



3D Printing Technologies

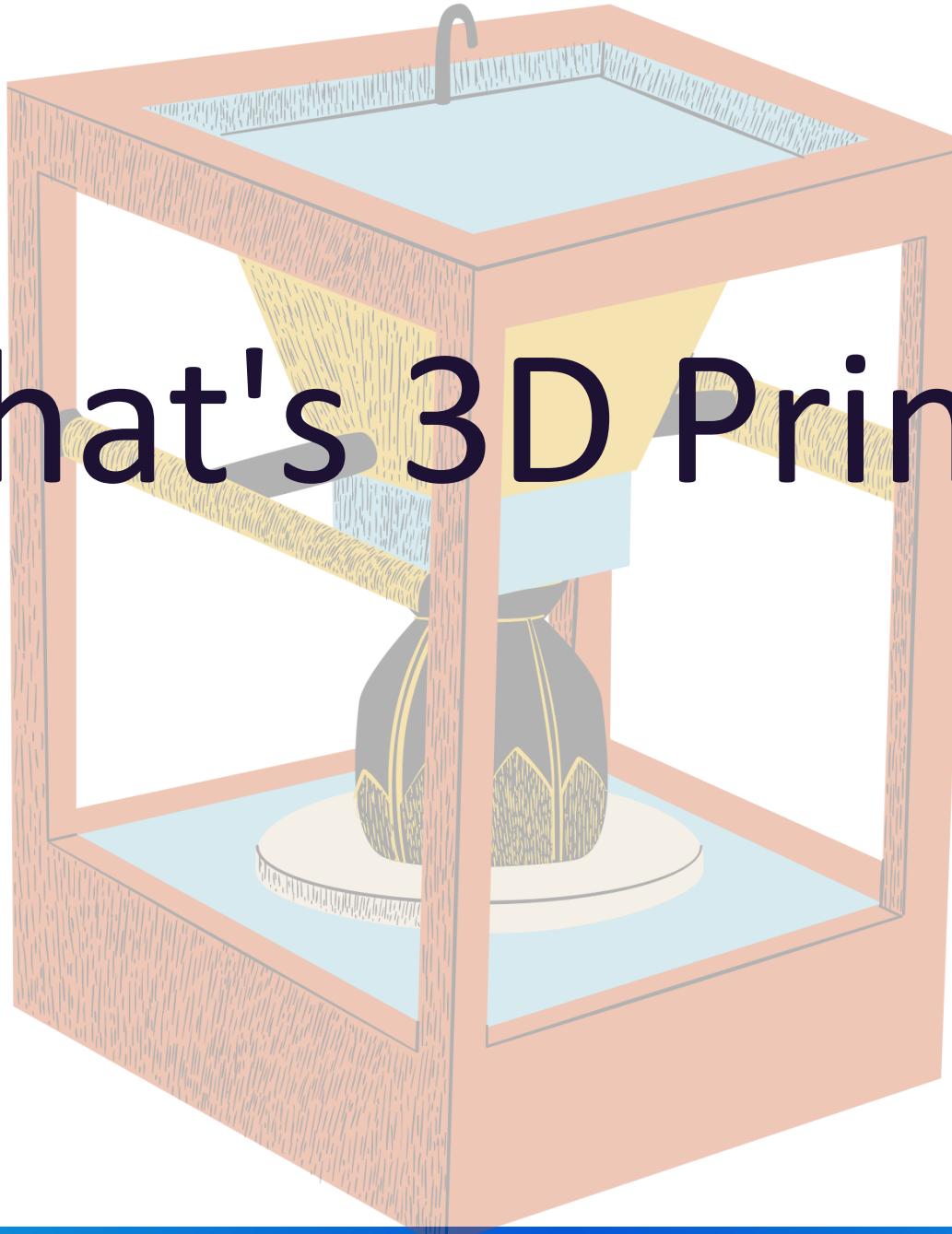


Outline

- What's 3D Printing
- History Of 3D Printers
- 3D Printer Types
- 3D Printing Workflow
- CAD & Slicing Software
- The Future Of The 3D Printers



What's 3D Printing?

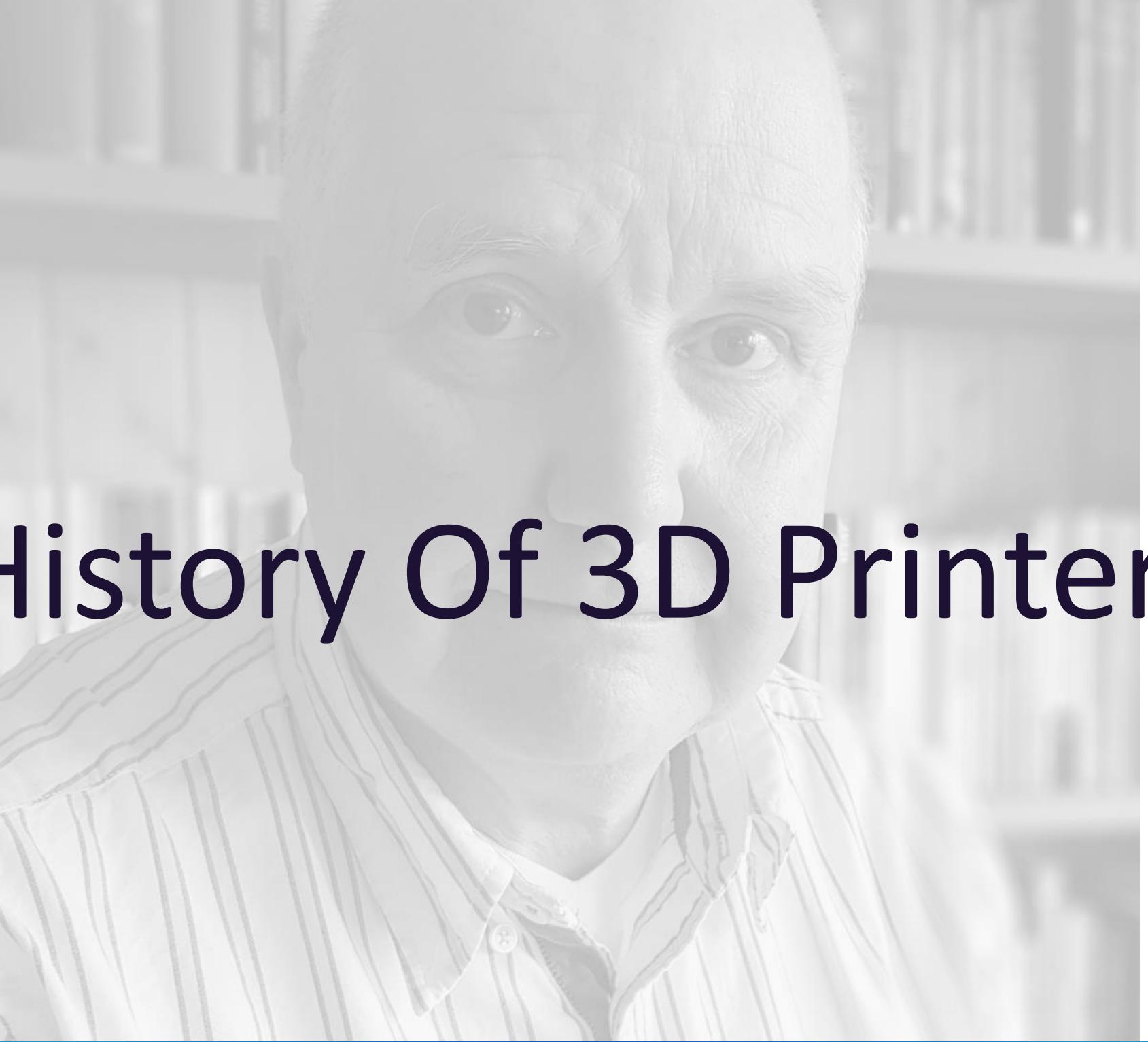




What's 3D Printing?

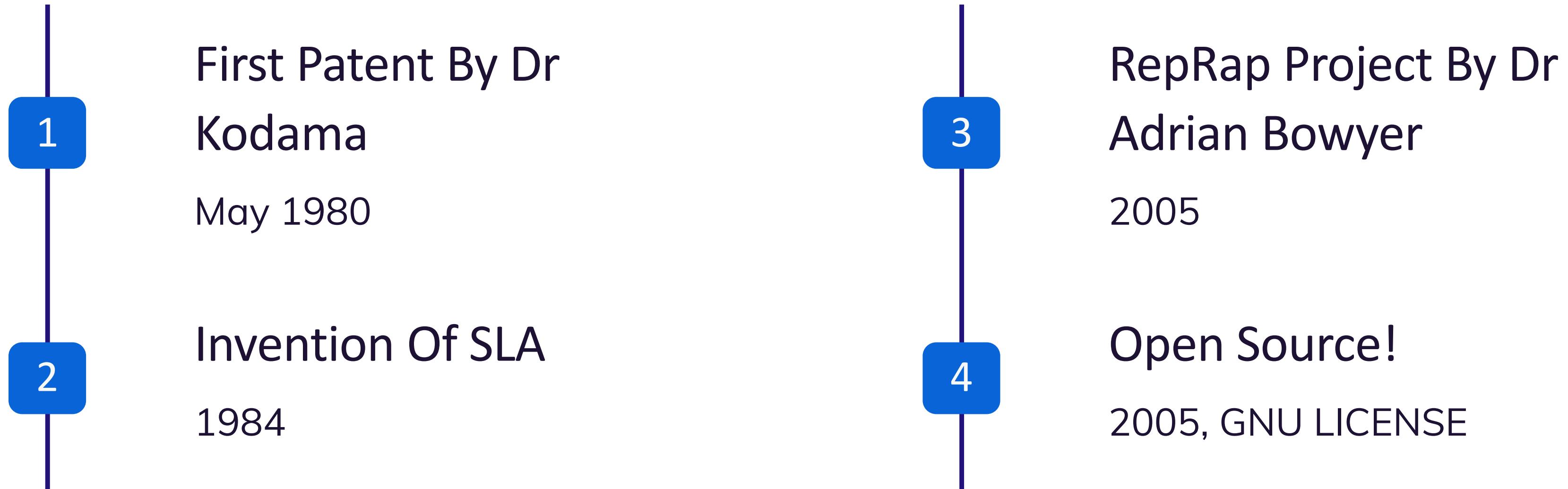
3D printing is an automated additive manufacturing process, where a 3D printer creates a physical model based on digital data (a 3D object).



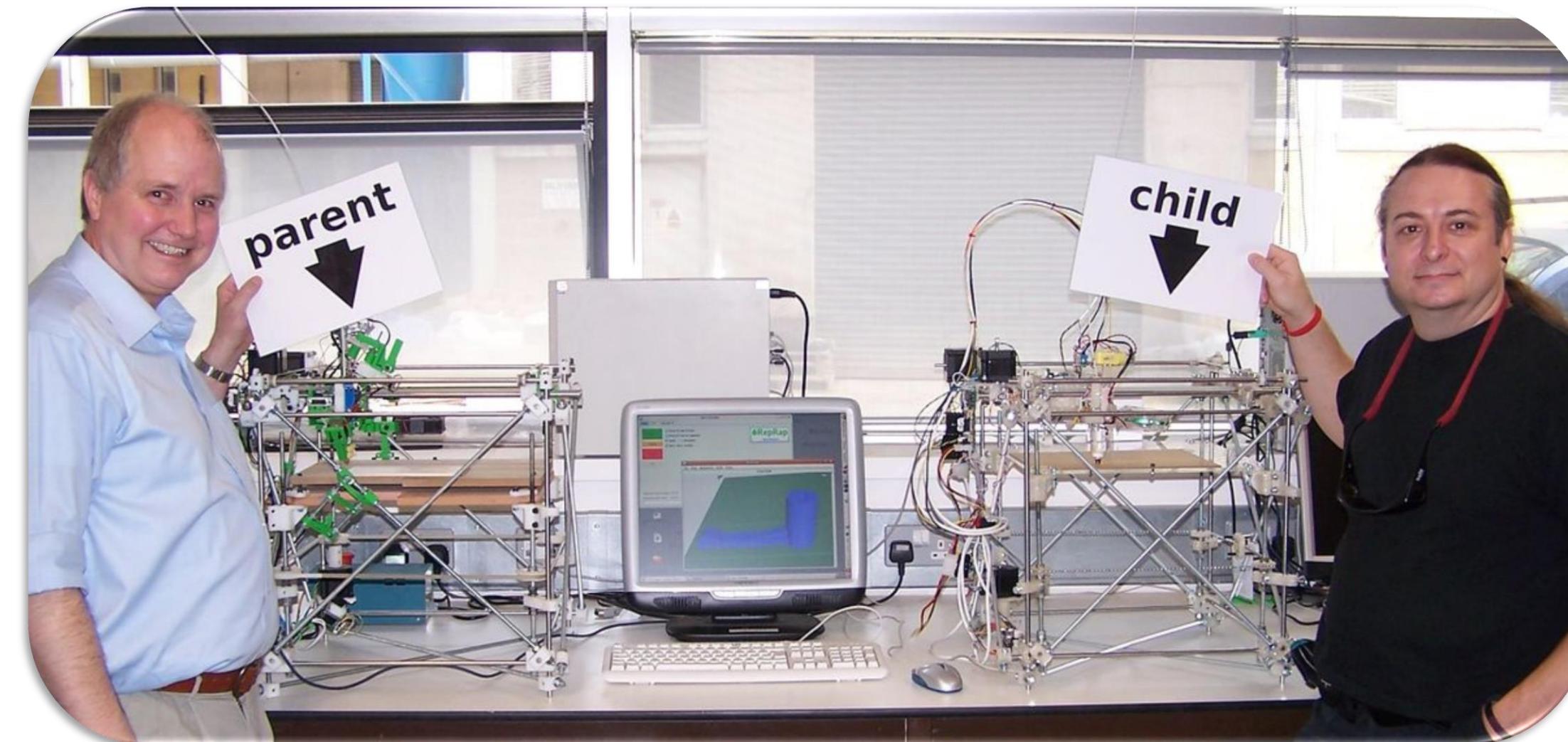


History Of 3D Printers

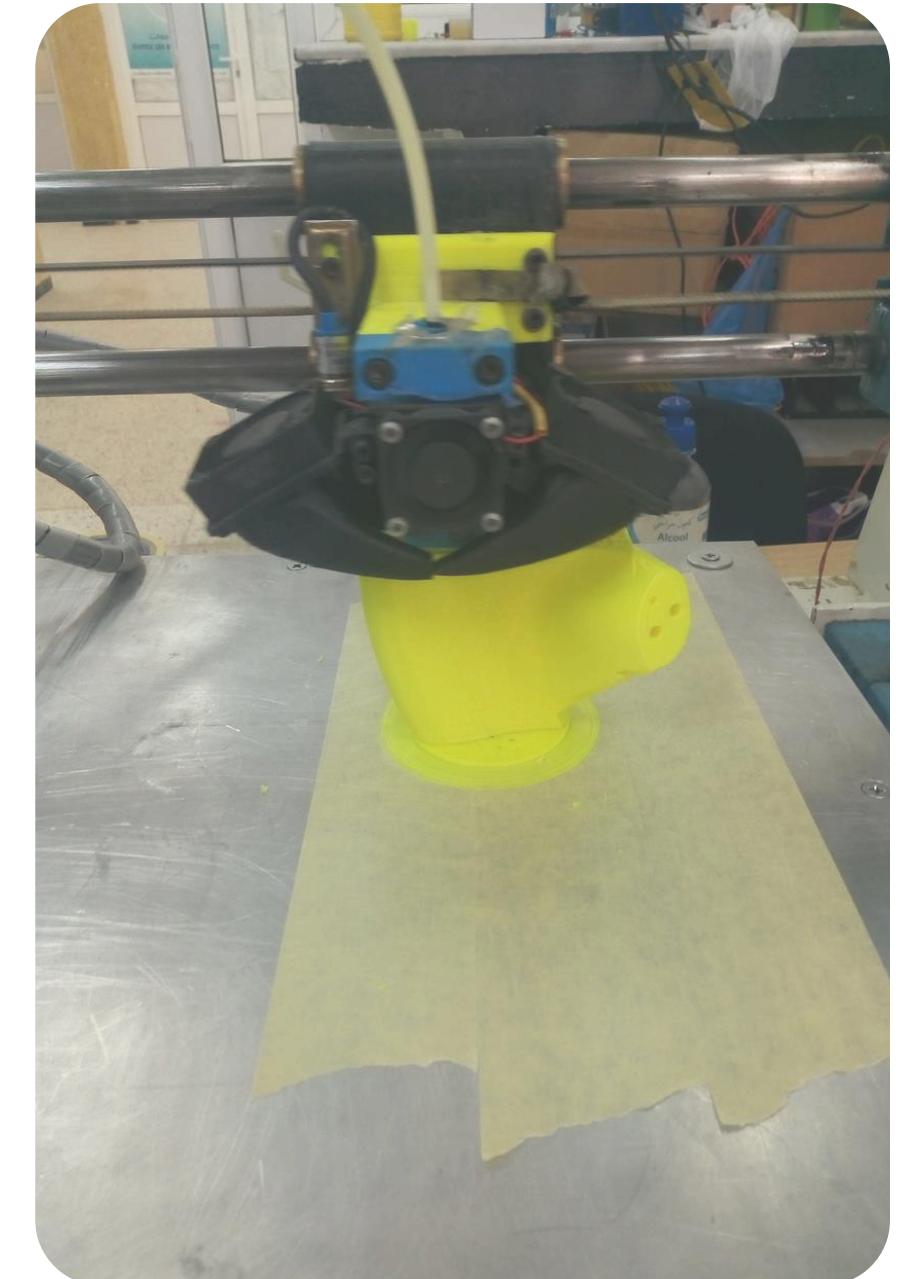
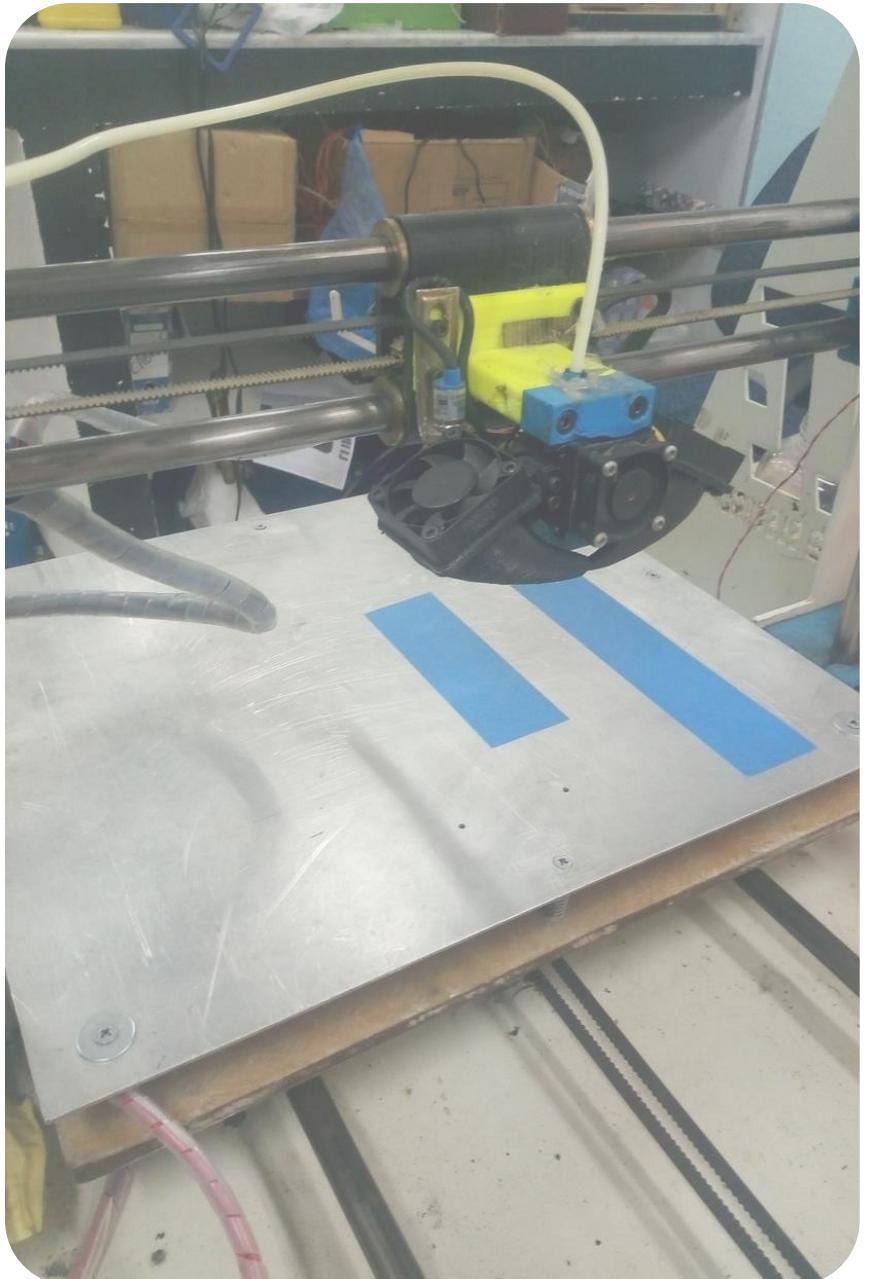
History Of 3D Printers



History Of 3D Printers



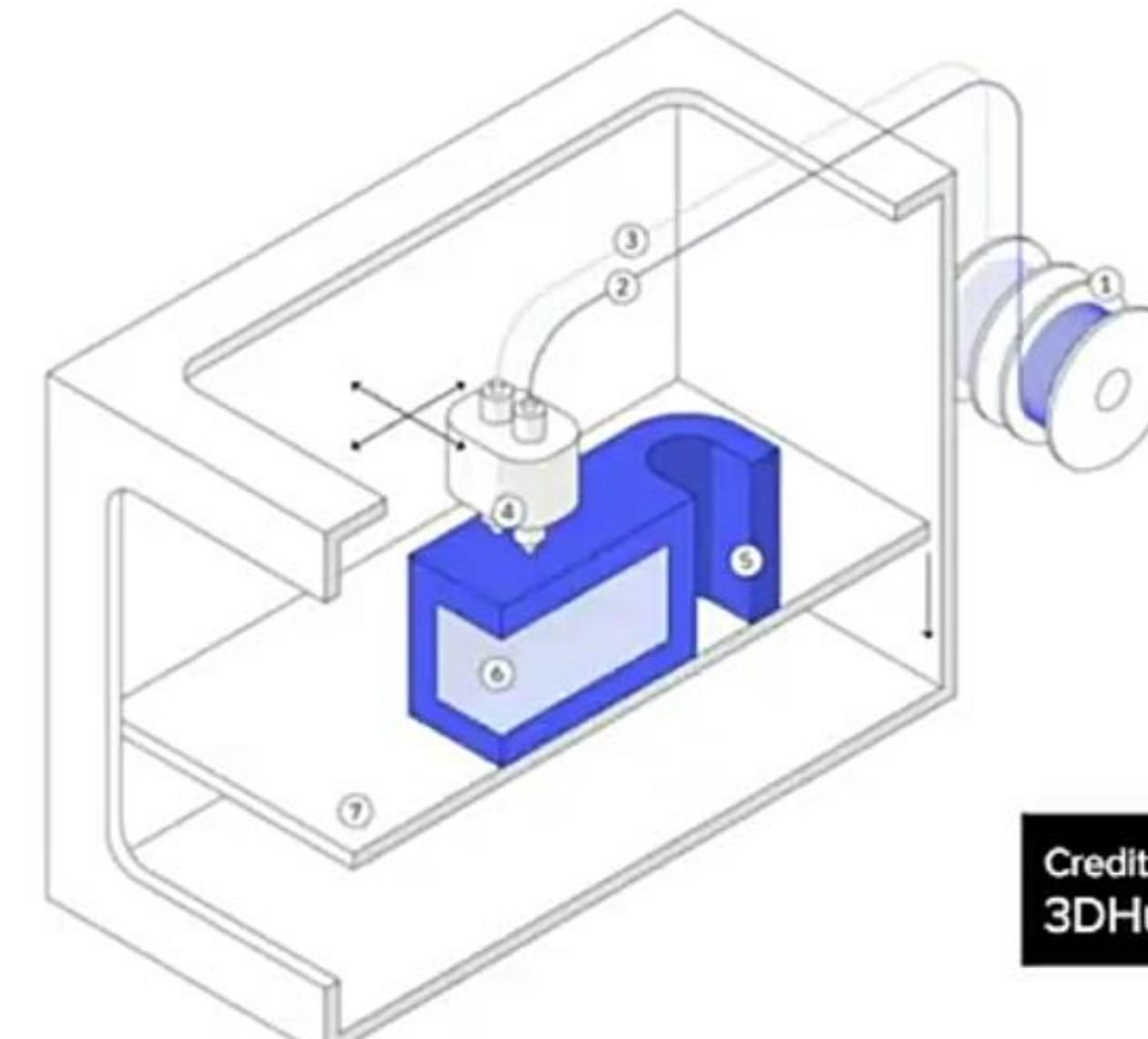
3D Printer Types



FDM/FFF

Fused Deposition Modeling/Fused Filament Fabrication

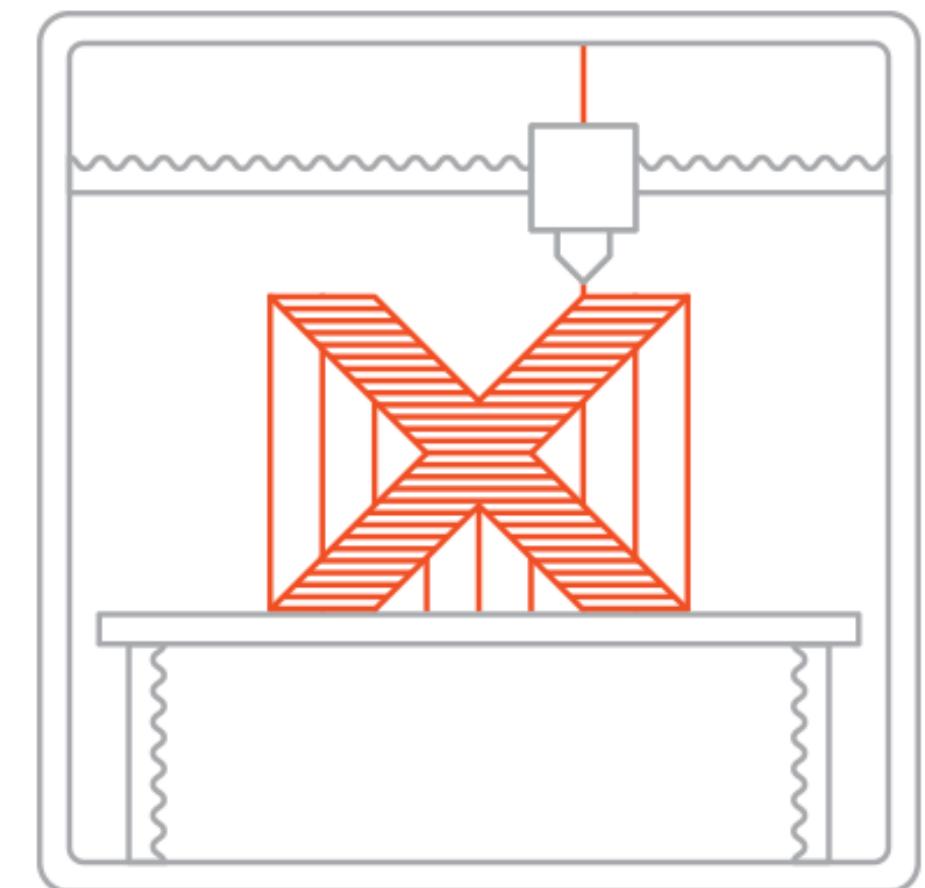
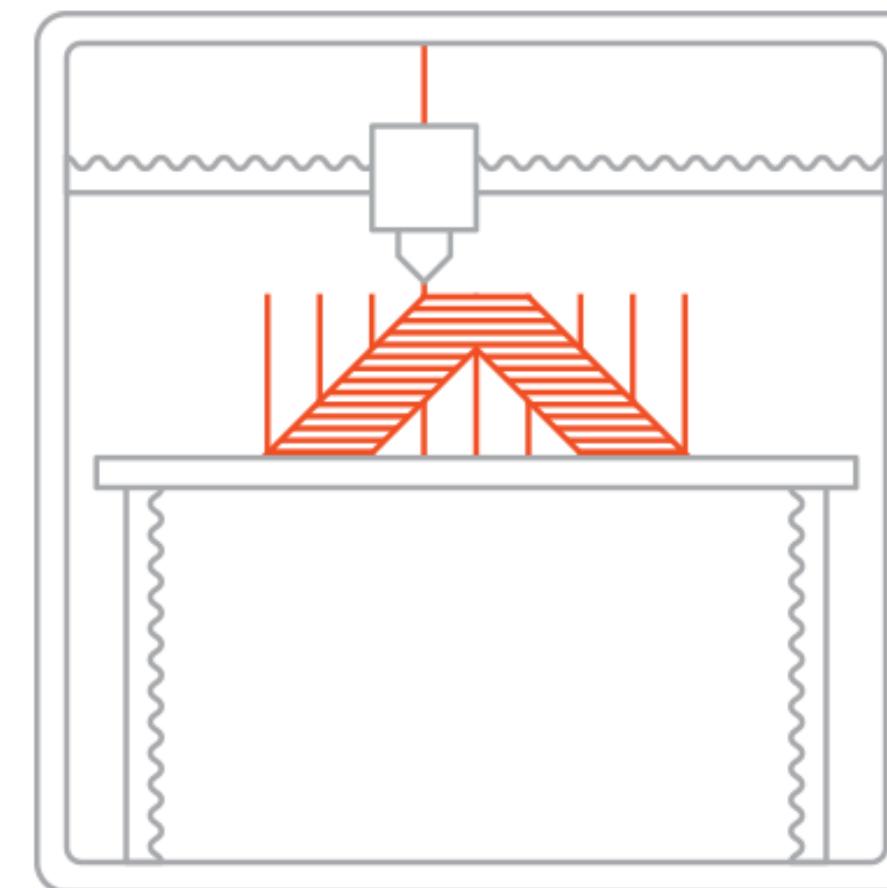
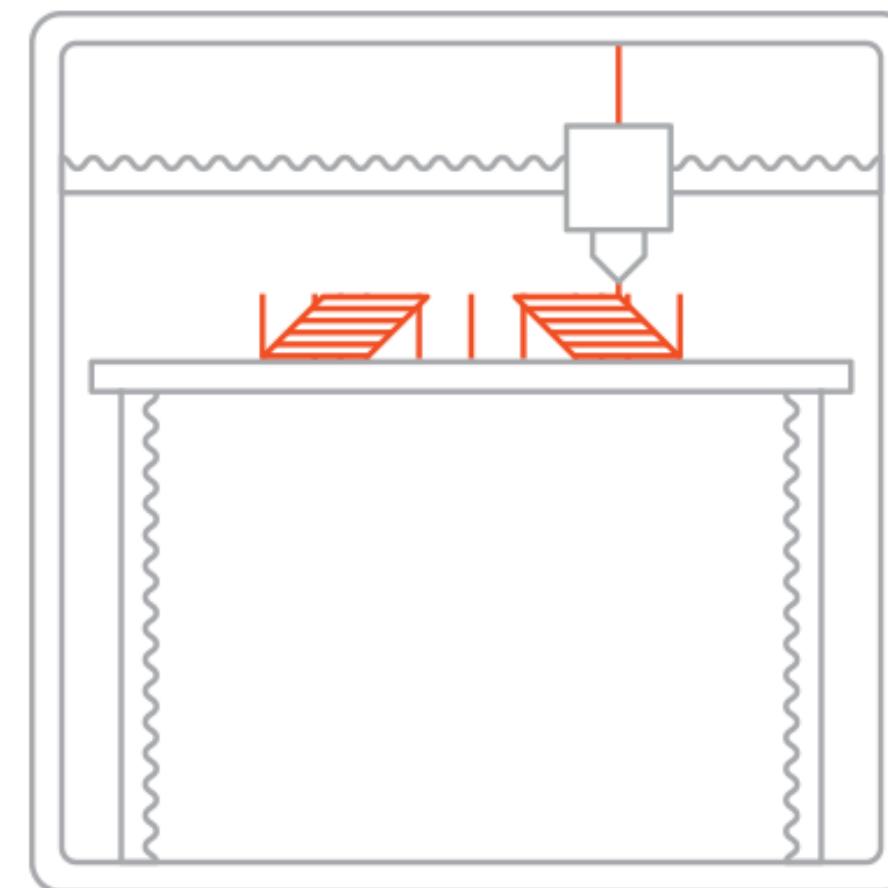
- ① Filament spools
- ② Main filament
- ③ Support filament
- ④ Extrusion head
- ⑤ Printed part
- ⑥ Support structure
- ⑦ Build platform



Credit:
3DHubs.com

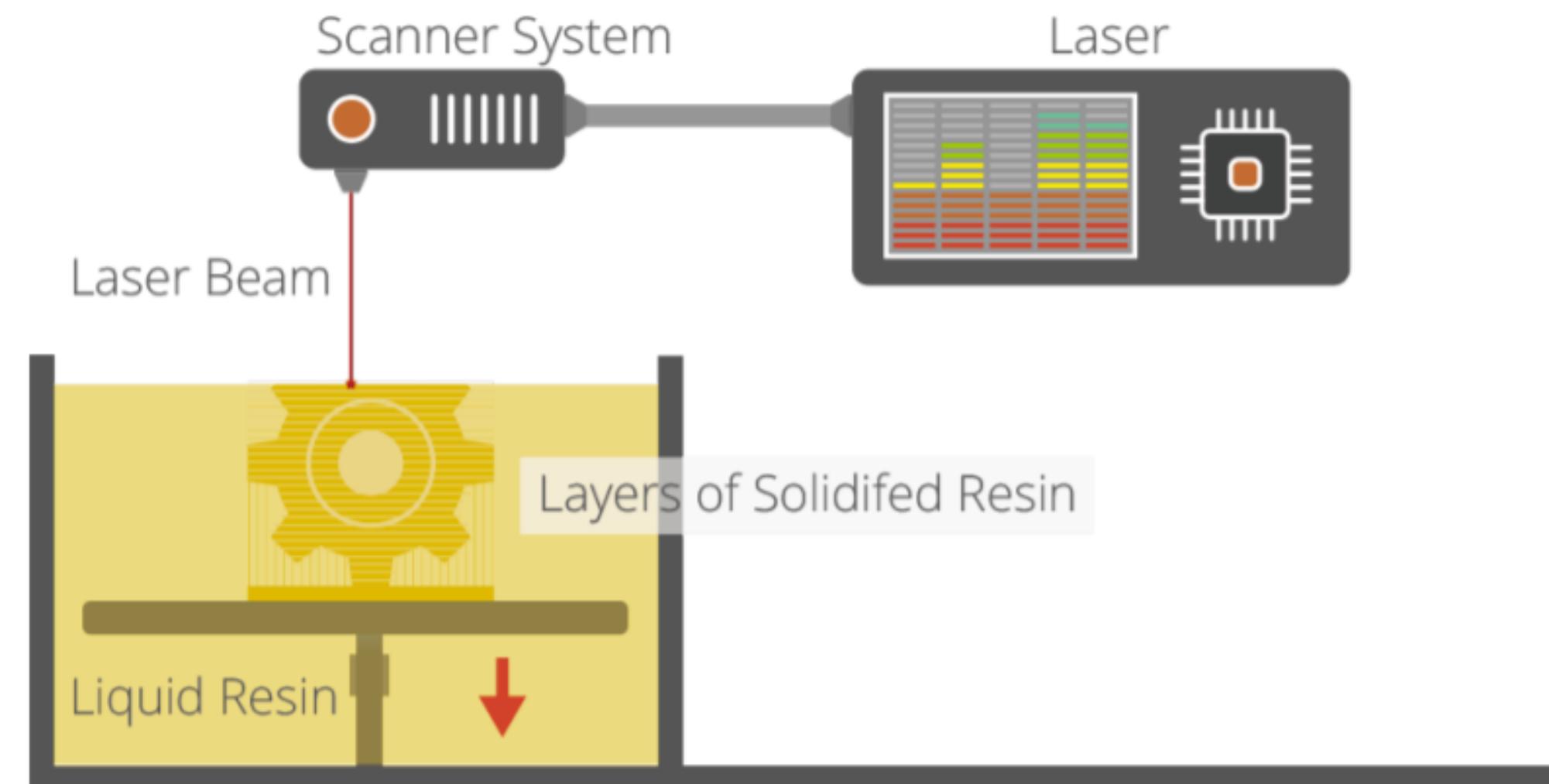
FDM/FFF

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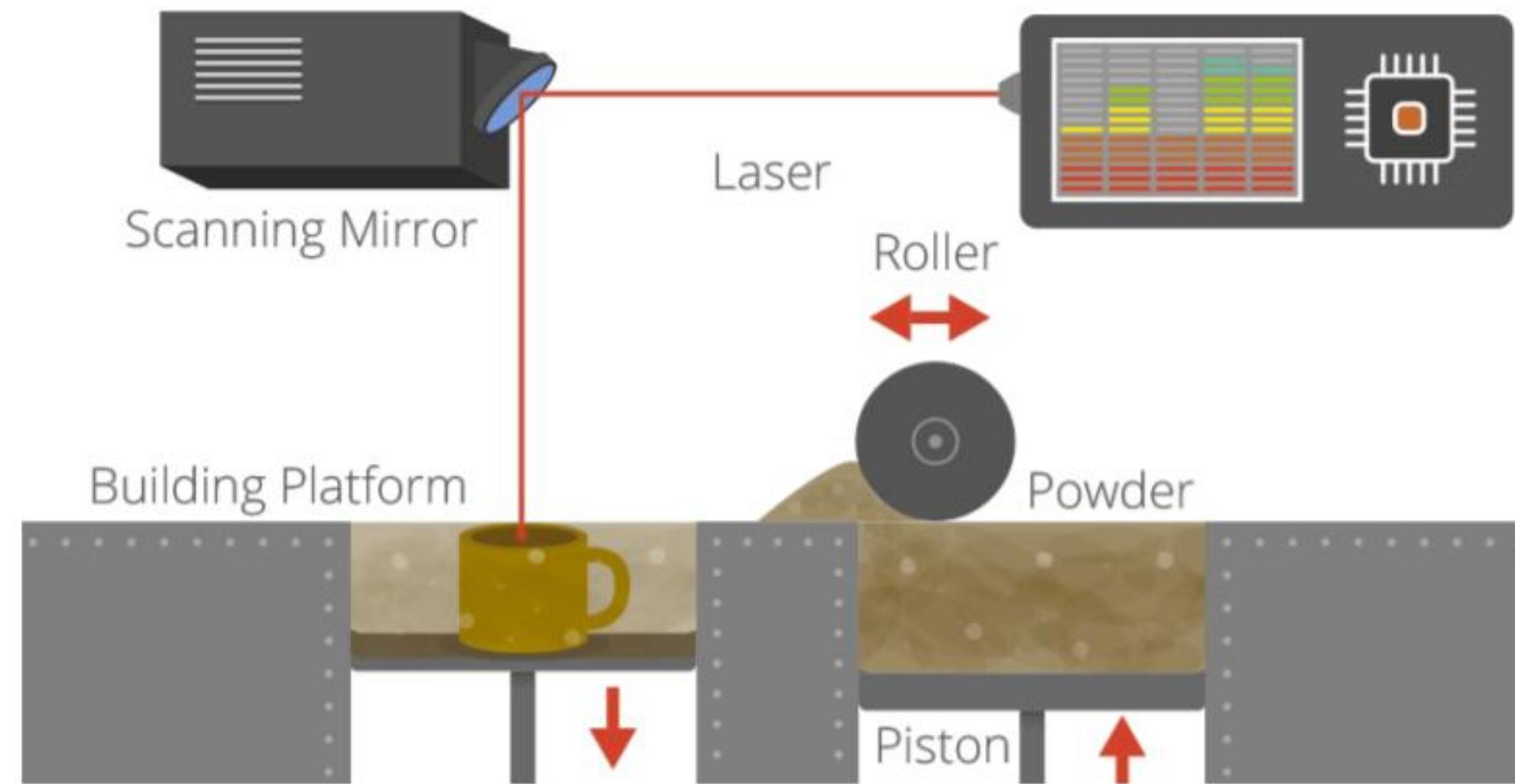
SLA

Stirolightography



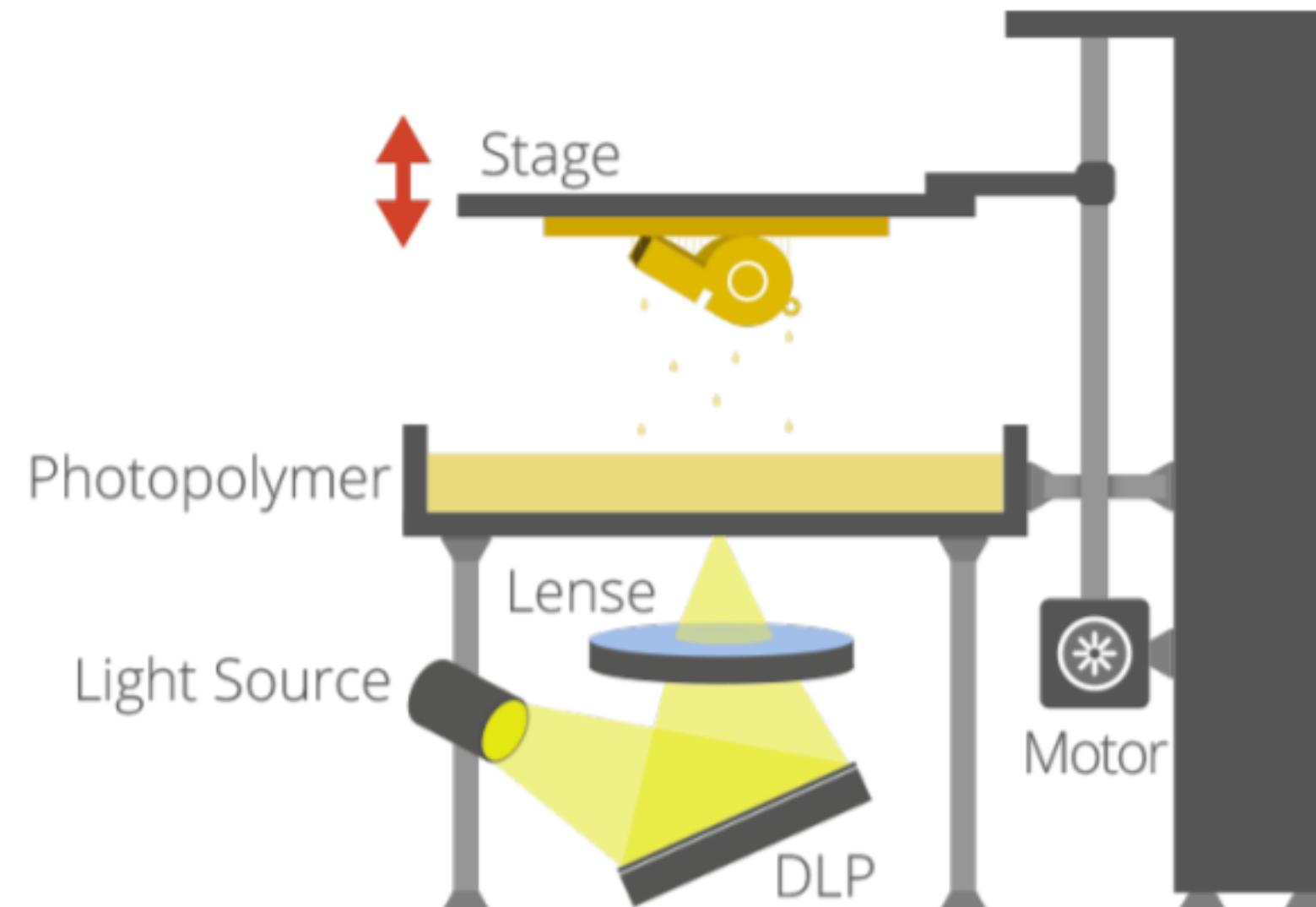
SLS

Selective Laser Sintering



DLP

Digital Light Processing





Filament Types

PLA

ABS

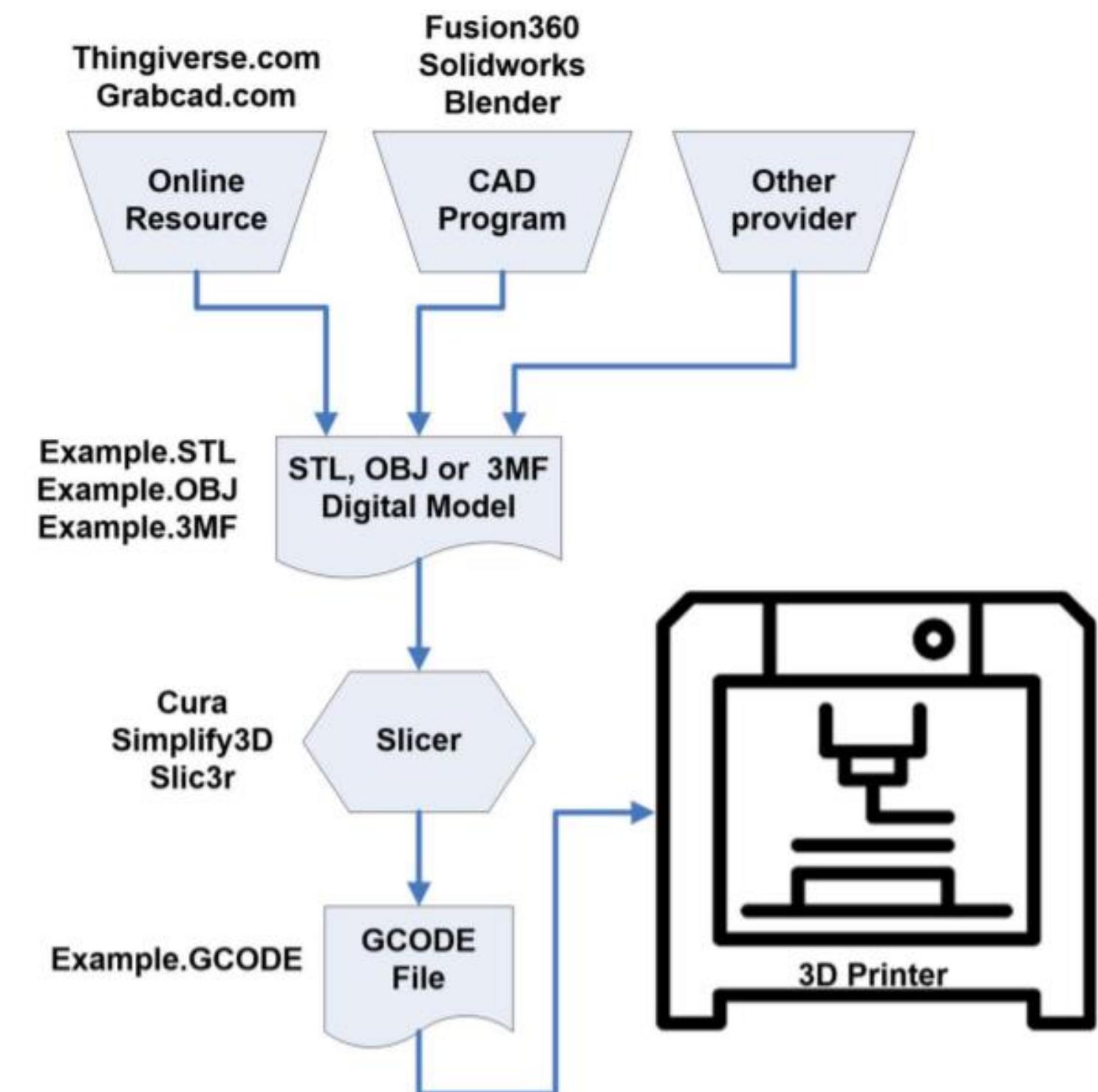
PETG

TPU

...

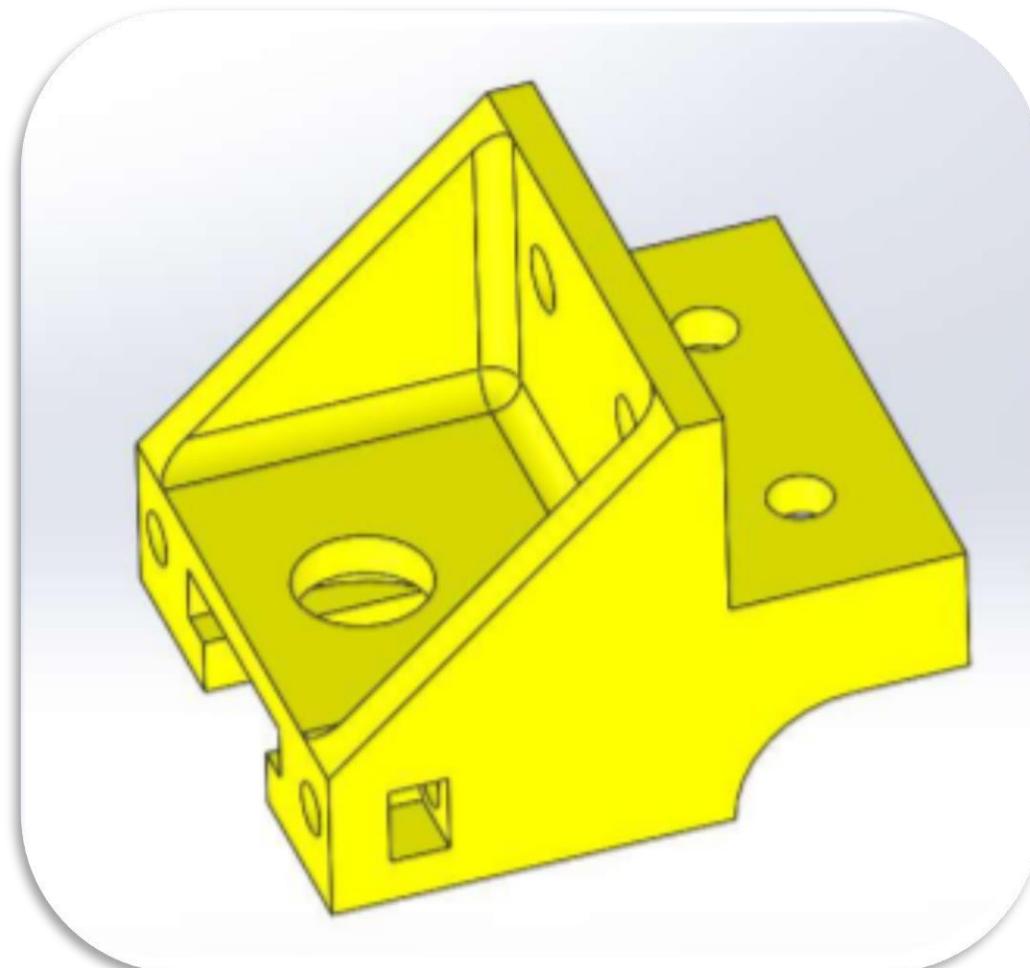


3D Printing Workflow



3D Printing Workflow

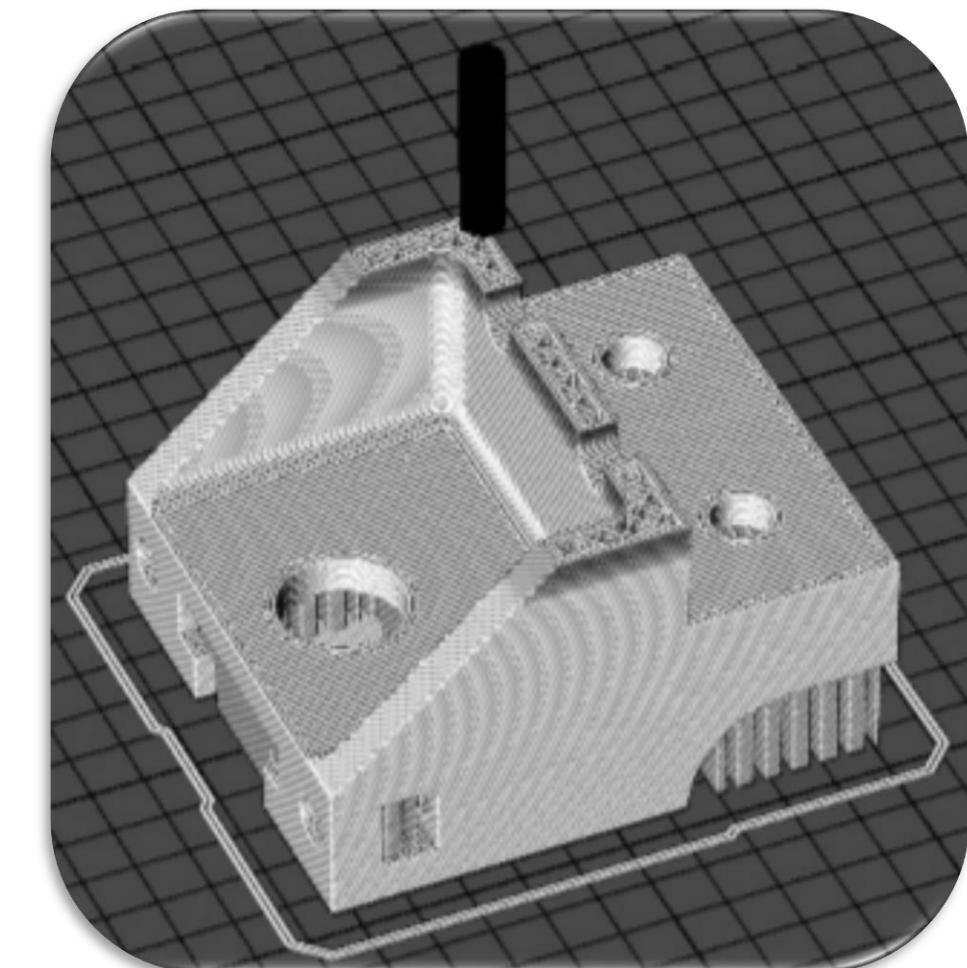
CAD



STL



GCode



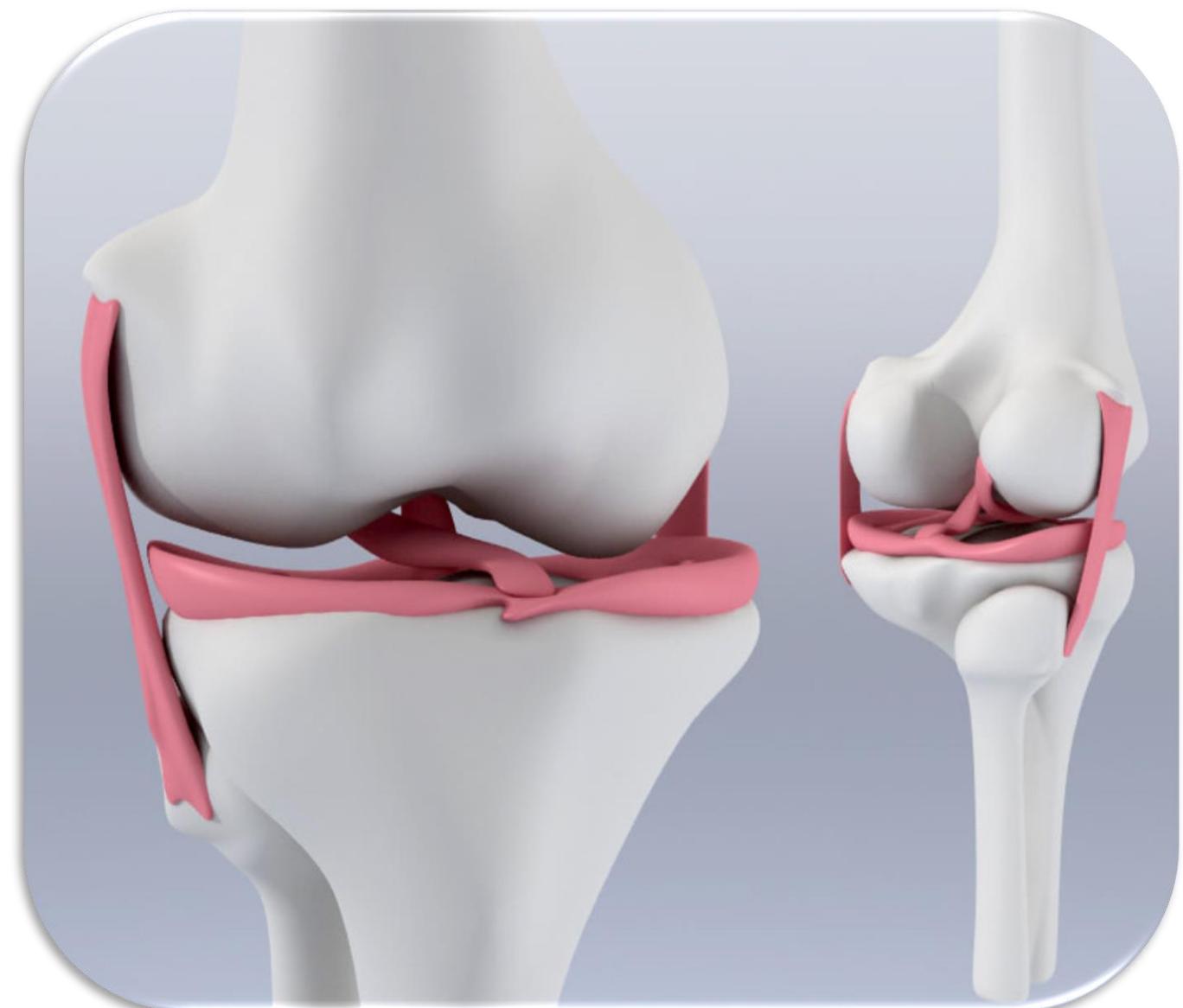


The Future Of The 3D Printers

The Future Of The 3D Printers



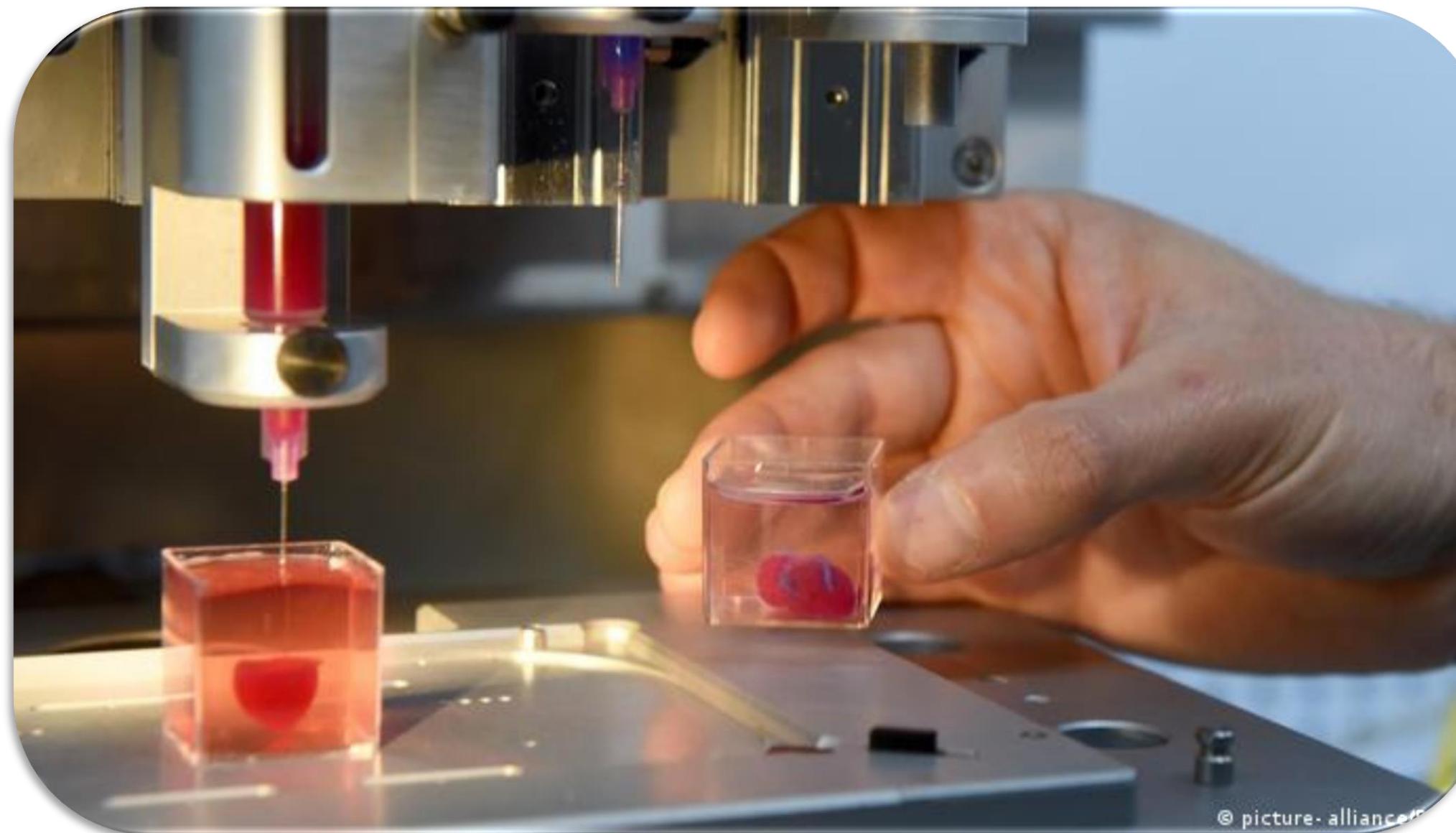
The Future Of The 3D Printers



The Future Of The 3D Printers



The Future Of The 3D Printers





3D Printers Is a Double- Edged Sword

الطباعة
سلاح ذو حدين

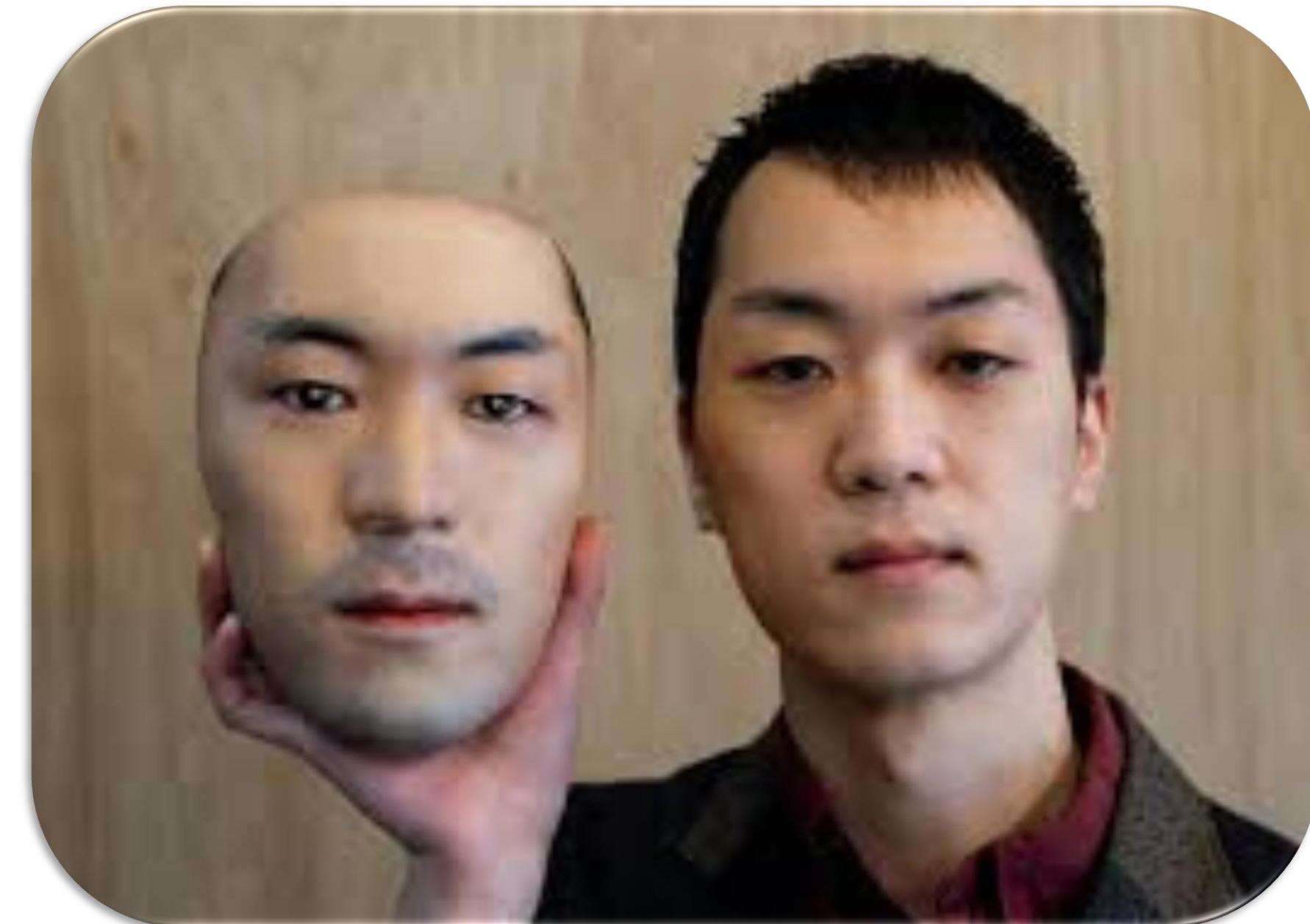
Double-Edged Sword



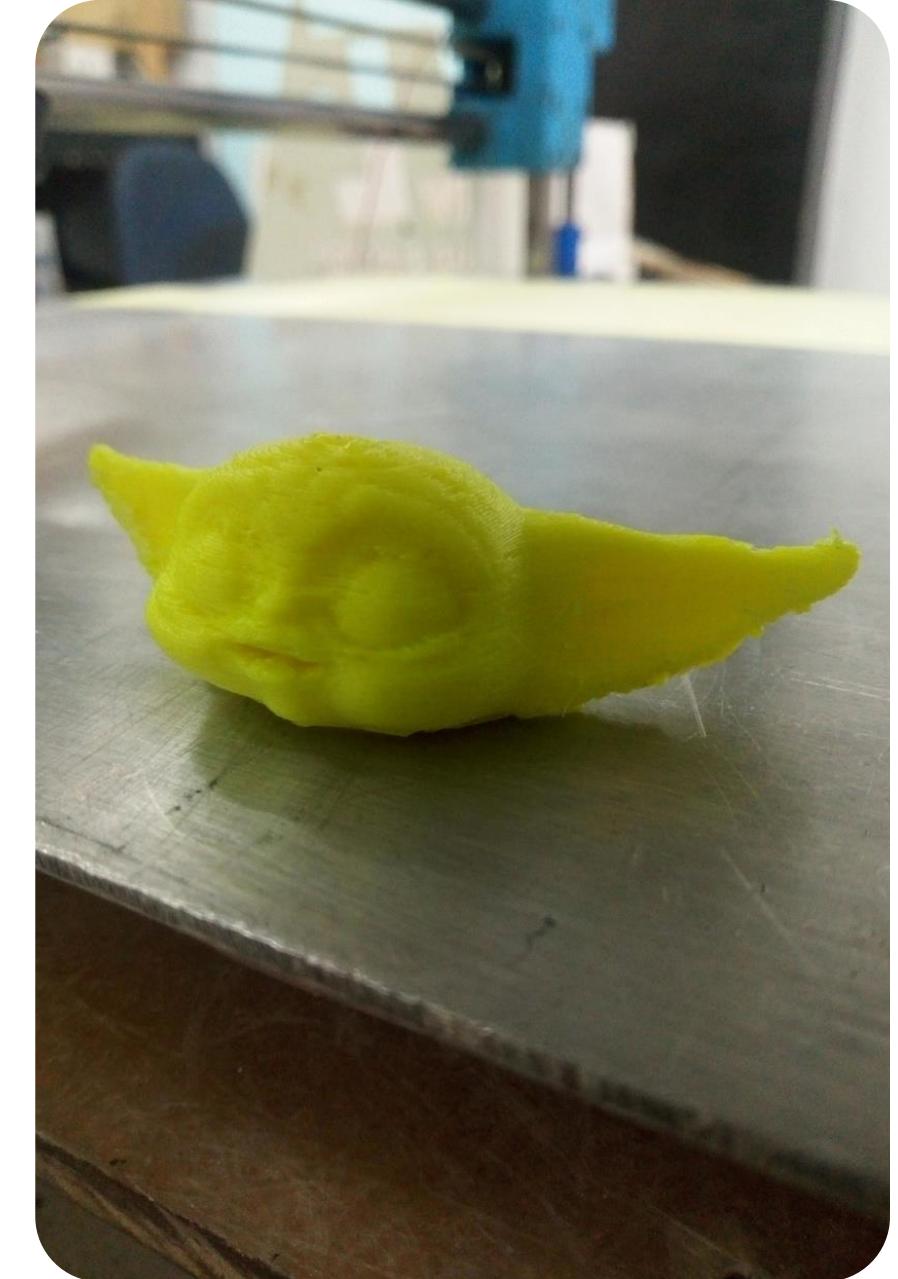
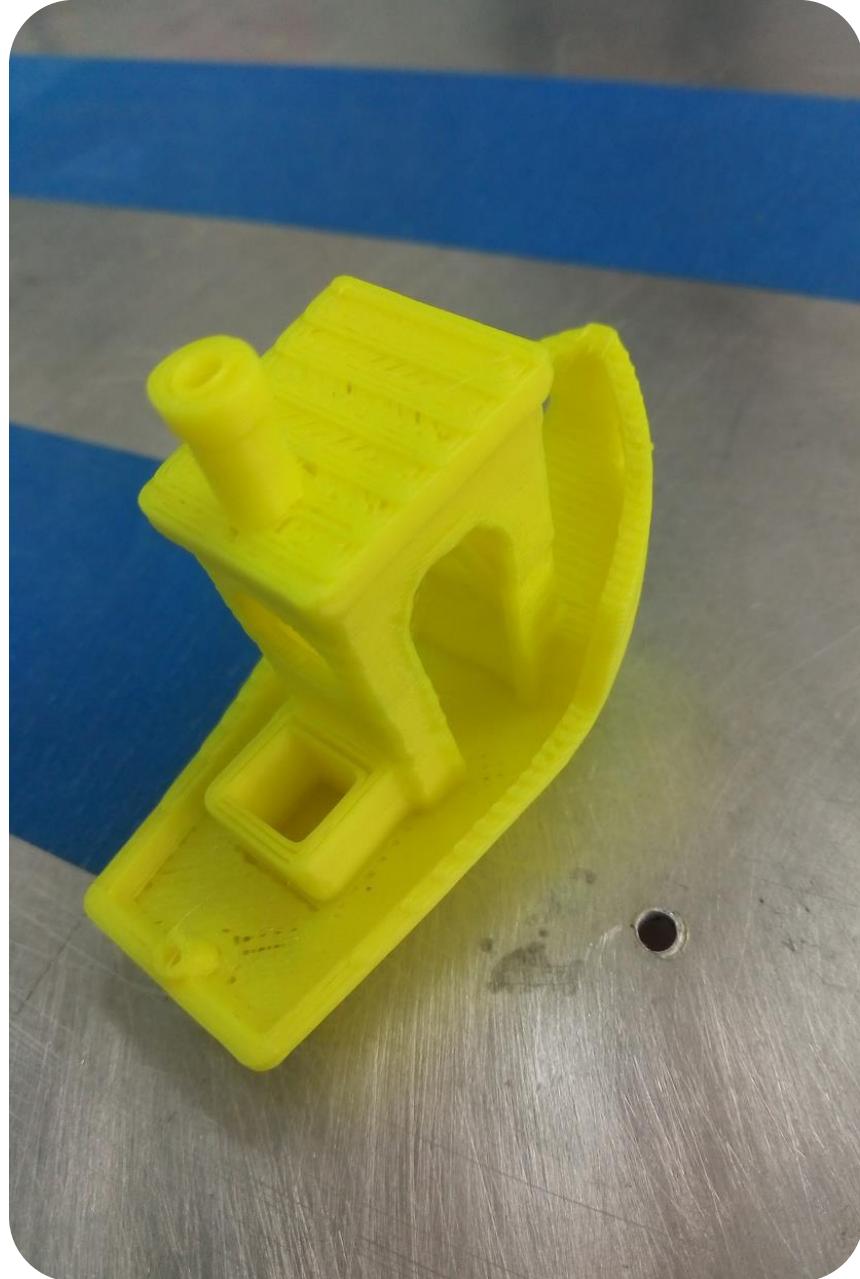
Double-Edged Sword



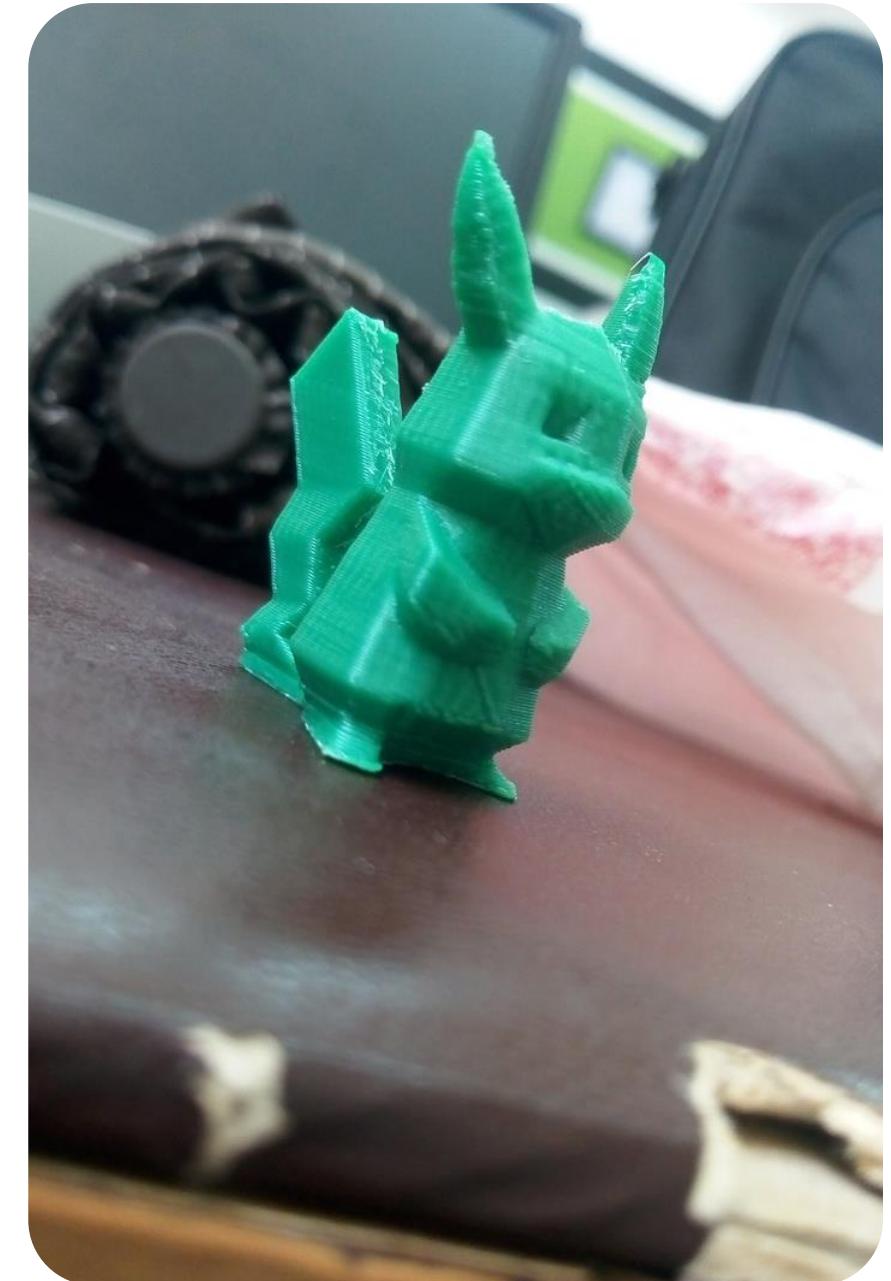
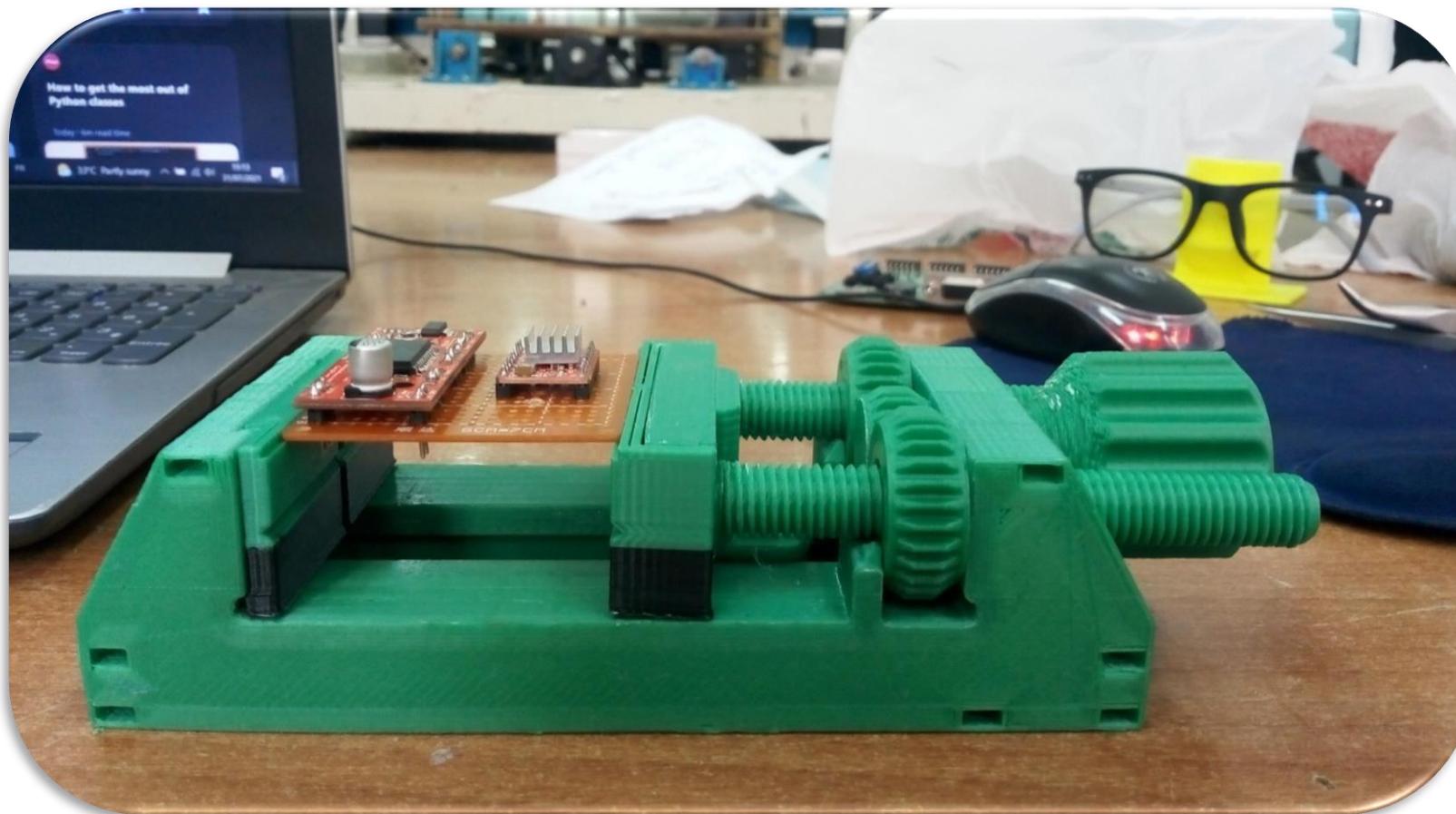
Double-Edged Sword



Some Parts!



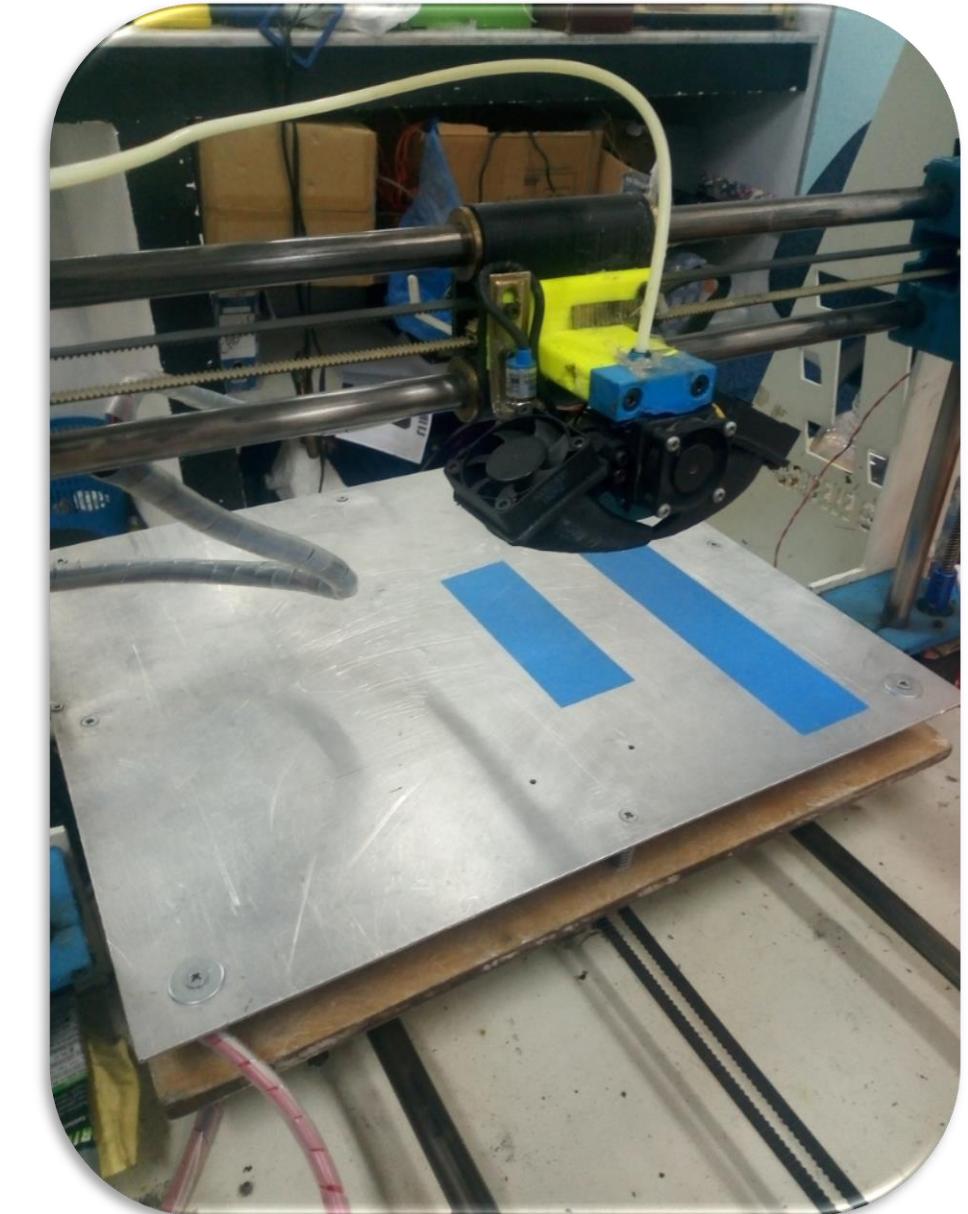
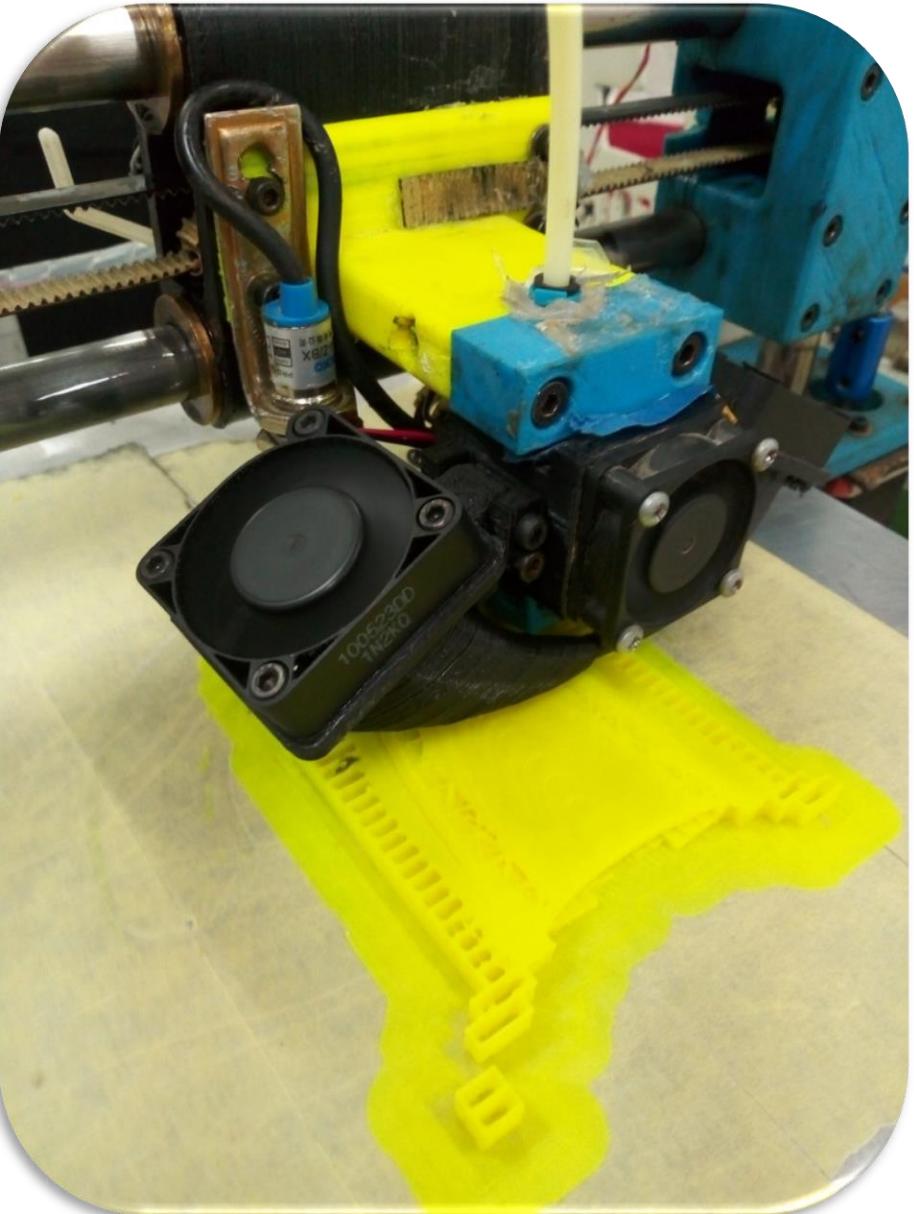
Some Parts!



Some Parts!



Our 3D Printer





Thanks!