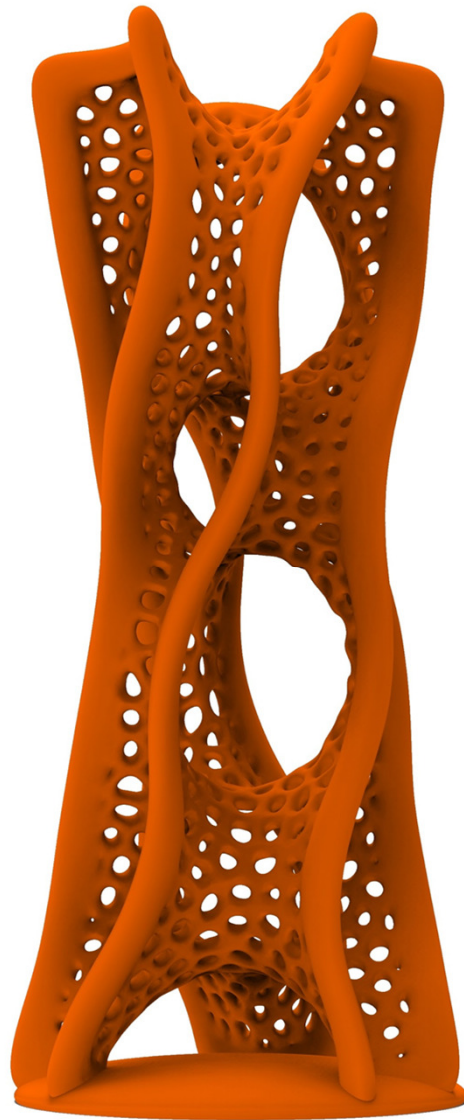


Nova dimenzija tiska
Mr.sc. Roberto Vdović

PRINT.Fest
Dani s Gospodinom Printom

Hotel Sheraton 4.3.2016.



- Definicija
- Razvoj
- Područja primjene
- Fablabovi
- Digitalne tvornice
- Lokalna proizvodnja
- Tko posjeduje budućnost

Treća dimenzija tiska - SDL tehnologija



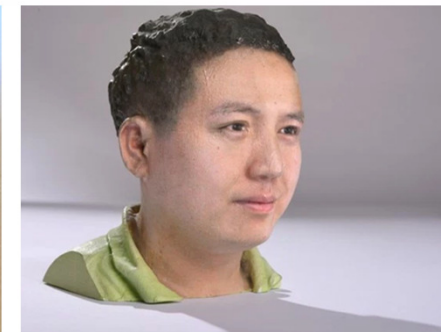
3.1 The first sheet is attached to the build plate.

3.2 The machine deposits drops of adhesive on the first sheet of paper, more in the area of the part and less in the surrounding area that will become the supporting material.

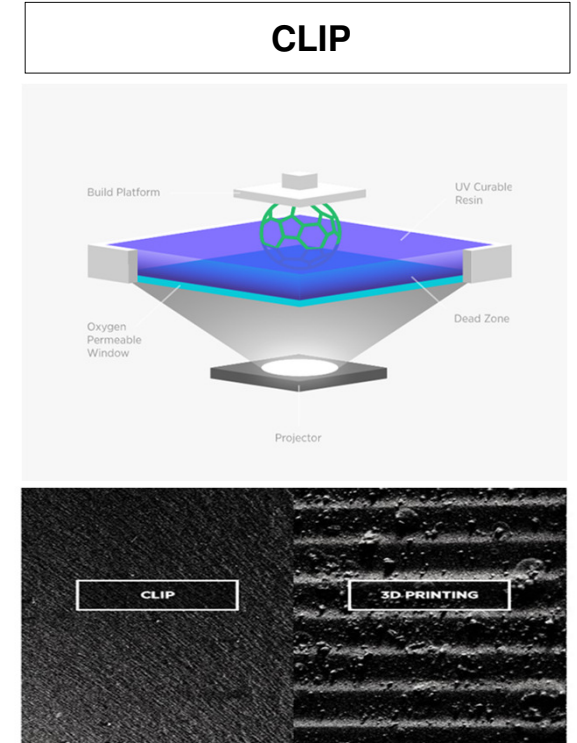
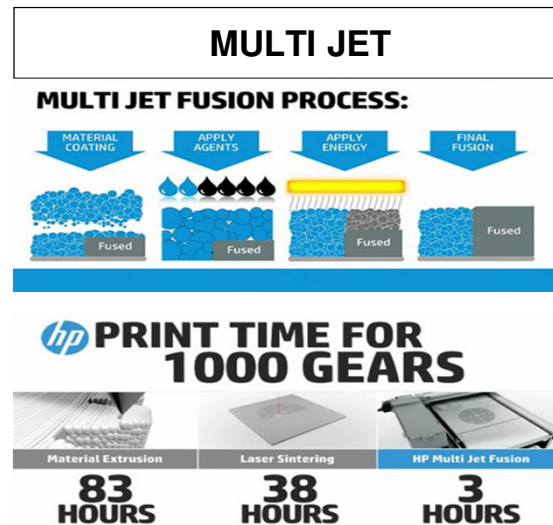
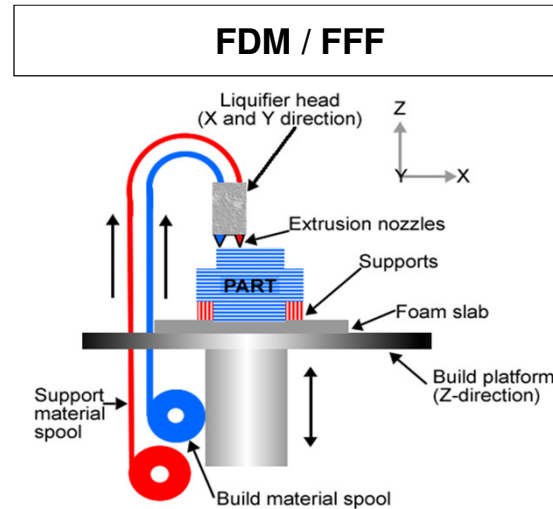
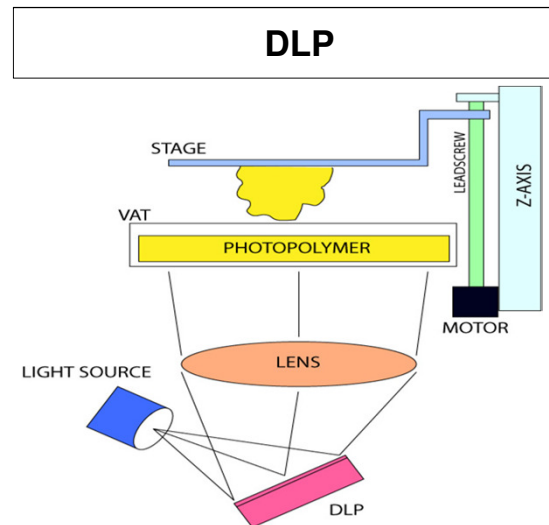
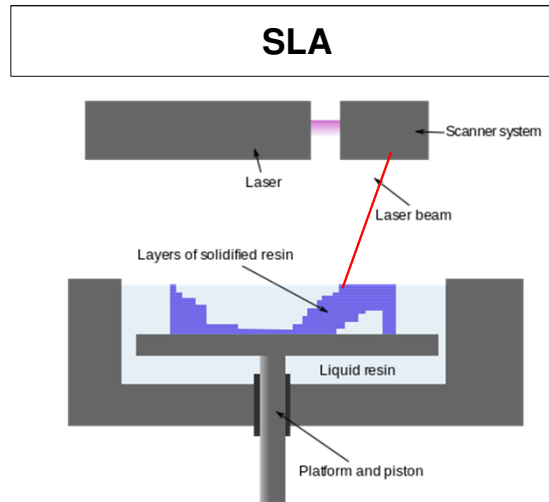
3.3 A new sheet of paper slides in, and the machine applies pressure to bond the first and second sheets together.

3.4 An adjustable Tungsten carbide blade cuts one sheet of paper at a time, tracing the object outline to create the edges of the part.

3.5 The process continues for each layer until the model is finished. After the last layer is complete, the part can be removed from the build chamber.



Aditivne tehnologije



Based on 3rd party tests commissioned by Carbon3D to compare CLIP against a leading commercial printer in each technology category.

Razvoj digitalne proizvodnje



prvo glodalo
spojeno na
računalo CNC
(M.I.T.)

prvi uređaj za
3D ispis
(Chuck Hull)

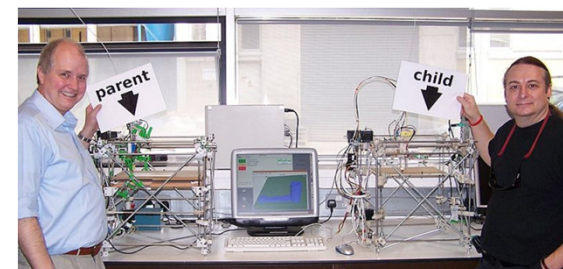
patentirana
stereolitografija
SLA, UV laser
(Chuck Hull)

Laser sintering
SLS metale
(Carl Deckard)

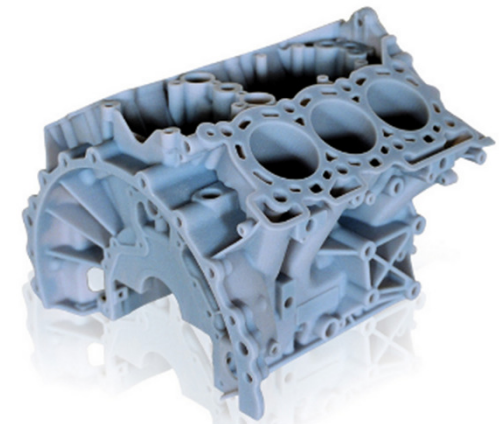
prvi
komercijalni
uređaj
(3D Systems)

RepRap projekt
FDM > FFF
(Adrian Bowyer)

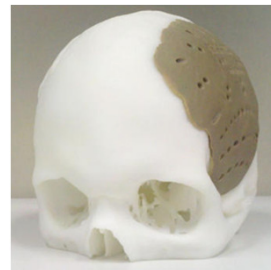
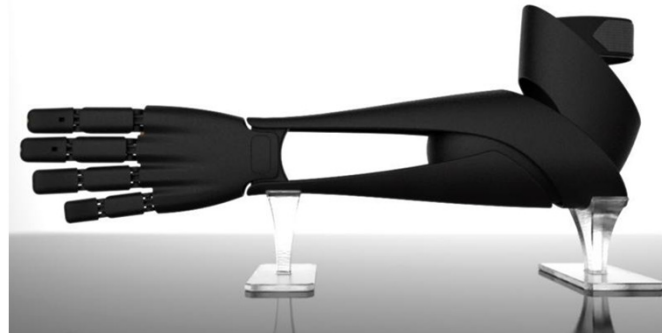
godina od
prvog 3D
ispisanog
predmeta



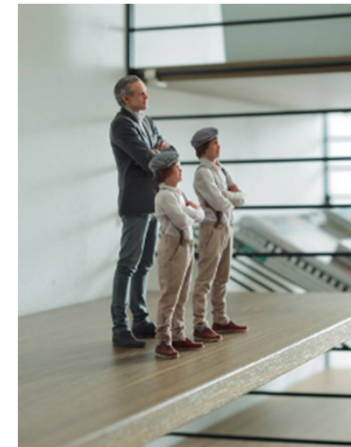
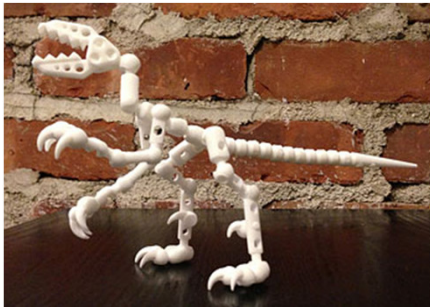
Primjena u automobilskoj i avio industriji



Primjena u medicini



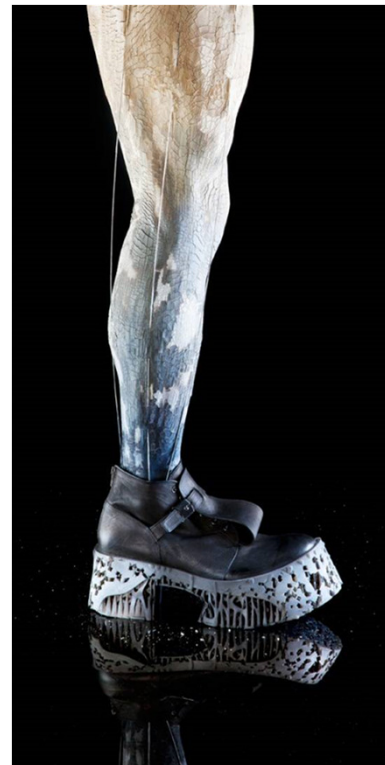
Primjena u industriji igračaka i zabave



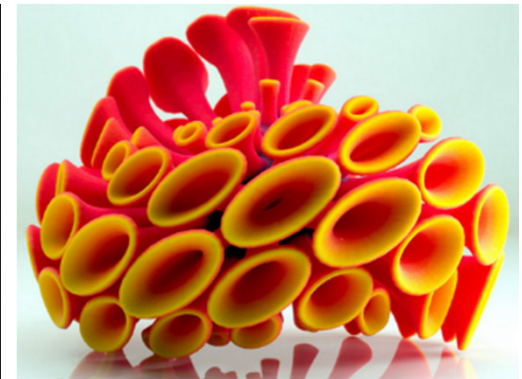
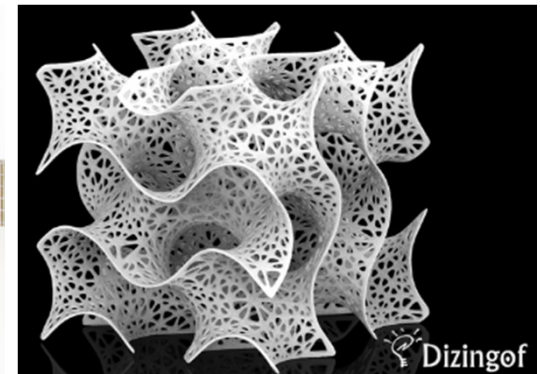
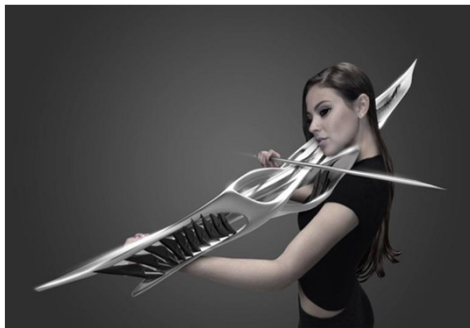
Primjena u izradi nakita



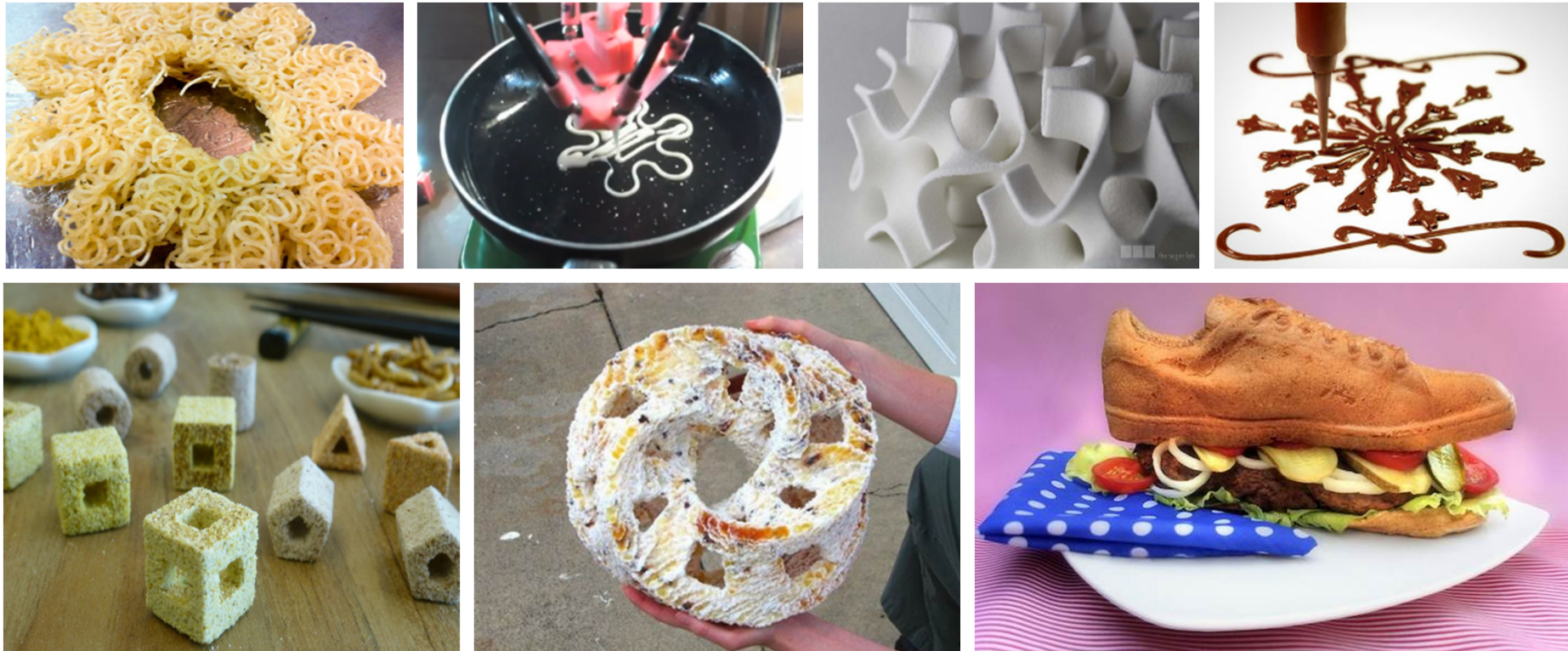
Primjena u industriji mode



Primjena u umjetnosti i dizajnu



Primjena u prehrambenoj industriji



Primjena u arhitekturi i graditeljstvu



Izrada novih konstrukcija

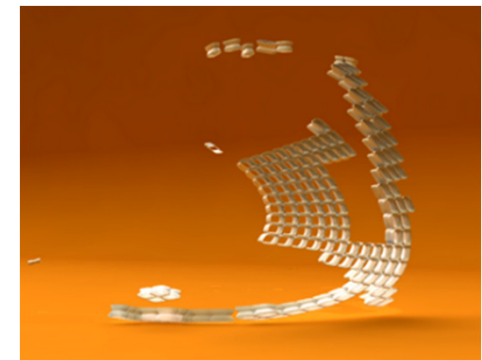
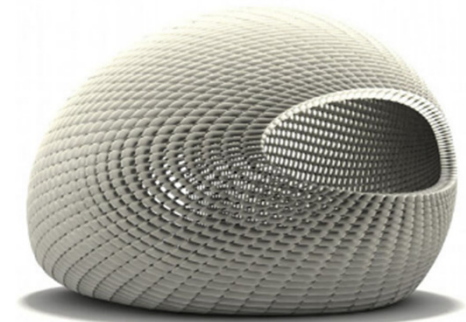


FabLab - Makerspace

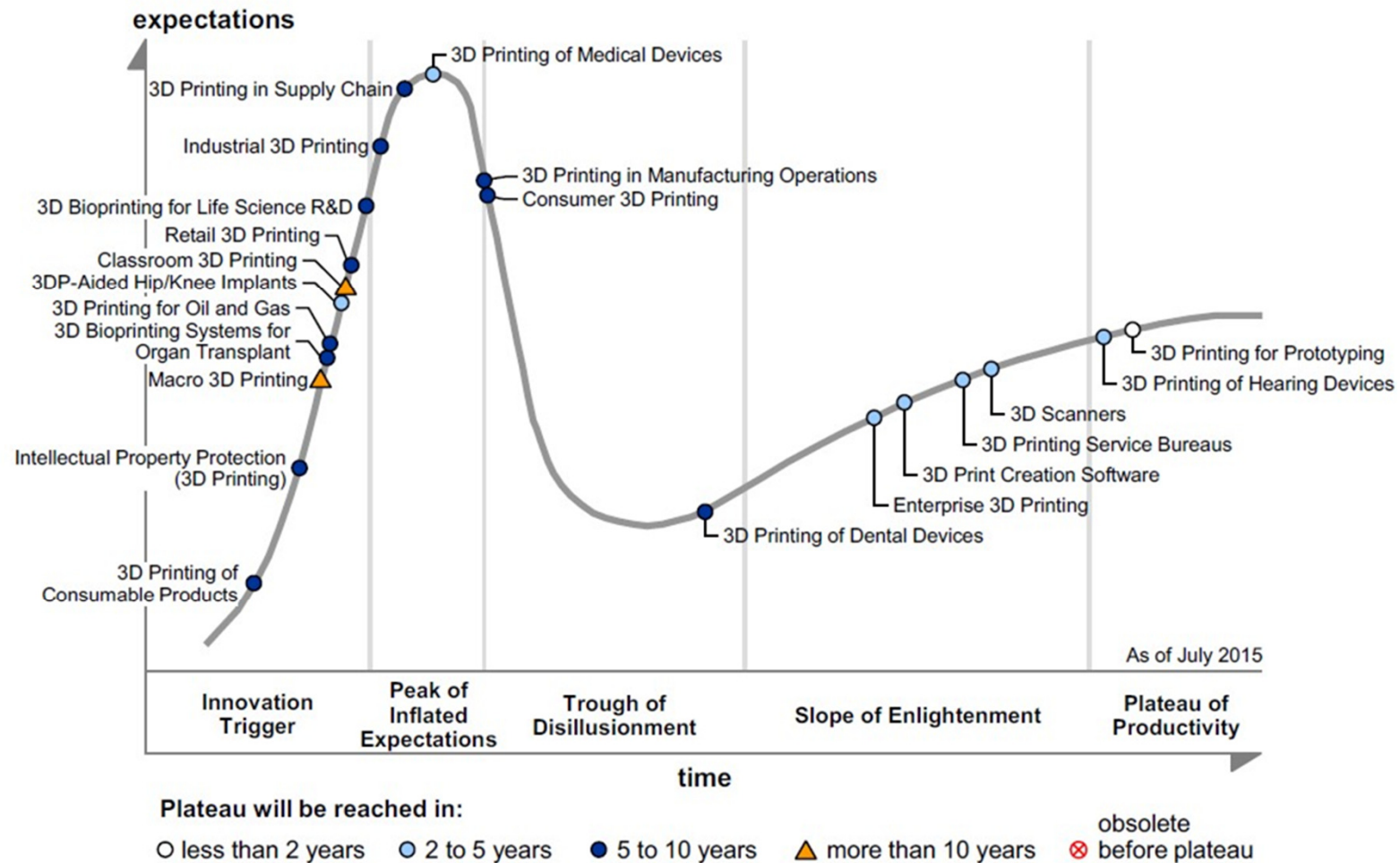
Mjesto povezivanja, prostori za eksperimentiranje, edukaciju, promociju

Pomoć pri realizaciji zanimljivih projekata:

- **Project EGG** > projectegg.org
 - community production
- **E-nable The Future**
 - izrada proteza
- **FabLab@School**
 - korištenje u školama
- **FabLab@Road**
 - mobilni FabLab



3D printing Hype Cycle, Gartner, 2015



Source: Gartner (July 2015)

Na pragu nove industrijske revolucije

Prva industrijska revolucija (1750-1850)

- mehanizacijom
- parni stroj
- čeličane

Tvornica je rođena!

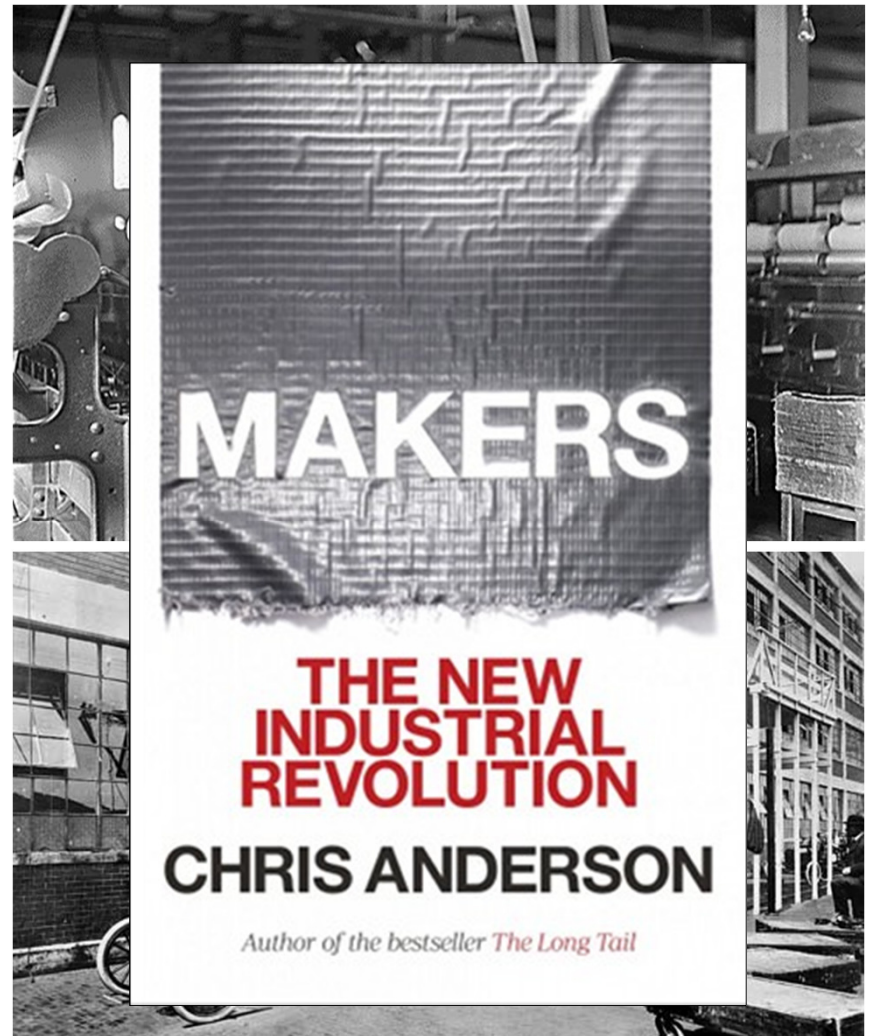
Druga industrijska revolucija (1870-1950)

- pokretne proizvodne linije
- Henry Ford, početak 20. st.

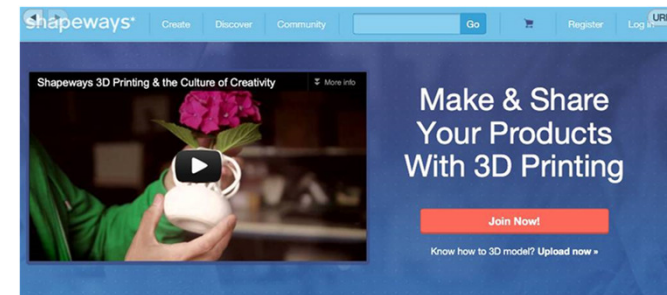
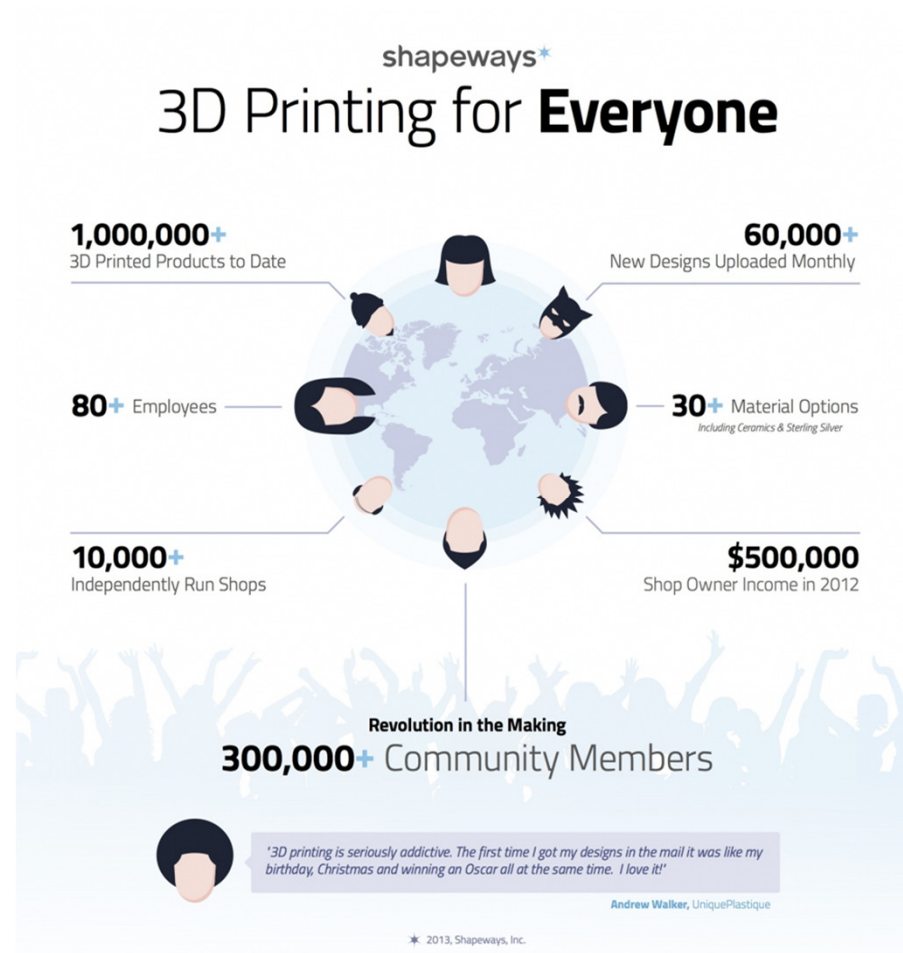
Početak masovne proizvodnje!

Prve dvije industrijske revolucije učinile su ljude bogatijima i više urbanima.

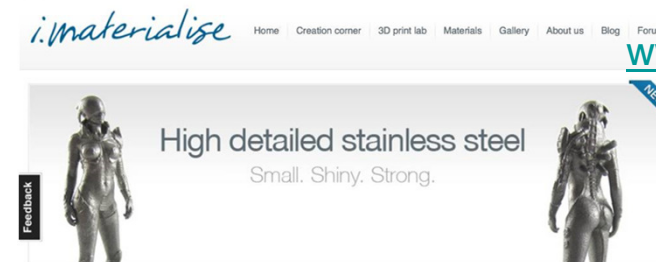
Nova (4.) industrijska revolucija je u tijeku. **Proizvodnja postaje digitalna**, a to bi moglo promijeniti ne samo posao, već imati i šire posljedice na suvremeno društvo.



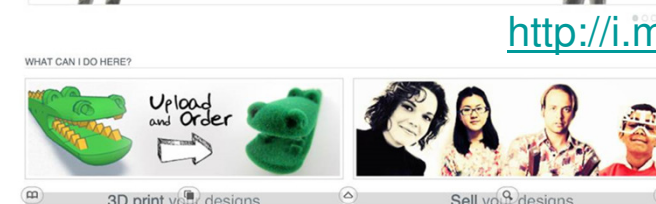
Digitalne tvornice



www.shapeways.com
NL > USA

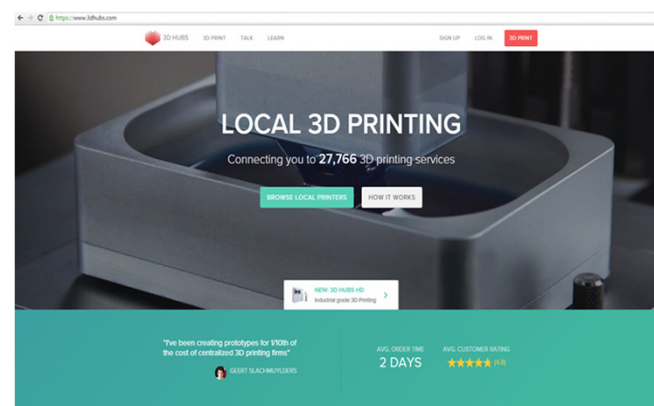
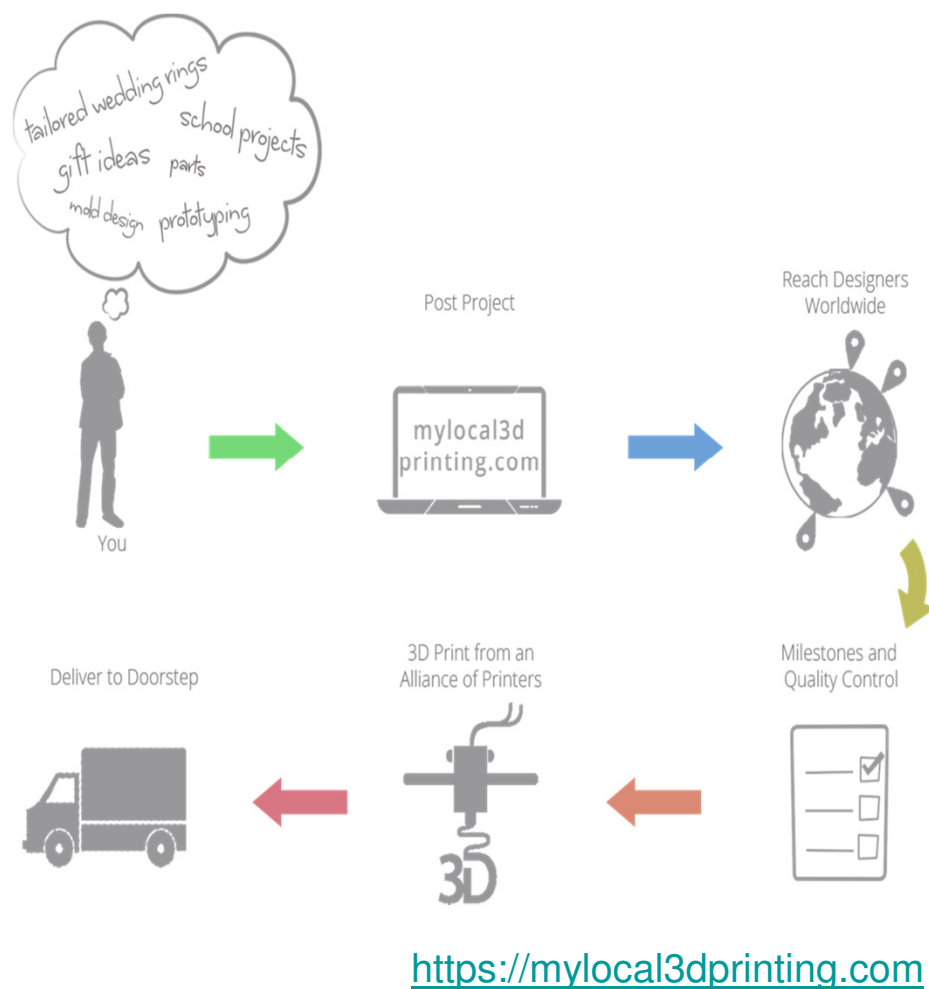


www.sculpteo.com
FR

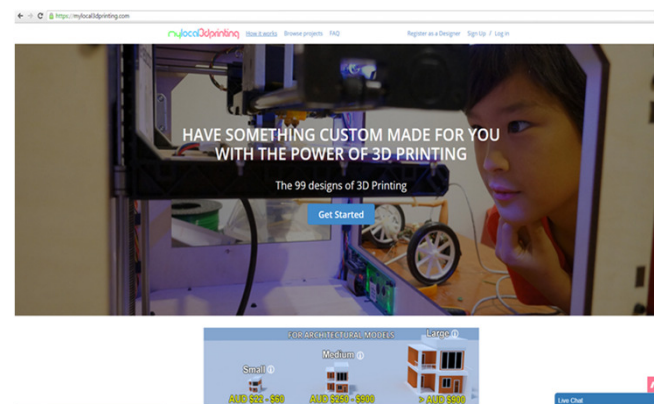


<http://i.materialise.com/>
BE

Mreže lokalne digitalne proizvodnje



www.3dhubs.com
mreža 27.769 printera



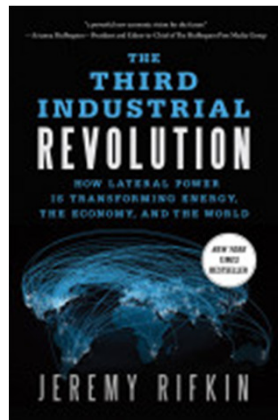
www.makexyz.com

Tko posjeduje budućnost

Makerbot founder, Bre Pettis >



Ping Fu, <http://news.bbc.co.uk/2/hi/programmes/hardtalk/9788066.stm>
... She founded the company Geomagic which is revolutionising the manufacturing process in the digital age using 3D printing. She says the technology 'is as big as steam engines... as big as the Internet'.



Jeremy Rifkins, <http://thethirdindustrialrevolution.com/>
"...While the Third Industrial Revolution (TIR) economy allows millions of people to produce their own virtual information and energy, a new digital manufacturing revolution now opens up the possibility of following suit in the production of durable goods. In the new era, everyone can potentially be their own manufacturer as well as their own internet site and power company. The process is called 3D printing."



Pitanja i odgovori

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