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3D-PRINTING INTRODUCTION

Topics

- 3D-Printing – What?
- 3D-Printing compared to traditional manufacturing methods
- 3D-Printing process
- Applications
- Pros and cons
- What's the technology?
- History
- Situation now

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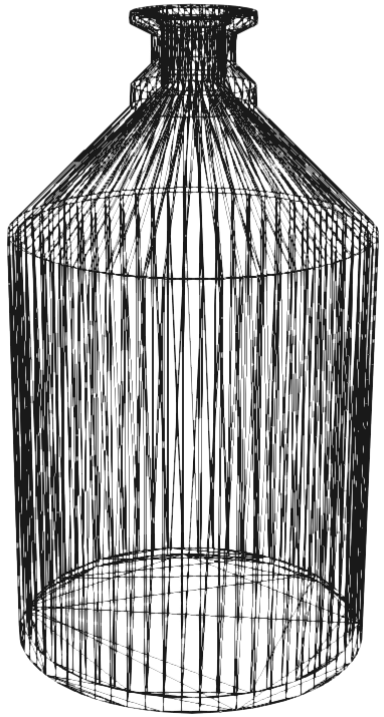
3D-PRINTING

Digital 3D-model

Manufacturing process



Finished product

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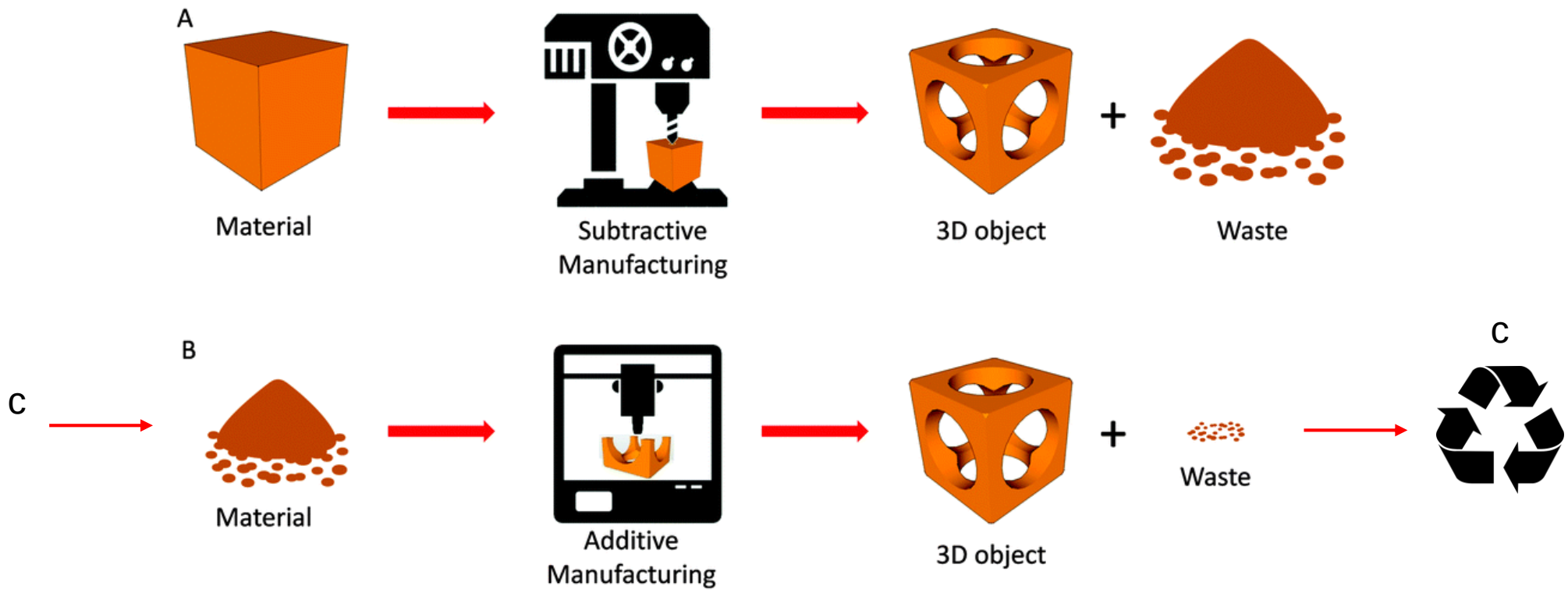
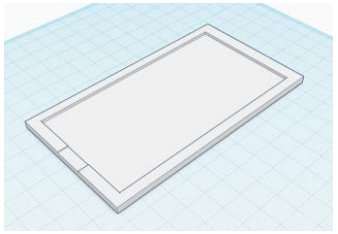
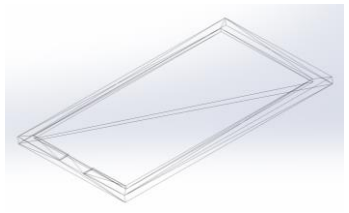
3D-Printing compared to traditional manufacturing methods

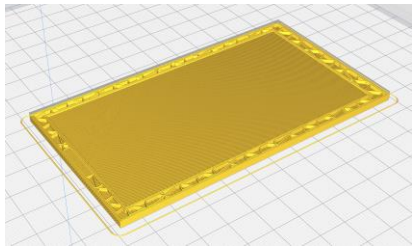


https://www.bct-technology.com/en/support/tips-tricks/nx-1102-additive-manufacturing.html

3D-Printing process







IDEA → 3D Modeling → Exporting .3mf .stl .obj → Slicing → Printing process → Post processing? → Finished product

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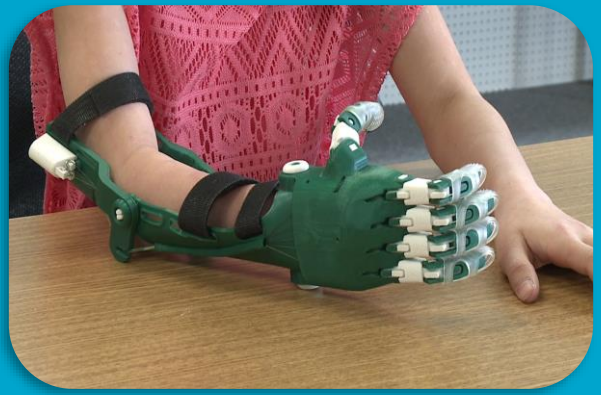
https://www.shapeways.com/product/2L8YFGZE8/twisting-ring?optionId=58598415&li=marketplace

https://feetz.com/men-Axis



http://medicalfuturist.com/3d-printing-in-medicine-and-healthcare/

https://www.engadget.com/2017/04/11/boeing-faa-approved-3d-printed-metals-787/

/bugatti-3d-printed-brake-caliper/

http://www.lgm3d.com/portfolio

Applications

- Jewelers
- Automotive industry
- Education
- Engineers
- Medical
- Rehabilitation
- Architects
- Bakeries
- Shoe makers / soles
- Aviation
- Designers
- Hobbyists

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Pros and cons

Pros

- Complicated shapes
- Each product can be individualized
- No need for molds
- Iteration speed
- Less waste
- Freedom of design (Strength and weight)

Cons

- Slow for mass productions
- Less material options
- Weaker than molded or CNC'ed parts
- Loses in accuracy
- Reliability of equipment and the difficulty of use in certain situations

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