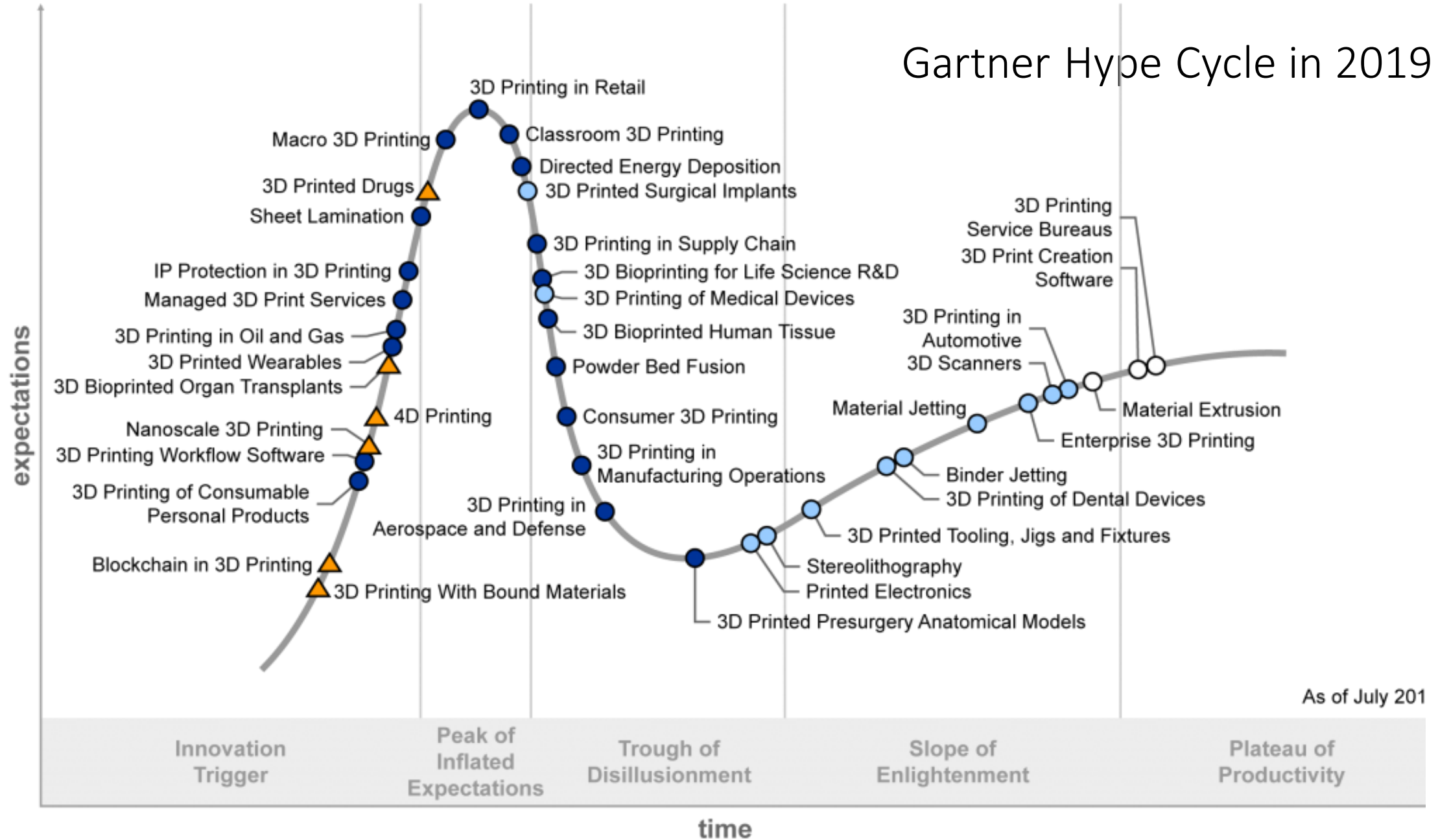


The background features a series of concentric circles in light gray, some solid and some dashed, creating a sense of depth and movement. A large, solid green oval is positioned in the center, serving as a container for the text. A thick, dark gray curved line sweeps across the lower left portion of the green oval.

How 3D printing is helping us to fight the pandemic

Presented by Wing Chan

Gartner Hype Cycle in 2019



Plateau will be reached:

○ less than 2 years ● 2 to 5 years ● 5 to 10 years ▲ more than 10 years ⊗ obsolete before plateau



Blue Origin uses 3D
printing parts for face
shields

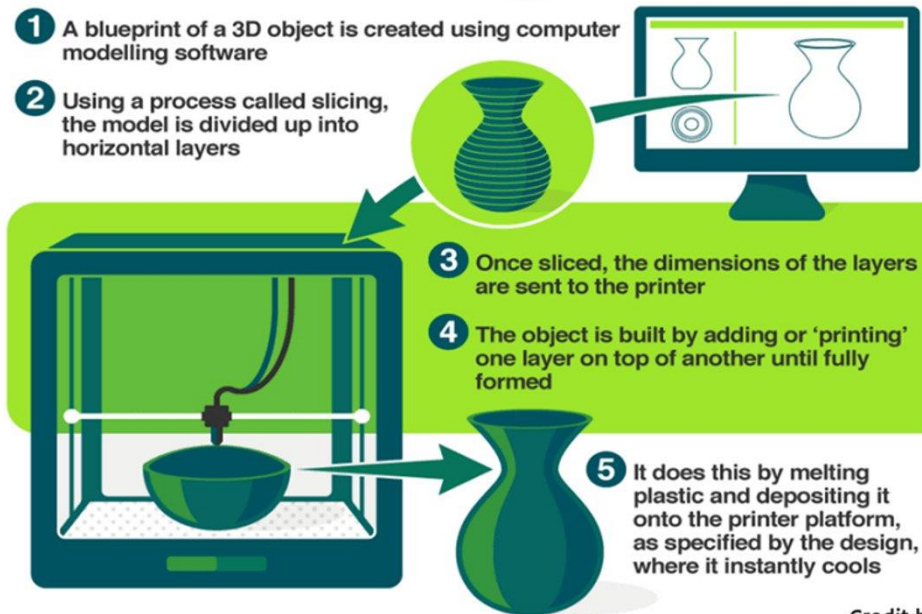
3D Printing To Prevent The Spread Of A Pandemic



These makers are
fighting coronavirus
with 3D printers



3D Printing Basics



Credit:bbc.co.uk

How 3D Printing works?

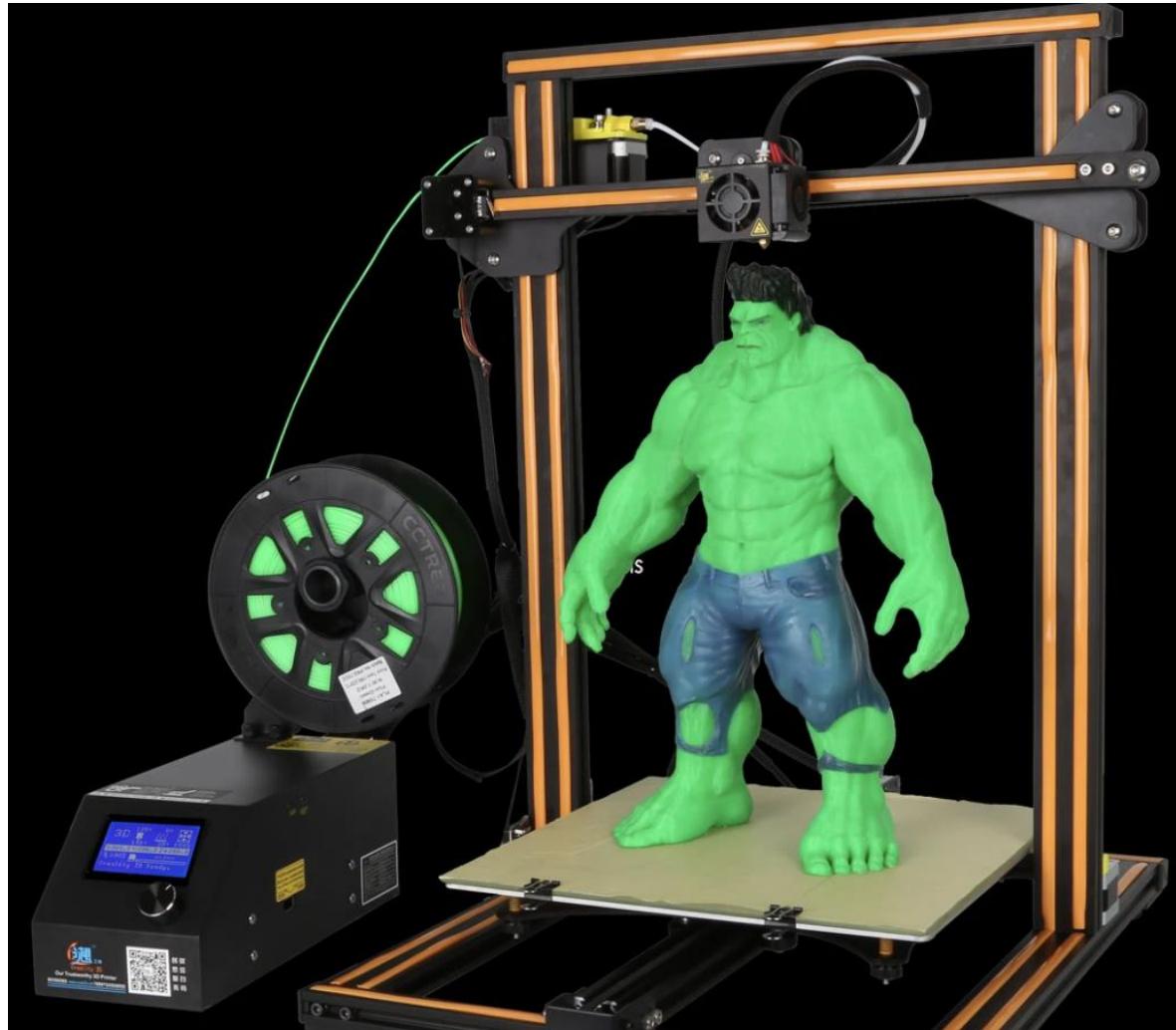
- Additive manufacturing
- **3-steps process**
 - Creating 3D object model using software
 - Printing using 3D printer
 - Finishing by human touch

Should you buy one?

- Are you interested in learning every step in the process of 3D printing? Then the answer is YES.
- Do you just want to 3D prints? Here is your options:
 - Ask a friend who has a 3D printer.
 - Go to the public library.
 - Go to the Store such as UPS, Makerspace.
 - Go online such as [3D Hubs](#), [Shapeways](#).

What type of 3D printers should I buy?

- Fuse Deposition Modeling (FDM)
- **Stereolithography (SLA)**



Fuse Deposition Modeling (FDM)

- **Most common method of consumer 3D printing**
- **Build in layer of plastic filament**
- **Pros: Use cheaper printing material and the cost of printers is low (usually less than \$1000).**
- **Cons: They work slowly and the layer to layer bonding can be weak and rough surface.**




Stereolithography (SLA)

- SLA machines offer greater accuracy and flexibility
- Shoot UV lasers into liquid resin and hardening it into shape layer by layer
- Pro: smaller thickness layer (0.05 mm), smoother surface
- Cons: Higher price point (typically \$3000+)

Select a design

- Download and modify from the existing design template
 - Thingiverse <https://www.thingiverse.com/>
 - Yeggi <https://www.yeggi.com/>
- Create your own by using 3D printing software
 - Tinkercad by AutoDesk
 - <https://www.tinkercad.com/>
 - Fusion 360 by AutoDesk
 - <https://www.autodesk.com/products/fusion-360/overview#banner>
 - Cura Slicing Software by Ultimaker
 - <https://ultimaker.com/software/ultimaker-cura>

Photo by [Nikita
Kachanovsky](#) on [Unsplash](#)

A black hat, possibly a fedora, is shown against a light background. A white rectangular sign is placed on the front of the hat. The sign has the words "THINK", "OUTSIDE", and "THE BOX" written in a bold, blue, sans-serif font, arranged in three lines.

**THINK
OUTSIDE
THE BOX**



Open Question?

Can you think of another technology is helping us to fight for this Pandemic?

Reference

How 3-D printing is helping the US fight medical equipment shortages and the coronavirus pandemic

<https://www.cnbc.com/2020/04/17/how-3-d-printing-is-helping-the-us-fight-the-coronavirus-pandemic.html>

Jeff Bezos' Blue Origin is 3D printing parts for face shields to help fight the coronavirus crisis

<https://www.cnbc.com/2020/04/07/jeff-bezos-blue-origin-is-3d-printing-coronavirus-face-shield-parts.html>

How to get started in 3D printing

<https://www.popularmechanics.com/technology/gadgets/a19698/get-started-3d-printing/>