



SHAREBOT

Stampanti 3D per la ricerca

**Additive Manufacturing
Workshop**



CEO Arturo Donghi

- **Vision**

- 3D printing is changing the way to make things
- We will provide 3D printers for R&D and SME

- **Philosophy for R&D**

- Critical review of known processes
 - To simplify and reduce costs
- Open access to all the process parameters



Us of Sharebot

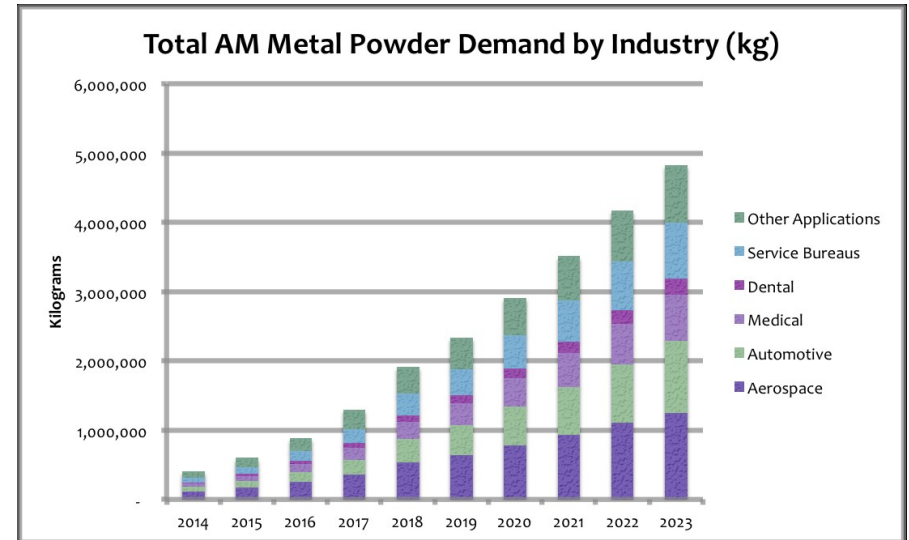
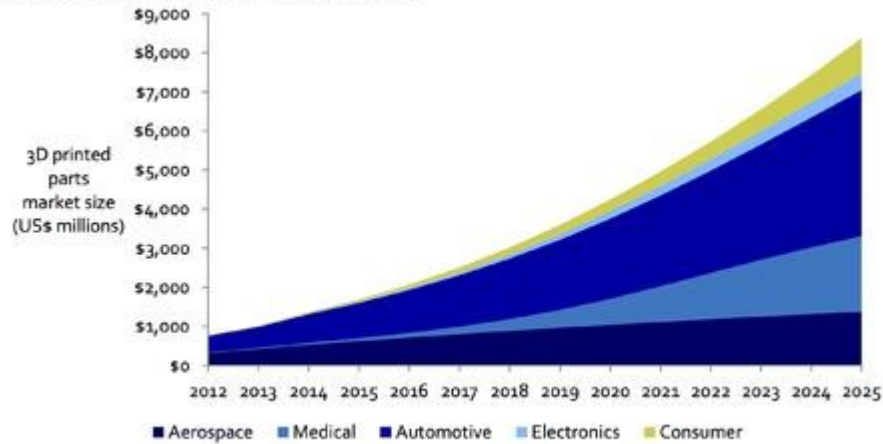
2013 Sharebot

- 28 people
- 8 R&D
- 4.500 3D printers on market
- FDM DLP SLS SLM technology

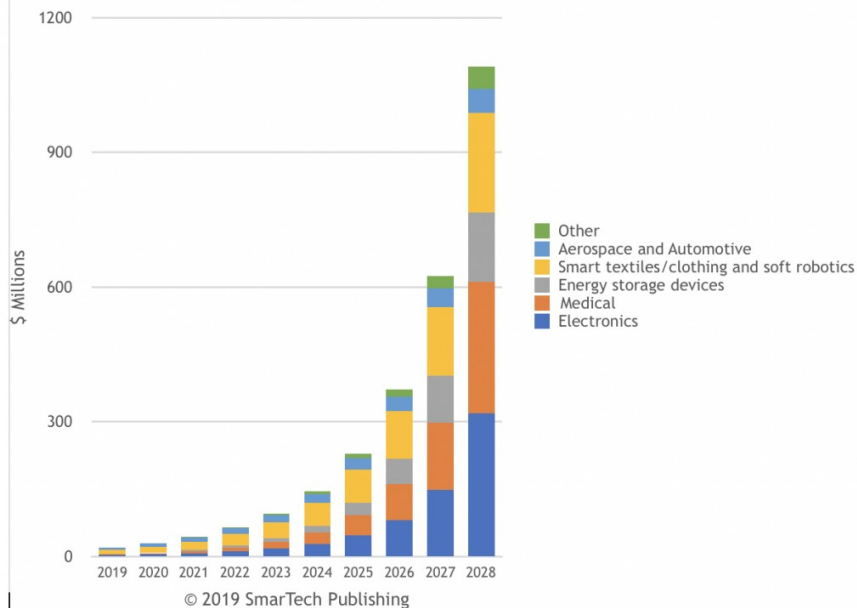


Market forecast

3D Printed Part Market Grows to \$8.4 Billion in 2025



Forecasts of Parts and Prototyping Revenues for 3D Printing of Nanomaterials: Breakout by End-User Segment (\$ Million)



3D Printing Future

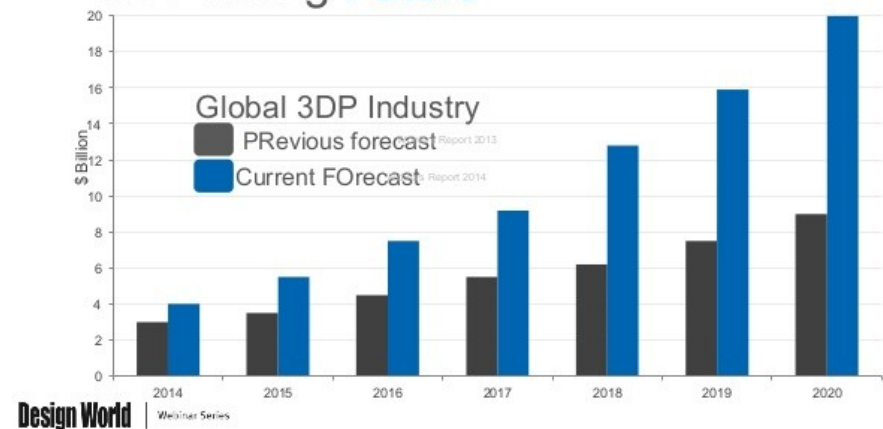
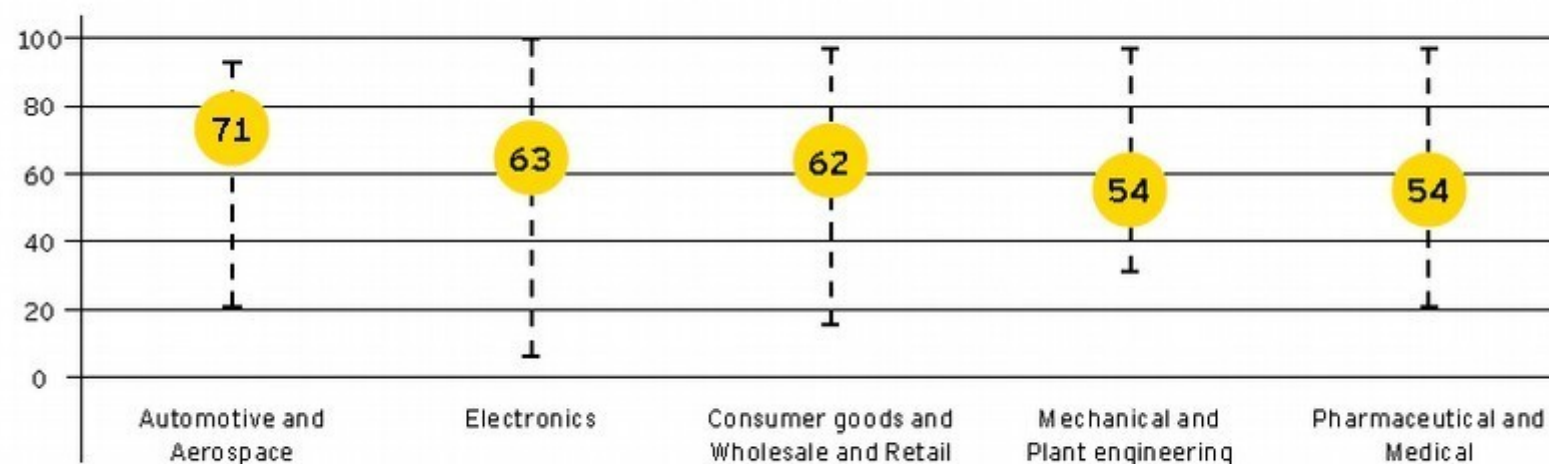


Chart 24

Prototyping time reduction with 3DP (%)^{*}

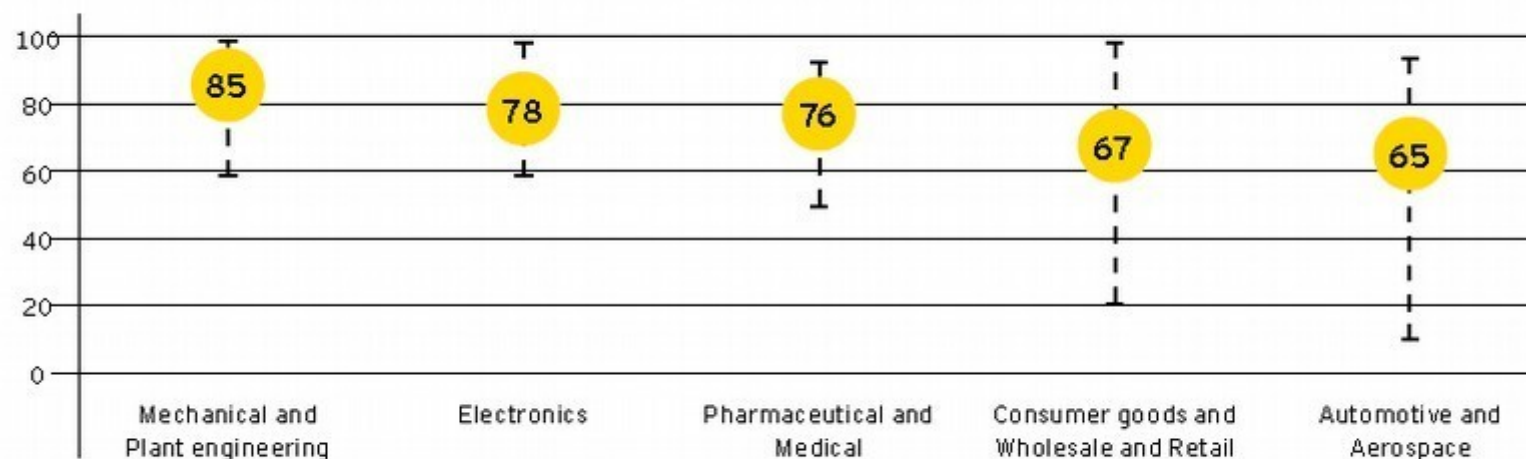


-- Highest and lowest

● Average

Chart 25

Prototyping costs reduction with 3DP (%)^{*}



-- Highest and lowest

● Average

The industry needs

AM processes

New materials

Skilled people

Sharebot offer

Open technology

- Standard process
- Growing platform
- Affordable printers

R&D world give answer

new material
process
skilled people

R&D



INDUSTRY



MARKET



Our efforts



Institut de Science
des Matériaux de Mulhouse

Article

Filaments Production and Fused Deposition Modelling of ABS/Carbon Nanotubes Composites

Sithiprumnea Dul¹, Luca Fambri and Alessandro Pegoretti^{*1}



Preparation of Highly Porous Carbonous Electrodes by Selective Laser Sintering

Elmeri Lahtinen, Esa Kukkonen, Joonas Jokivartio, Joni Parkkonen, Jussi Virkajärvi, Lauri Kivijärvi, Markus Ahlskog and Matti Haukka*



UNIVERSITÀ DEGLI STUDI
DI TRENTO

Multifunctional materials for 3D printed customizable footwear

D. Rigotti, G. Barp, A. Dorigato, L. Fambri, A. Pegoretti

Università di Trento, Dip. Ingegneria Industriale
via Sommarive, 9 - 38123 Trento, Italy

A workflow to generate physical 3D models of cerebral aneurysms applying open source freeware for CAD modeling and 3D printing

Alba Scerrati^a, Federica Trovalusci^b, Alessio Albanese^c, Gennaro Salvatore Ponticelli^d, Vincenzo Tagliaferri^b, Carmelo Lucio Sturiale^e, Michele Alessandro Cavallo^a, Enrico Marchese^e

Who use our 3D printers in R&D

- Universities

- INSA Lyon
- TU Darmstadt
- TU Freiberg
- FH Dortmund
- Un Delaware
- Un Queensland
- Un Guangdong
- Un St. Etienne
- Un Jyväskylä
- Un Exeter
- Un Greenwich
- List Luxemburg
- TNO
- Shanghai biomechatronics
- Ningbo tech

More than 50 around
the world

Italy

Europe

USA

China

Australia

India

Japan



Who use our 3D printers for R&D



Corporation

Covestro

Clariant

Arkema

Jabil

Bio-on

OCV

Repsol

Henkel

Huntsman



where we are working on

Latest technology

- LCD-DAYLIGHT resin DLP
- METAL DMLS

Software

- Better user experience

Hardware

- Standard Process



What features will be Important for AM in the future

- High tech materials
 - Aerospace
 - Automotive
 - Healthcare
- Speed
- Easy of use
- Reliability



Our printers

Developped in sharebot
hardware/software

SKILLS

Platform

TAILOR MADE

Open

NOT ONLY PARAMETERS

Process parameters

- Materials

Accept standard Gcode

- Free slicing software

Logs

WHERE YOU ARE



FDM 3D printers

XXL Plus



Q



QXXL



Q Dual



FDM

- Main features

Extruder temp. up to 500°C

Hot build plate up to 150°C

Nozzle 0,4-0,8mm

Slic3r – Simplify3d

- Web control
- Webcam
- 1,75 filament
- Filament detection

- Materials

- CLASSIC
 - ABS, PLA, TPU
- ADVANCED
 - PVA , PP, PA
- **Reinforced**
 - NyGlass, NyCarbon
- **SUPER TECH**
 - PPS, PEEK, ULTEM
 - PEI



DLP LCD

- Our 3D printers
 - LCD Viking
 - DLP Voyager
 - BIG

Open parameters

405 nm UV resin

Daylight resin

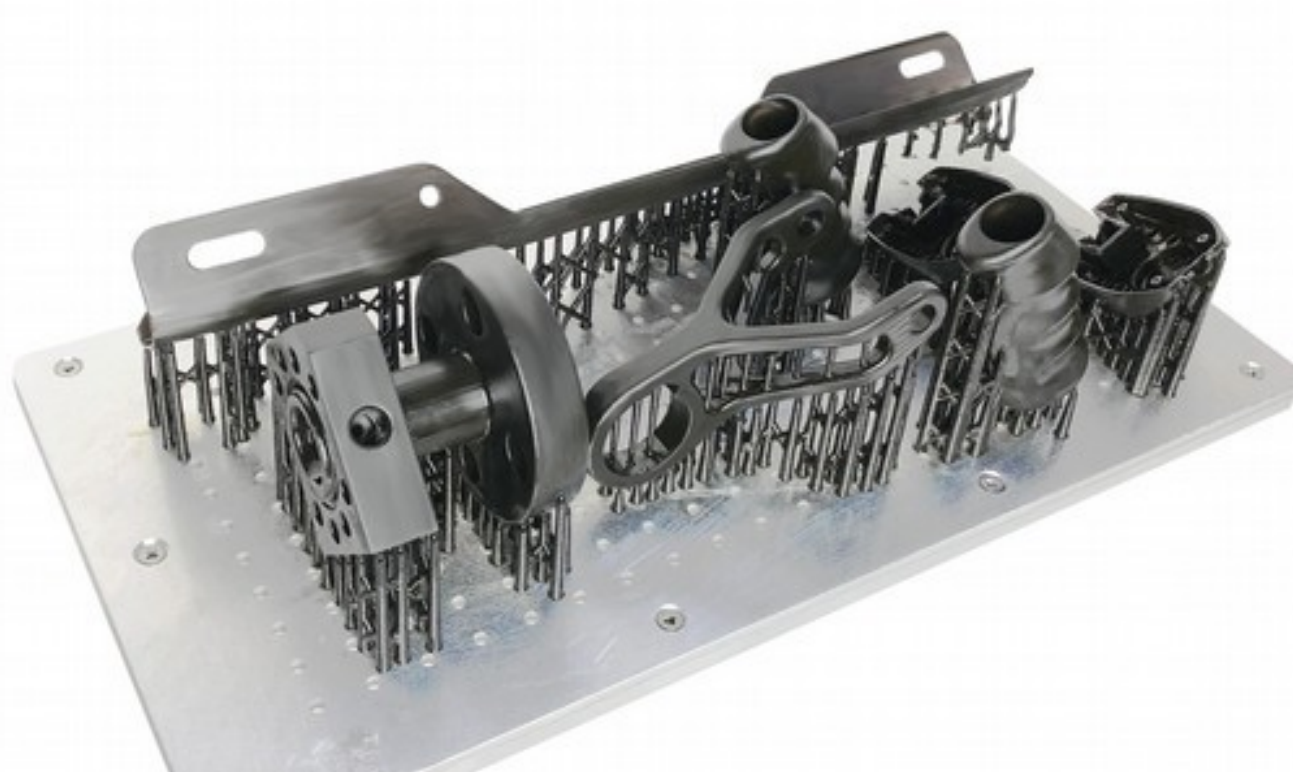
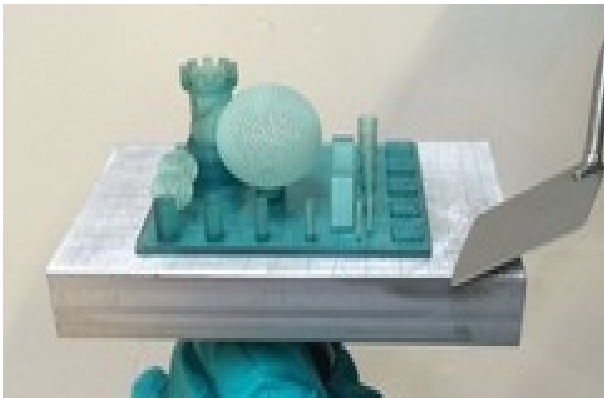


Market

- Jewellery
- Dental
- Mechanics

- Resins

- Technical
- Castable
- Biocompatible



SnowWhite SLS

Main features

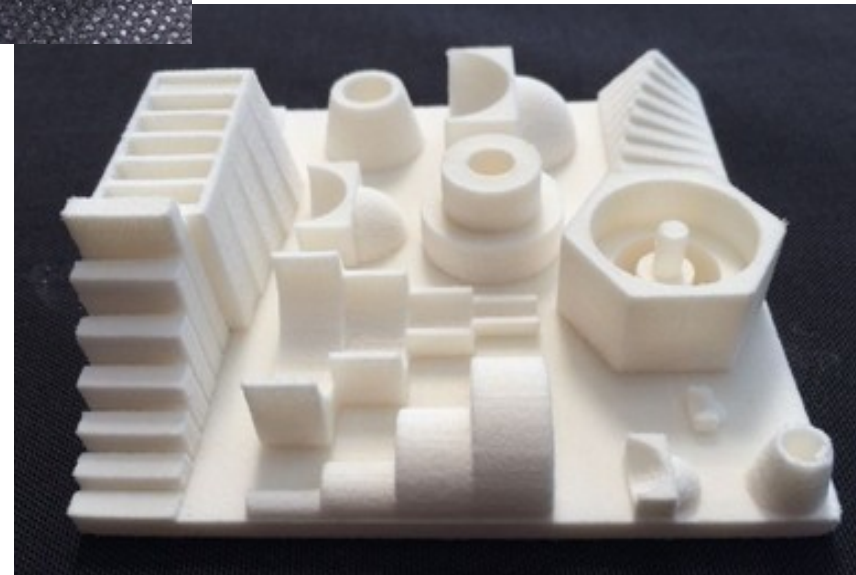
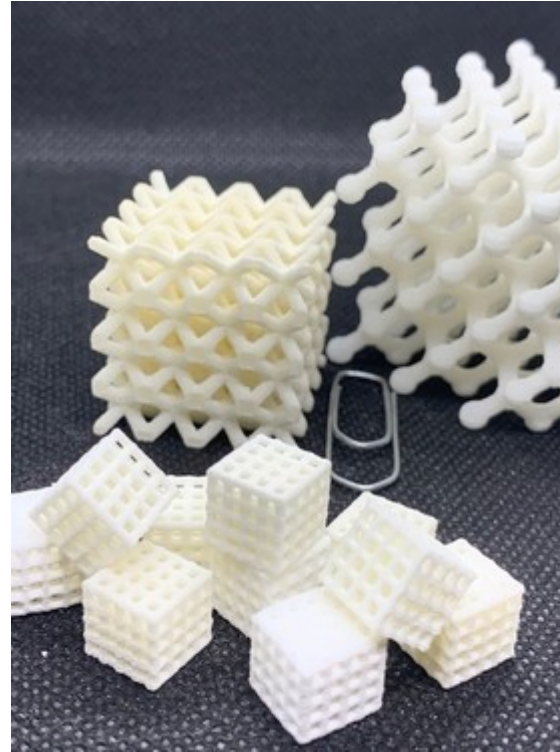
- Laser 14 Watt CO2
- Build size up to 10x10x10 cm
- Build env. temp. up to 170°C
- Bed temp. up to 200°C
- **Min powder charge ~300g**
- Open parameters
- Process logs

The only desktop SLS on the world



Materials tested

- PA12
- PA11
- TPU
- PS
- Special powders
- Modified powders
- Bio-compatible powders

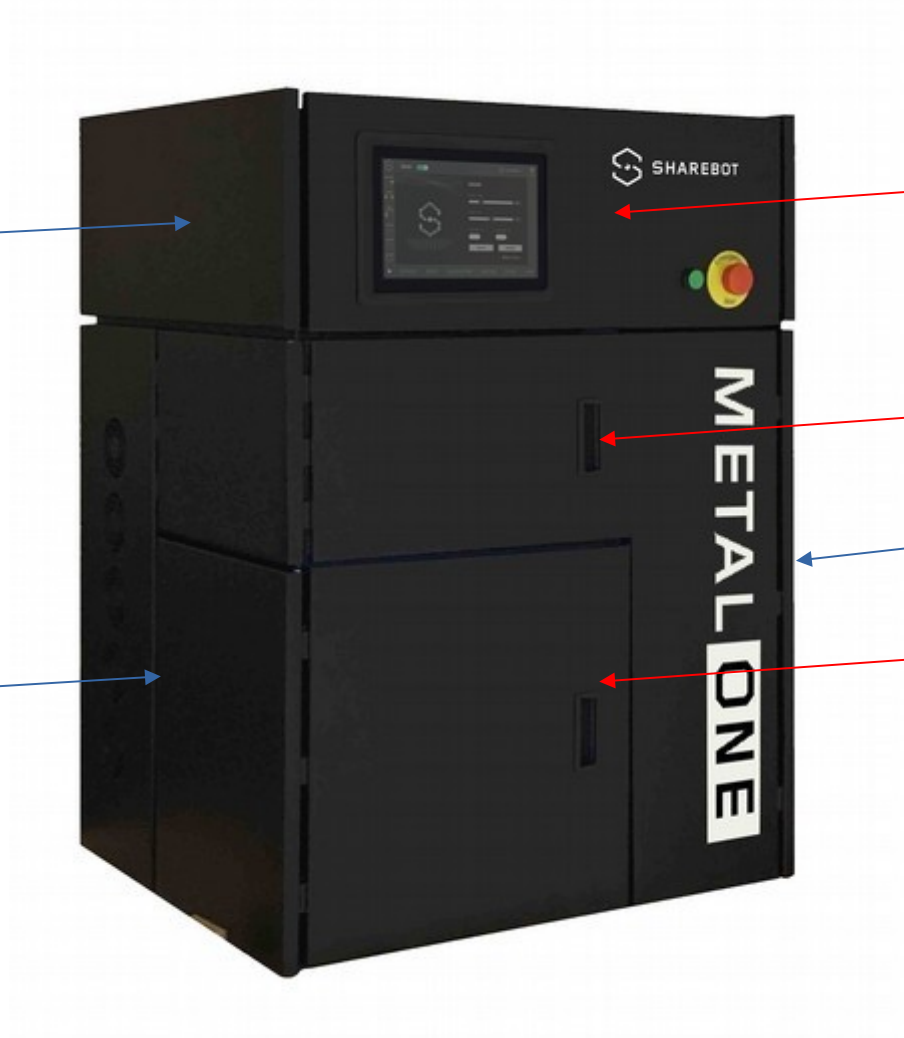


MetalONE DMLS

74x63x100 cm

Electronics
Galvo
Lens

Laser source
Air chilled



Touch
screen

Build room

Filters

Unused
powder



Our DMLS metalONE



Process parametrs

printer

Build area 65x65x100 mm

Laser fiber 250W

Speed travel up to 1500 mm/s

spot size 40 um

Layer >0,03 mm

Oxygen sensor

Min charge 800g

Nitrogen or Argon

Lan

Software standard GCODE

Hatching >0,05 mm

Strategy infill

Top

Infill

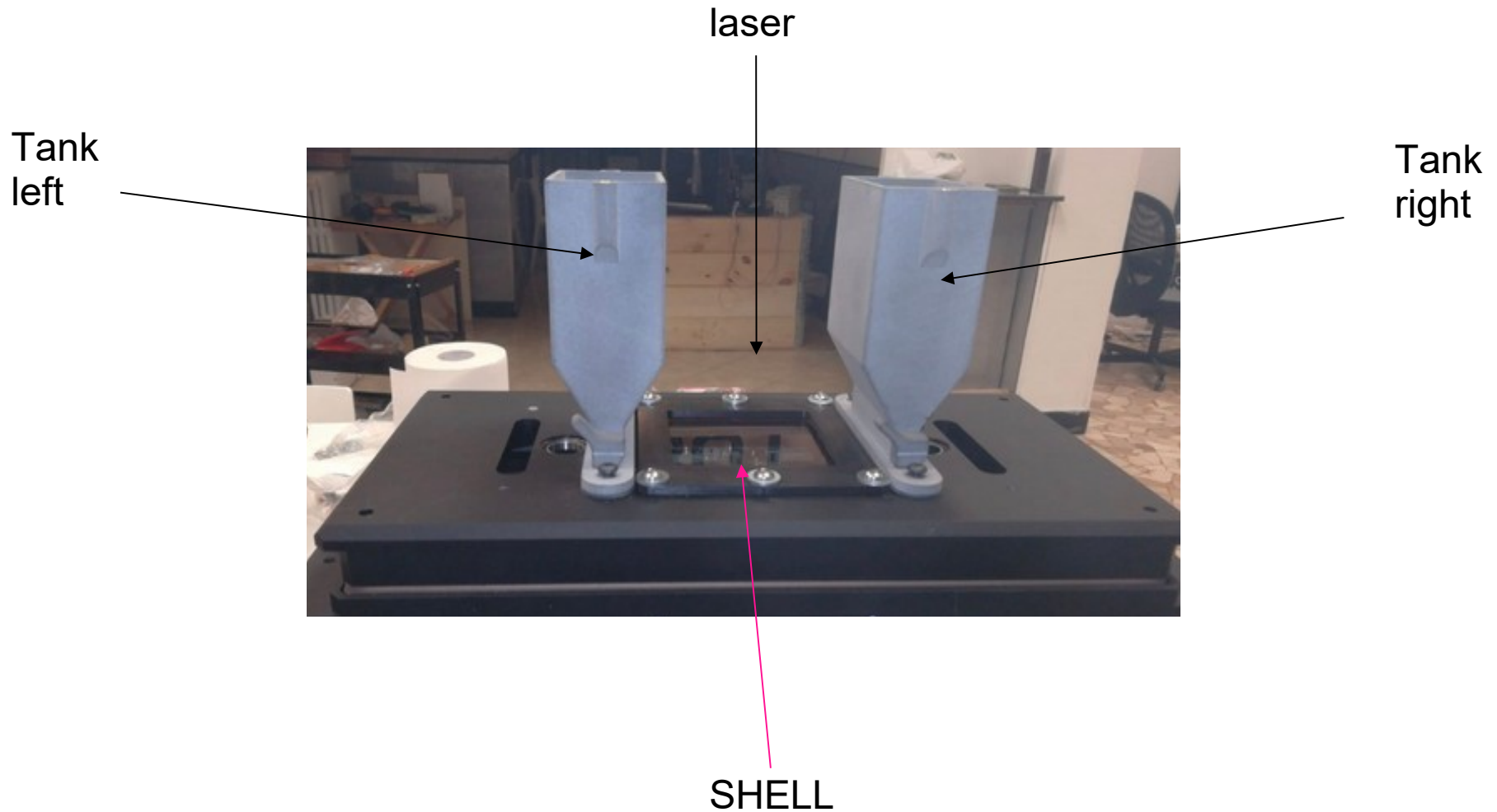
Perimetrs

Bottom



Print in a shell

patent pending



Plus metalONE

Easy to clean

- 30 minute clean and change filter
- Few powder for a build (800 gr)

Low maintenance

Not expensive spare parts

- Example base

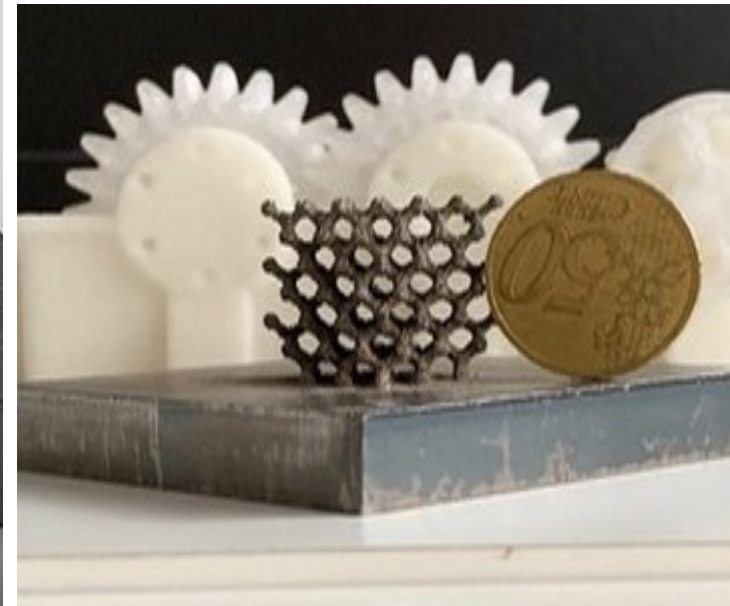
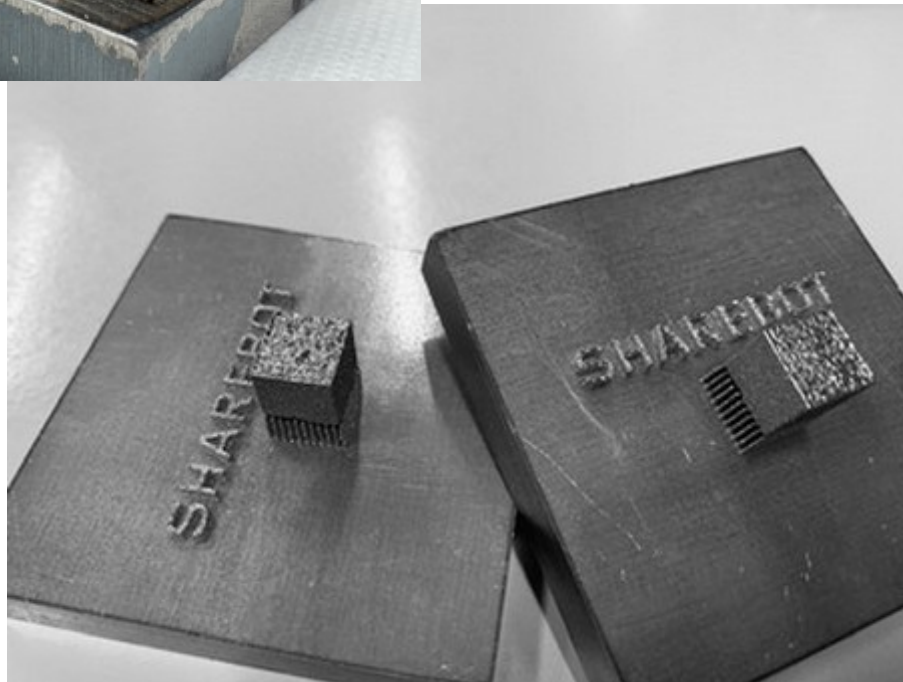
Process logs with main layer info and photo (*ai project*)

Growing platform

- We design and developed both hardware and software
- We are open to suggestions to add sensor or features
- We can evaluate special configurations



Stainless Steel 316L



CONCLUSION

Future

Another ways to make things (simpler, better, faster ...)
– A new green production

Industry needs

- New materials
- People skilled
 - used to think in 3D for AM
- Integration of AM in internal processes
 - reduction in TTM
 - efficiency and costs

Sharebot is ready with 3d printers for R&D

DO IT DIFFERENT

thanks

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