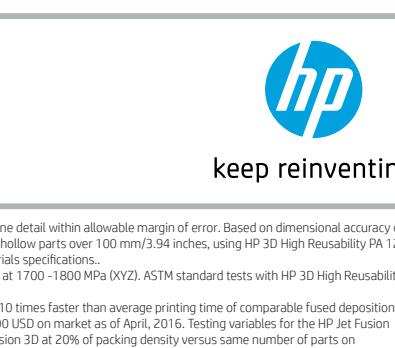
Unlike some other point-to-point 3D printing technologies, HP Multi Jet Fusion doesn't require reactive materials polymers, enabling higher reusability⁵ with HP 3D High Reusability PA 12.

Voxel level control

PA 12 Polymer

Voxel (volumetric pixel): Building block of the future.
Voxels are used to create the physical and mechanical properties of a part. Each voxel contains volumetric information that brings a product to life with the desired properties.

HP Multi Jet Fusion can enable unlimited possibilities in the future by transforming colour, strength, elasticity, translucency or texture at voxel level.



1. Based on HP's unique multi-agent printing process. Excellent dimensional accuracy and fine detail within allowable margin of error. Based on dimensional accuracy of ±0.2 mm/0.008 inches on XY for hollow parts below 100 mm/3.94 inches and ±0.2% for hollow parts over 100 mm/3.94 inches, using HP 3D High Reusability PA 12 material, measured after sandblasting. See hp.com/go/3Dmaterials for more information on materials specifications.

2. Based on the following mechanical properties: Tensile strength at 48 MPa (XYZ), Modulus at 1700 - 1800 MPa (XYZ). ASTM standard tests with HP 3D High Reusability PA 12 material. See hp.com/go/3Dmaterials for more information on materials specifications.

3. Based on internal testing and simulation. HP Jet Fusion 3D average printing time is up to 10 times faster than average printing time of comparable fused deposition modeling (FDM) and selective laser sintering (SLS) printer solutions from \$100,000 USD to \$300,000 USD on market as of April, 2016. Testing variables for the HP Jet Fusion 4210/4200 Printing Solutions: Part quantity: 1 full build chamber of parts from HP Jet Fusion 3D at 20% of packing density versus same number of parts on above-mentioned competitive devices; Part size: 30 cm³; Layer thickness: 0.08 mm/0.003 inches.

4. Based on internal testing and public data for solutions on market as of April, 2016. Cost analysis based on: standard solution configuration price, supplies price, and maintenance costs recommended by manufacturer. Common cost criteria: using HP 3D High Reusability PA 12 material, and the powder reusability ratio recommended by manufacturer. HP Jet Fusion 3D 4200 Printing Solution average printing cost per part is half the average cost of comparable fused deposition modeling (FDM) and selective laser sintering (SLS) printer solutions from \$100,000 to \$300,000 USD. Cost criteria: printing 1 build chamber per day/5 days per week over 1 year of 30 cm³ parts at 10% packing density. HP Jet Fusion 3D 4210 Printing Solution average printing cost per part is 65% lower versus the average cost of comparable FDM and SLS printer solutions from \$100,000 to \$300,000 USD and is 50% lower versus the average cost of comparable SLS printer solutions for \$300,000 to \$450,000 USD. Cost criteria: printing 1.4 full build chambers of parts per day/5 days per week over 1 year of 30 cm³ parts at 10% packing density on fast print mode.

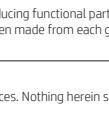
5. HP Jet Fusion 3D Printing Solutions using HP 3D High Reusability PA 12 provide 80% post-production surplus powder reusability, producing functional parts batch after batch. For testing, material is aged in real printing conditions and powder is tracked by generations (worst case for recyclability). Parts are then made from each generation and tested for mechanical properties and accuracy.

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For more information visit
hp.com/go/3Dprint



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