ADDITIVE DAYS 2020

3D Printing Trends

and how to make the business case

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Hello! I'm Alkaios

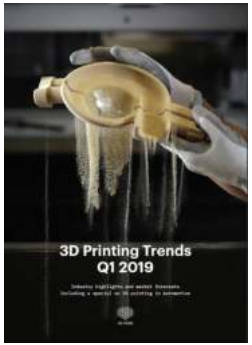
Loughborough University

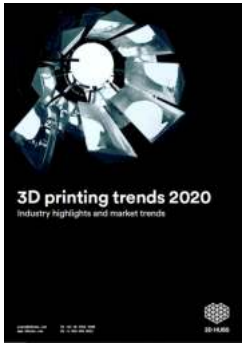
3D HUBS

ADDITIVIST

ANTLER

- 2011 : First contact with 3D printing through studies and hobby
- 2014 : PhD in Additive Manufacturing & Printed Electronics
- 2017 : Expert content on Digital Manufacturing
- Sep 2019 : Freelance consulting
- Jan 2019 : Entrepreneur in residence





How many of you are currently using

3D printing in a professional setting?

How many of you have used professionally a 3D printing process other than FDM/ FFF?

How many of you finding difficult to pitch

3D printing to your boss?

Part 1

3D Printing Trends

Part 2

The Business Value of AM

1.

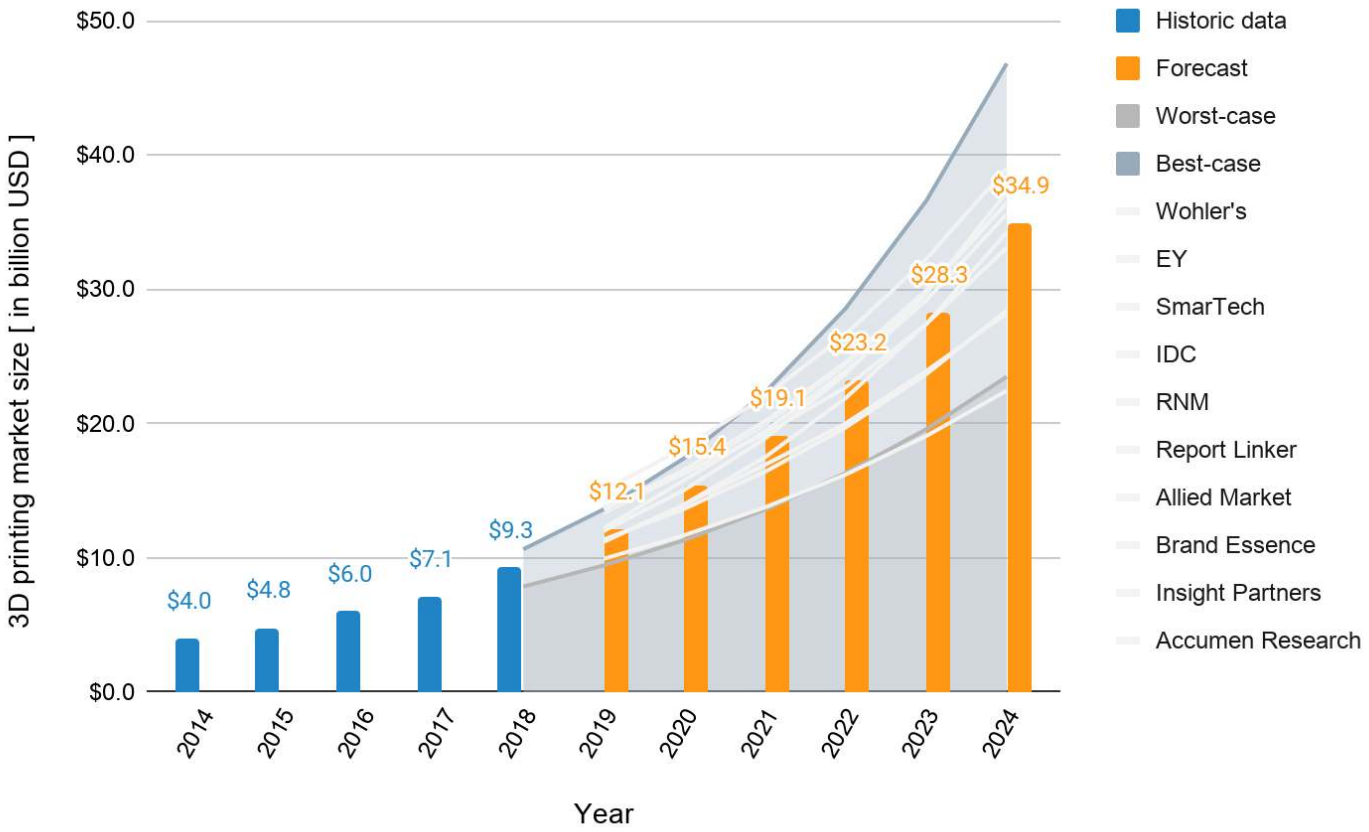
3D PRINTING TRENDS

What is hot right now in the 3D printing industry

24%

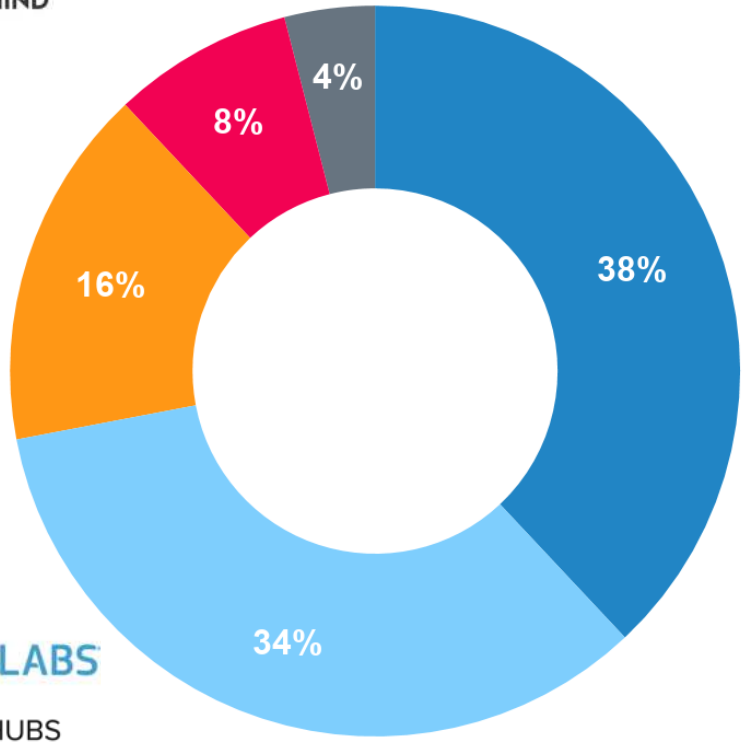
is the forecasted average annual growth of the 3D printing market for the next 5 years

Source : 3D Hubs 3D Printing Trends 2020



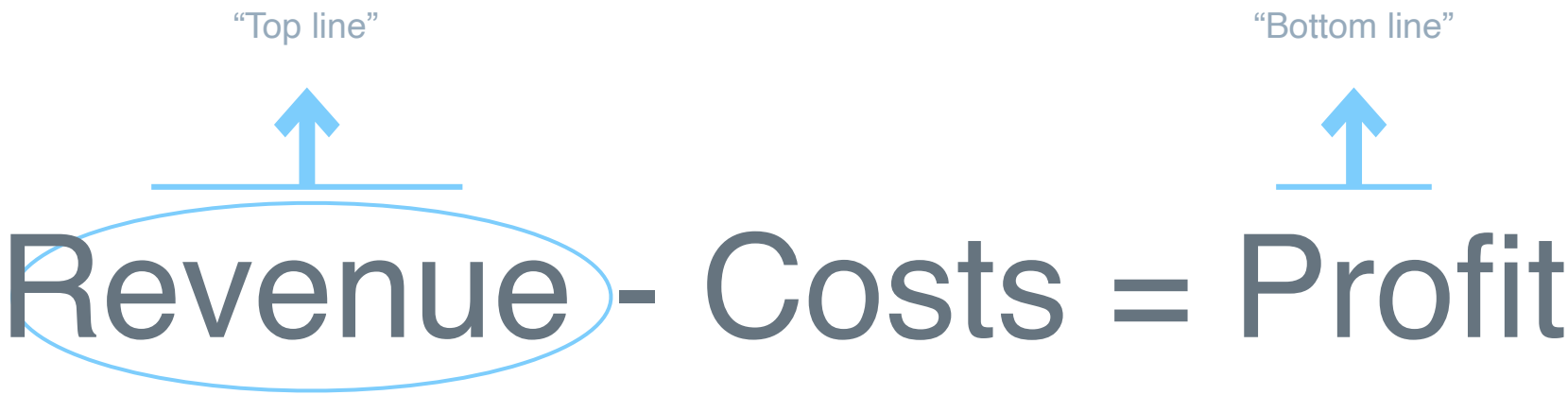
The 3D printing market size today

Source : EY 3D Printing Report 2019



- System manufacturers
- Service providers
- Materials
- Software
- 3D scanning

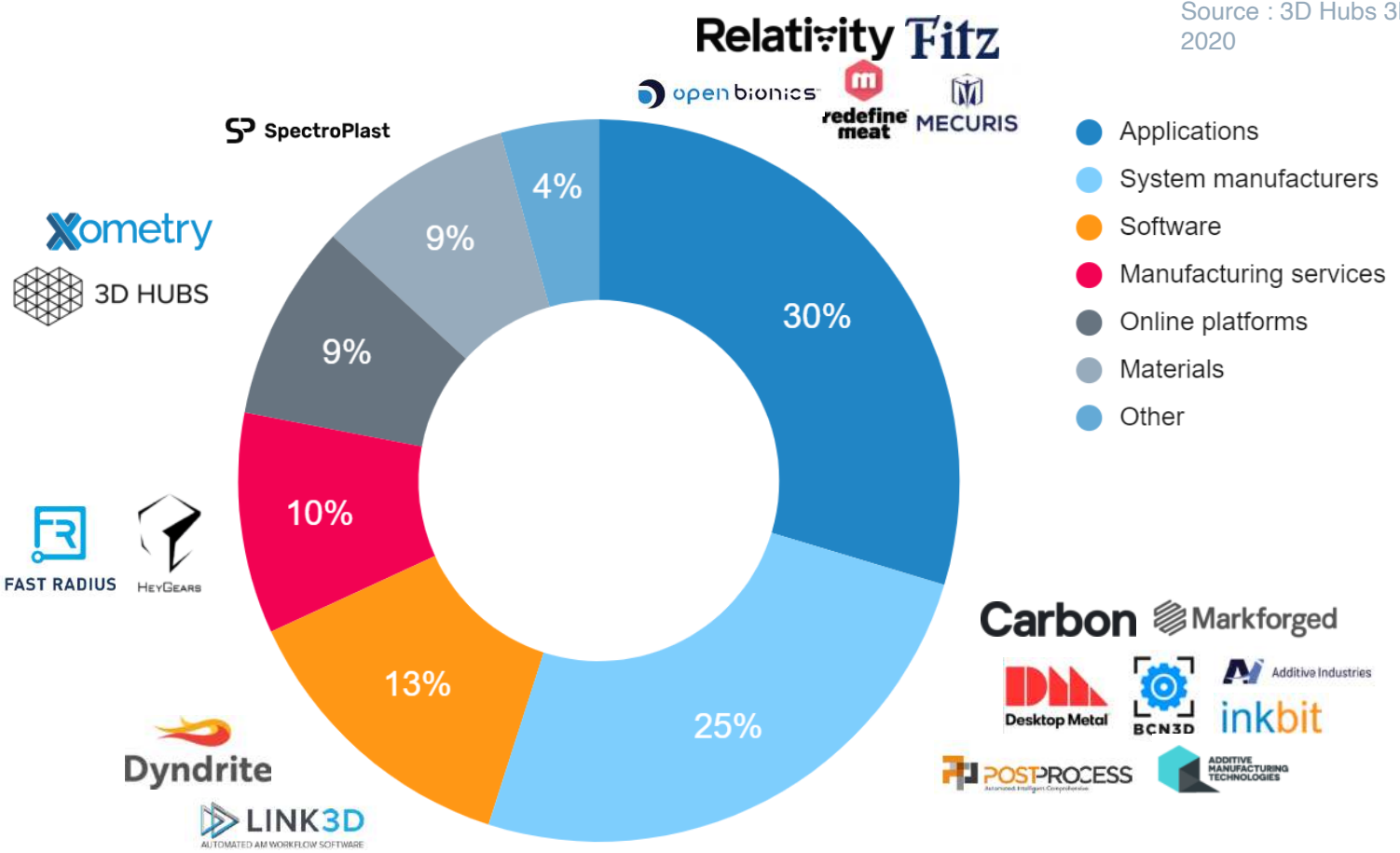
Breakdown of 3D printing revenue by application


“Top line”
“Bottom line”
Revenue - Costs = Profit

$1.1B+

was raised in 2019 alone by 3D printing companies. This is **~35% of the all time VC funding** in the 3D printing industry.

Source : 3D Hubs 3D Printing Trends 2020



92 startups in total received funding in 2019

Fitz Frames USA, Very early stage

Custom, 3D printed eyewear for kids. Use an app to take biometric measurements to personalize the frame.

Fitz

Mecuris

Germany, Early stage

Individual, 3D printed orthoses and prostheses. Use 3D scan data to personalize the prosthetic. Customize the aesthetics of the cover.

MECURIS

Relativity

USA, Late stage

Automated aerospace manufacturing platform. Uses AI to continuously optimize production. Promises to shrink production times
from 24 to 2 months.

Relativity

Fast Radius USA, Late stage

Comprehensive additive manufacturing solutions. Combines latest AM technologies with robotics and expert applications consulting.

“We need more meaningful 3D printing applications”

- The CEO of practically every
  3D printing company

Source : 3D Printing Industry - 80 Additive Manufacturing Experts Predict The 3D Printing Trends of 2020

Value of Applications

>

Value of AM systems

Align Technology ~$21B

Align Technology uses 3D printed tools to create custom dental braces.

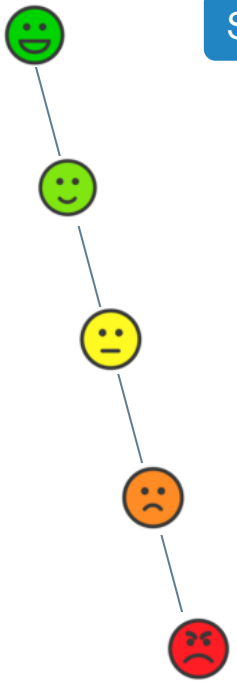
Carbon 3D ~$1.7B
3D Systems ~$1.4B
Desktop Metal ~$1.2B
Stratasys ~$1.1B
Formlabs ~$1.0B
EOS ~$1.0B
Markforged ~$1.0B

Current 3D printing market size ~11B

2.
THE VALUE OF AM

How to make the business case?

How to NOT implement 3D printing



Step 1. Convince yourself it is a good idea

Step 2. Invest in hardware you can afford

Step 3. Start looking for applications

Step 4. Realise the limitations of the system

Step 5. Move on or move away

“Top line”

“Bottom line”

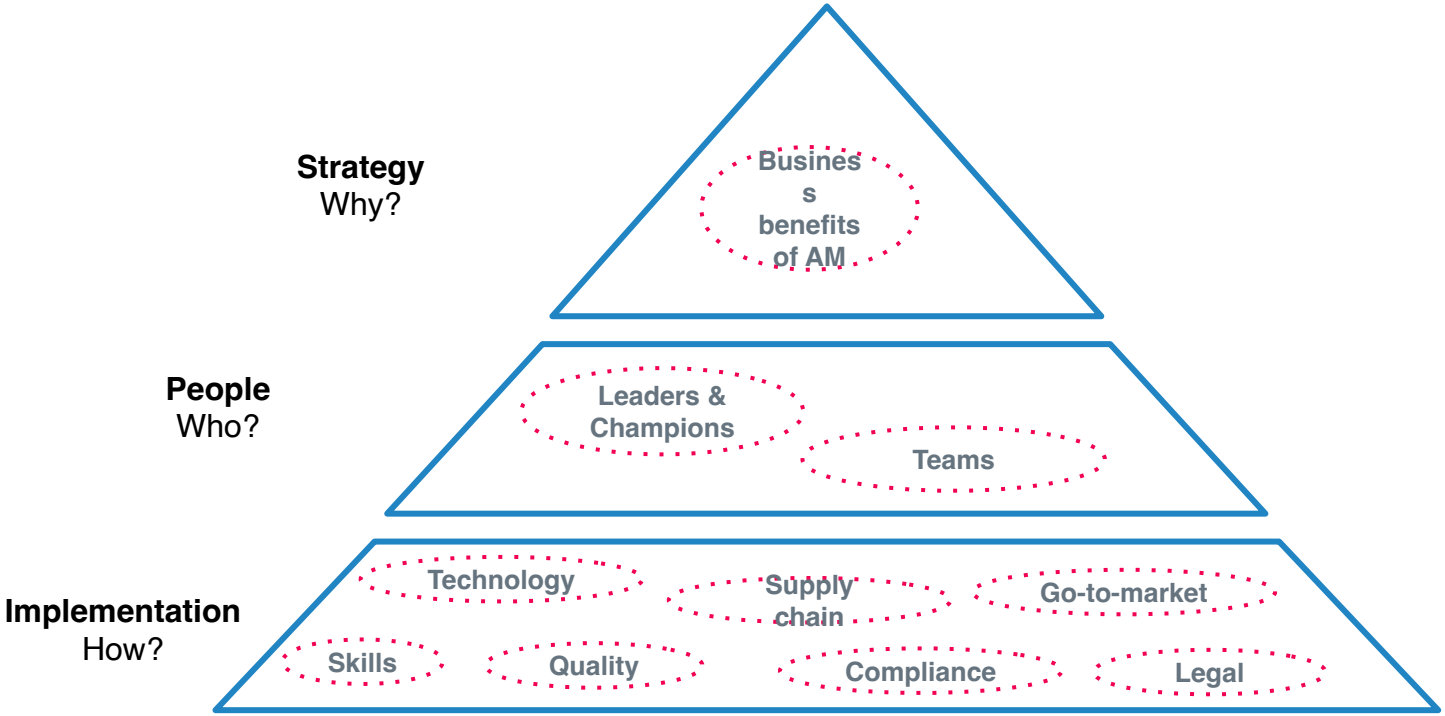
Revenue - Costs = Profit

Add value to your customers

Increase efficiency of your process

Maximize the return of your investment

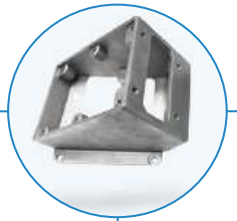
How to implement 3D printing in your business



Source : Reeves Insight

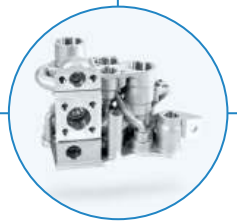
Examples used today in the industry

Prototyping
Increased speed of R&D



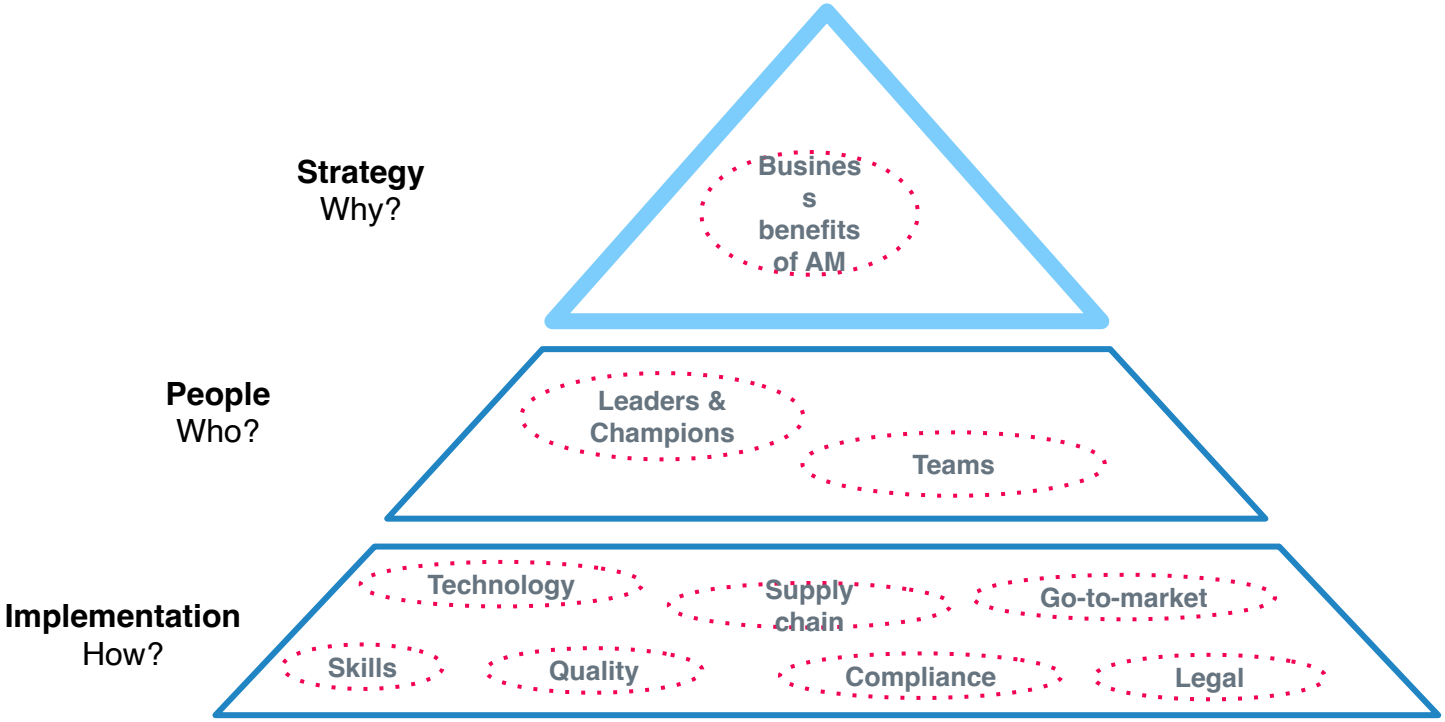
Spare parts
Decreased inventory cost

Optimized parts
Higher performance



Custom tooling
Streamlined operations

Let’s dive a bit deeper...



Source : Reeves Insight

Why should you do it?

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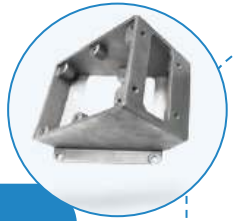
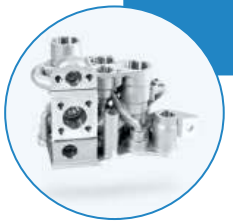


Improved Customer Service & Engagement

- ❏ Product Personalization
- ❏ Product Customization
- ❏ Product Co-Design
- ❏ Point-of-Sale Experience
- ❏ Spare Parts on Demand
- ❏ Repairs on Demand

Is the new service 5-10x better?

Why should you do it?

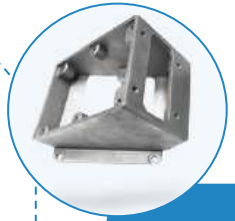


Advanced
& High-performance
Products

- ❏ Topology Optimization
- ❏ High Performance Material
- ❏ Designed Material Properties
- ❏ Low-maintenance Assemblies
- ❏ New Styles & Aesthetics
- ❏ Embedded Functionality
- ❏ Is the new product 5-10x better?

Why should you do it?

- ❑ Part Consolidation
- ❑ Lower Supplier Barrier
- ❑ Reduced Supplier Tooling
- ❑ Reduced Supplier Inventory
- ❑ Process Consolidation
- ❑ Local Manufacturing



Streamlined & Lean Supply Chains

Is the new process 5-10x better?

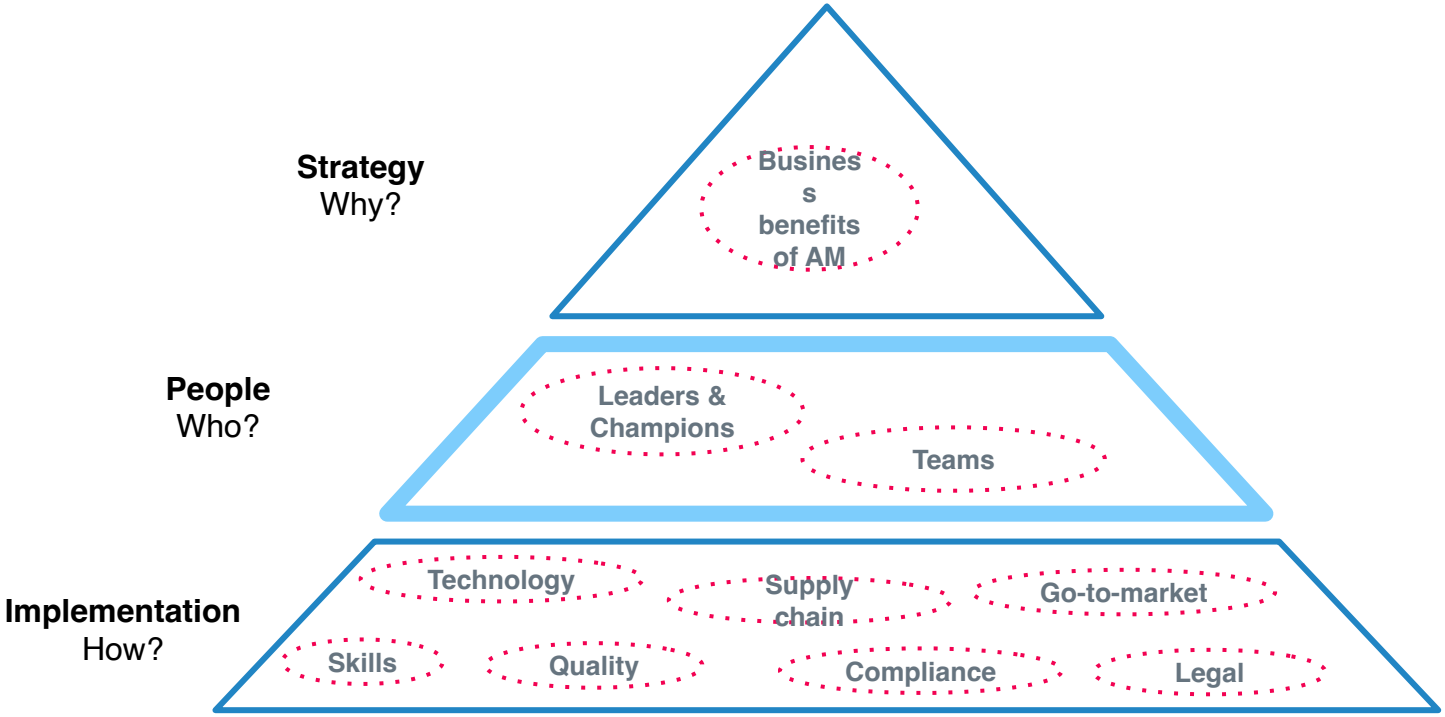
Why should you do it?

- ❑ Reduced Defects
- ❑ Reduced Overproduction
- ❑ Reduced Waiting
- ❑ Reduced Transportation
- ❑ Reduced Inventory
- ❑ Reduced Motion
- ❑ Reduced Excess Processing

Is the new process 5-10x better?

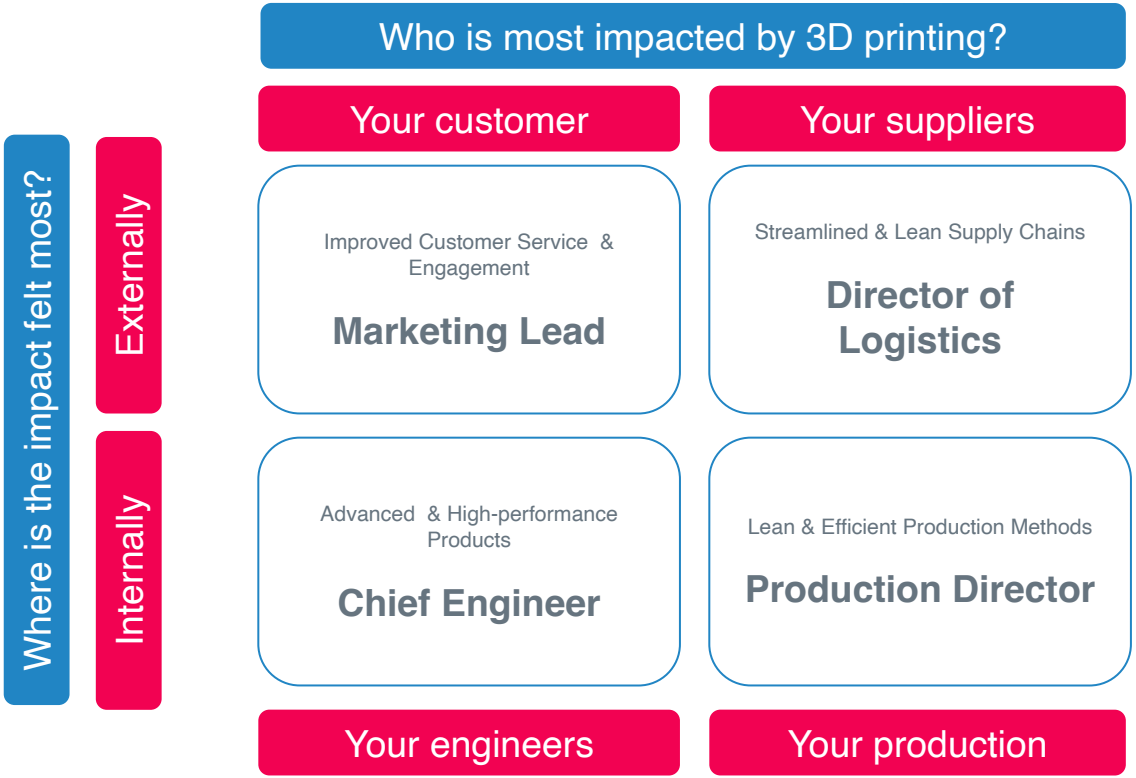
Lean & Efficient Production Methods

Who should do it?

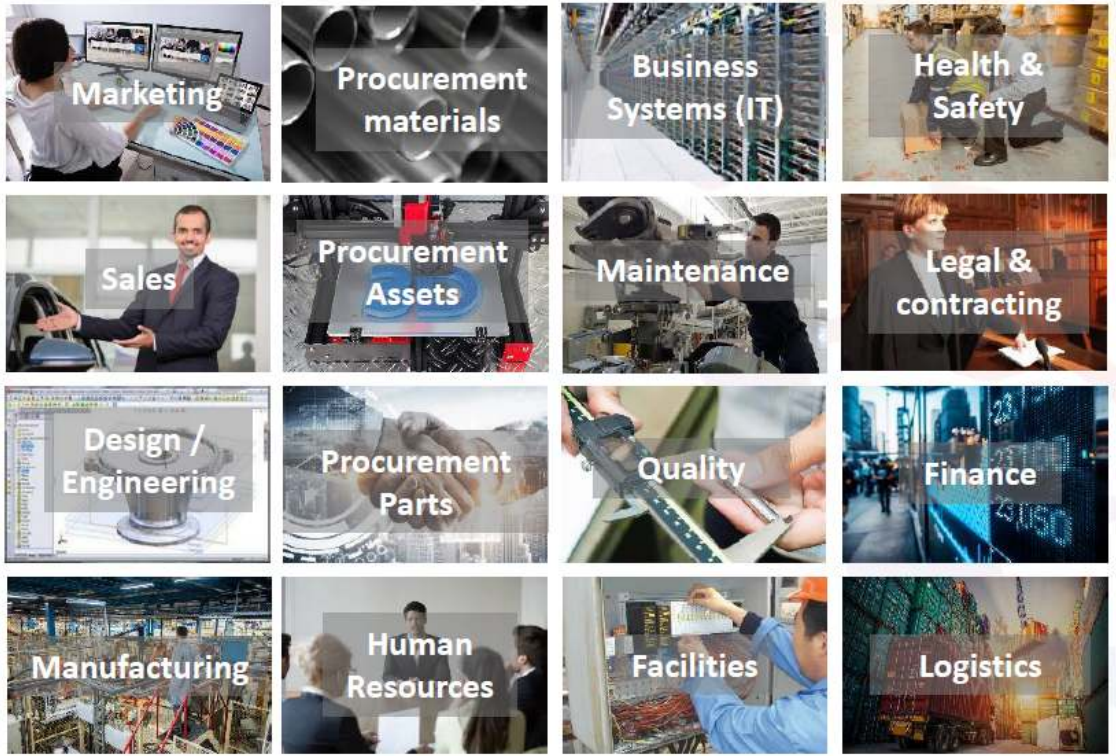


Source : Reeves Insight

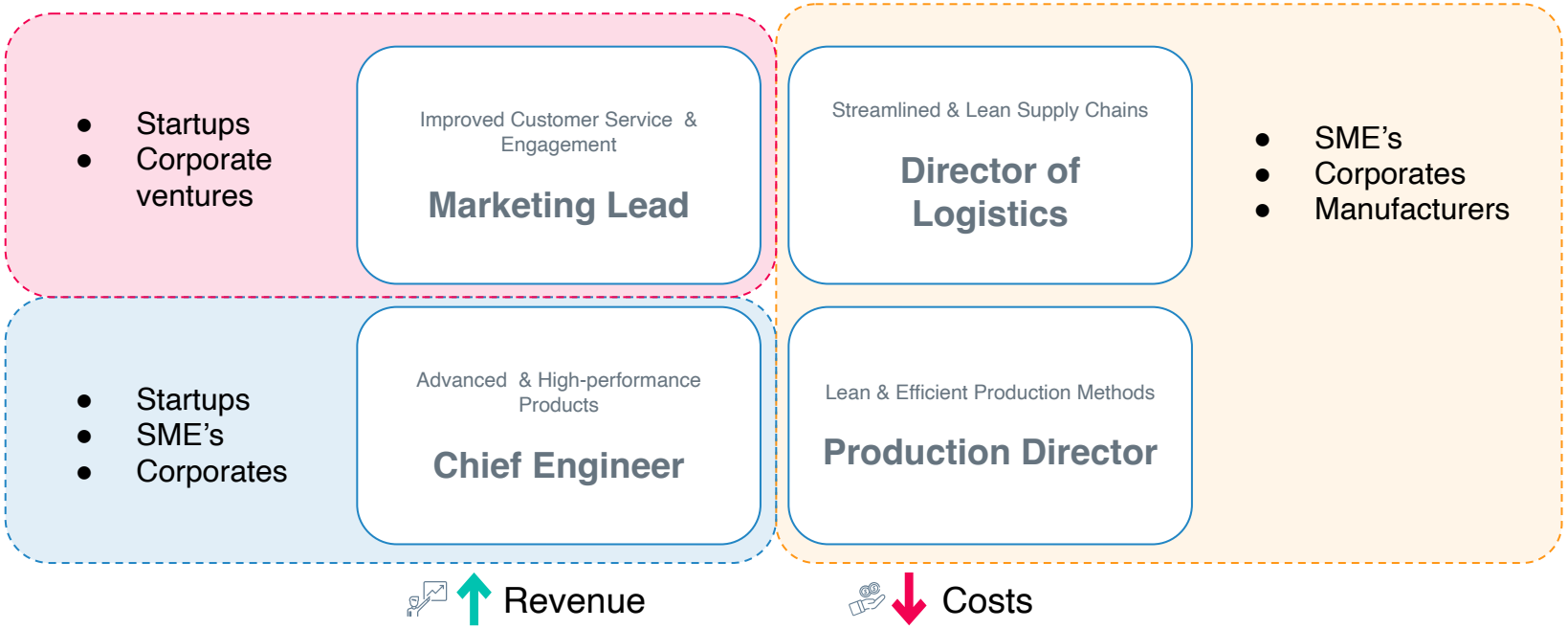
Who should lead the project?



Who should join the team?



Where should you start?



If we assume there are no technology restrictions...

How would you use 3D printing to improve your business today?

Thank you!

Any questions?

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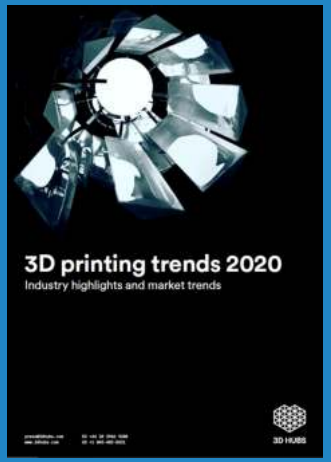

3dhubs.com/get/trends