

Ultimaker



Ultimaker

3D printing in the automotive and
aerospace industry

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Ultimaker

Agenda

Why are we here?

- To help you create value with 3D Printing
 - Save Time
 - Save Money
 - Faster Time to Market
 - Increase uptime of production sites
-
- Ultimaker Customer Success Plan
 - Successful customer cases & ROI



Ultimaker

Customers choose Ultimaker for ease of use, reliability and flexibility

"I expect that 90% of all cost reduction will come from 3d printing. All other processes are already being optimized in the last years"

-Renault -

"We're still in the first stages of 3D printing but have already seen a reduction of costs in the applications that we found by 70 - 90%, and also a decrease of delivery time of 70 - 90%."

- Heineken -

"The timing and costs to produce tools led us to a fast ROI, better product quality, and satisfaction throughout the entire process – from development stages to the final product."

- Volkswagen -

"The quality results from the Ultimaker S5 allows us to create end-use parts for O-SELECT, our intelligent digital measuring projector. With the Ultimaker S5, we are ready to continue our contribution to technological progress for many years."

-Zeiss-

"Smaller (low cost) modules can make a difference. Compactness is key: every factory is measured on productivity per square foot."

- Jabil -

"It is more important to ask what are your EXACT needs. 99% of the time we find that even just PLA is actually suitable for the task, its more about change management – people want aluminum because its what they've always used."

- L'Oréal -

"Ford picked Ultimaker because the quality compared to the cost is very good and we like their reliability."

- Ford -

"When your work is shaping the future of aerospace, innovation is key. So at CTC, we use 3D printing not only to create extremely useful manufacturing aids and prototypes for Airbus and other customers, but also as a learning tool to prepare the workforce for tomorrow."

- Airbus-

"Training for designing with higher form freedom can help adoption / good cases."

- Miele -

"The people who work with 3D printing often have no technical background, but only need about three hours of training. After that, they start looking for solutions for issues they have in their work."

- Dutch Airforce -

"We can change the way we prototype, the way we create. This allows us to speed up innovation and evaluate new concepts in an earlier stage, which reduces time and costs."

-Decathlon-

"Having printers on site seems to motivate ideas."

- BMW -



Ultimaker Mission

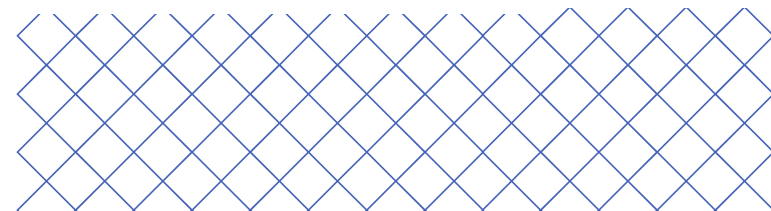
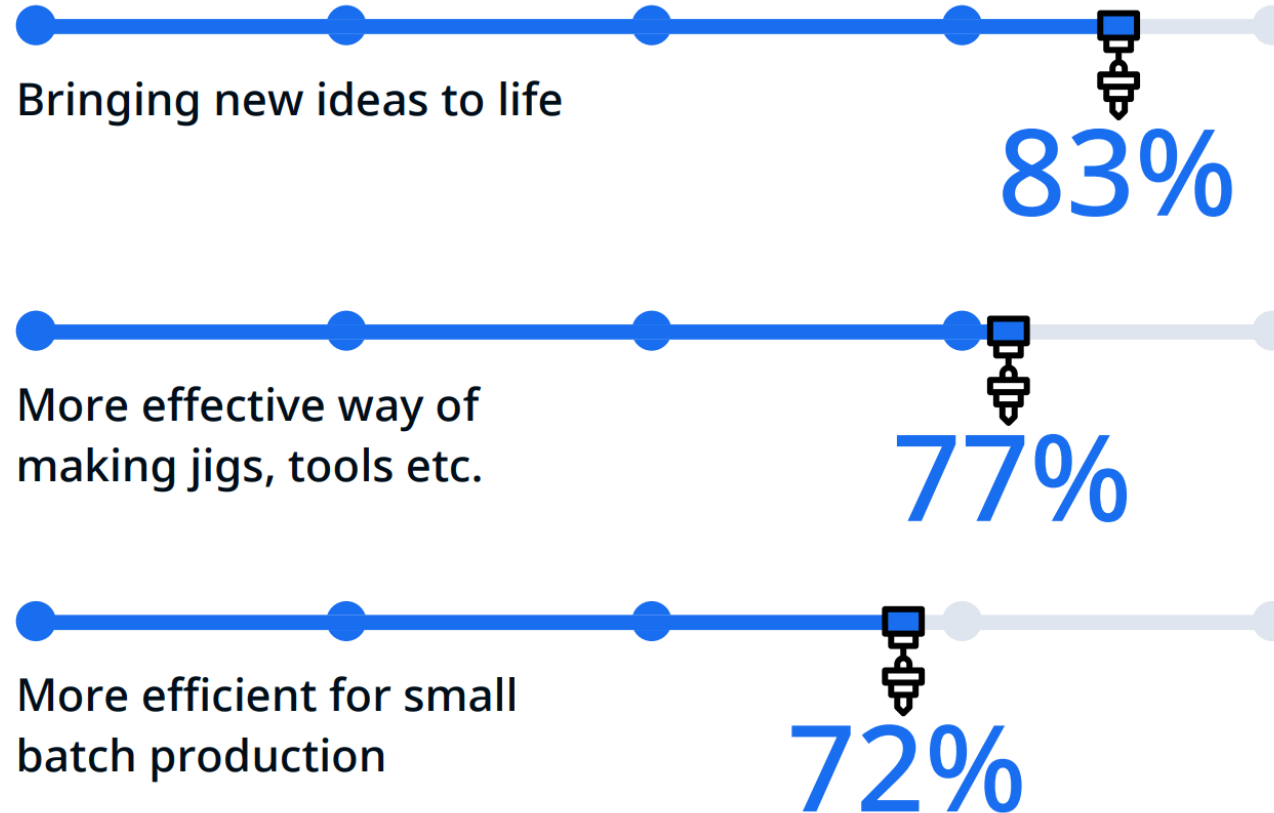
*“To accelerate the world’s transition to
local digital manufacturing”*

**3D Printing, Local Digital Manufacturing
will make you completely rethink
how to drive product costs down and margins up**

Competition will anyhow

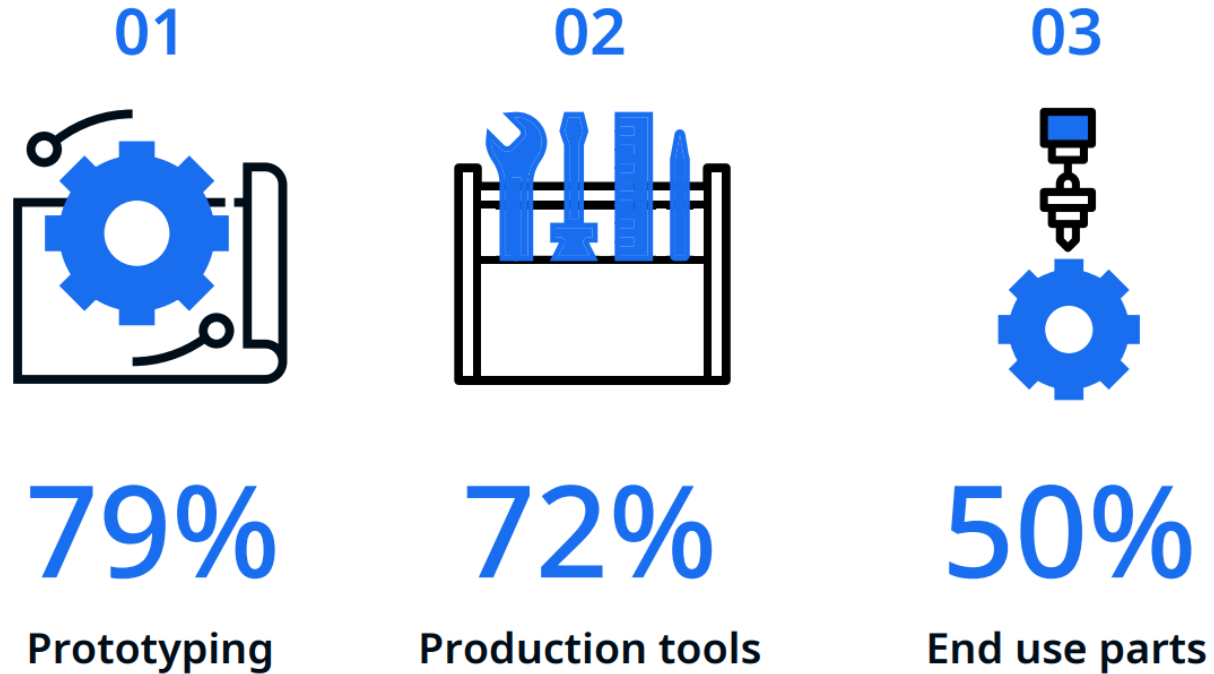
3D Printing Sentiment Index 2019 (1/2)

Perceived benefits

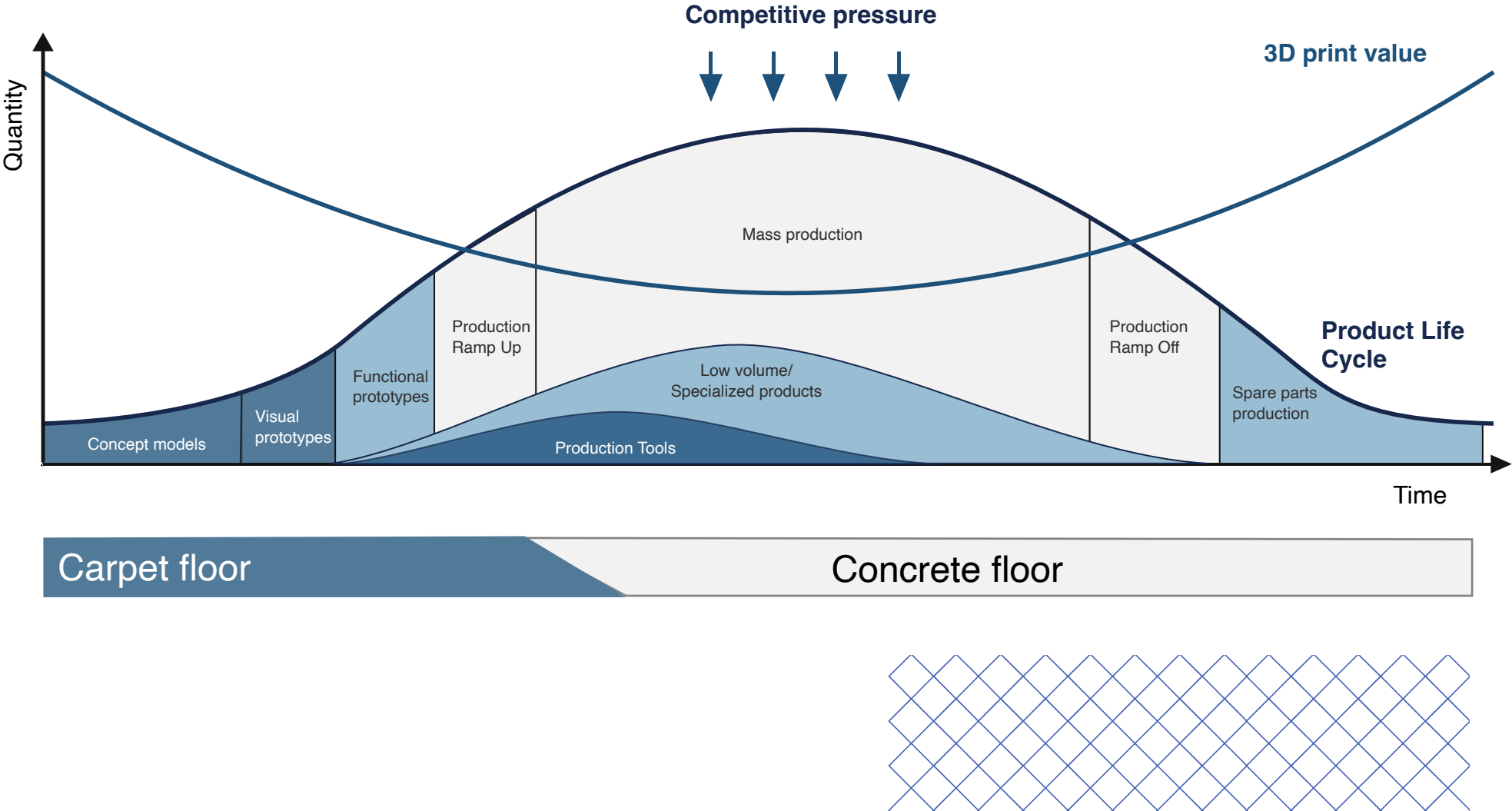


3D Printing Sentiment Index 2019 (2/2)

3D printing usage



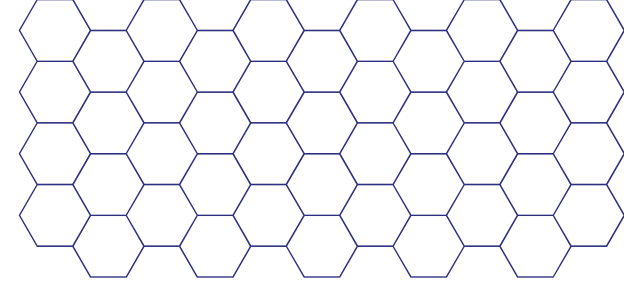
Opportunities for 3D Printing in Product's Lifecycle



Ultimaker

Ecosystem for your Success

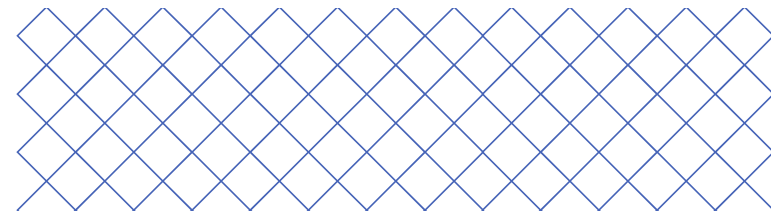
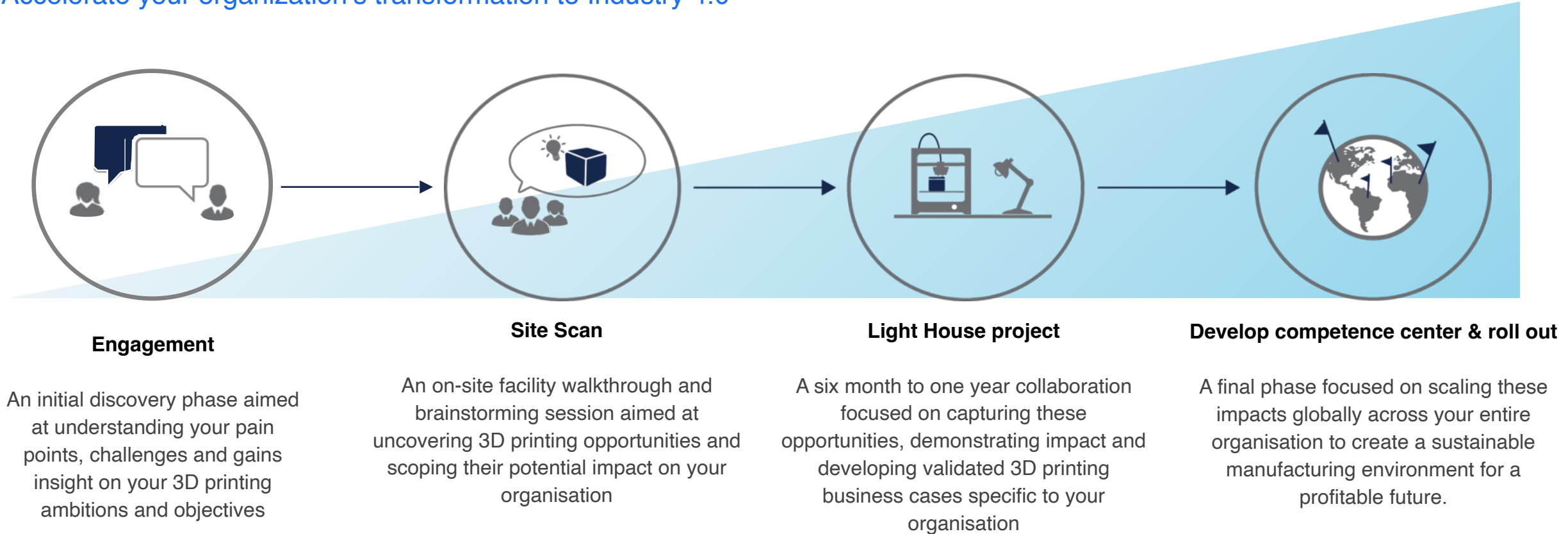




Ultimaker Customer Success Plan

Ultimaker Customer Success Plan

Accelerate your organization's transformation to Industry 4.0



Application catalogue overview of verticals



Product development

Geometric prototype

Visual prototype

Functional prototype



Manufacturing aids

Safety tool

Transport tool

Production tool

Maintenance tool

(Dis)assembly tool

Ergonomic tool

Quality tool



Final parts

End part*

Spare part**

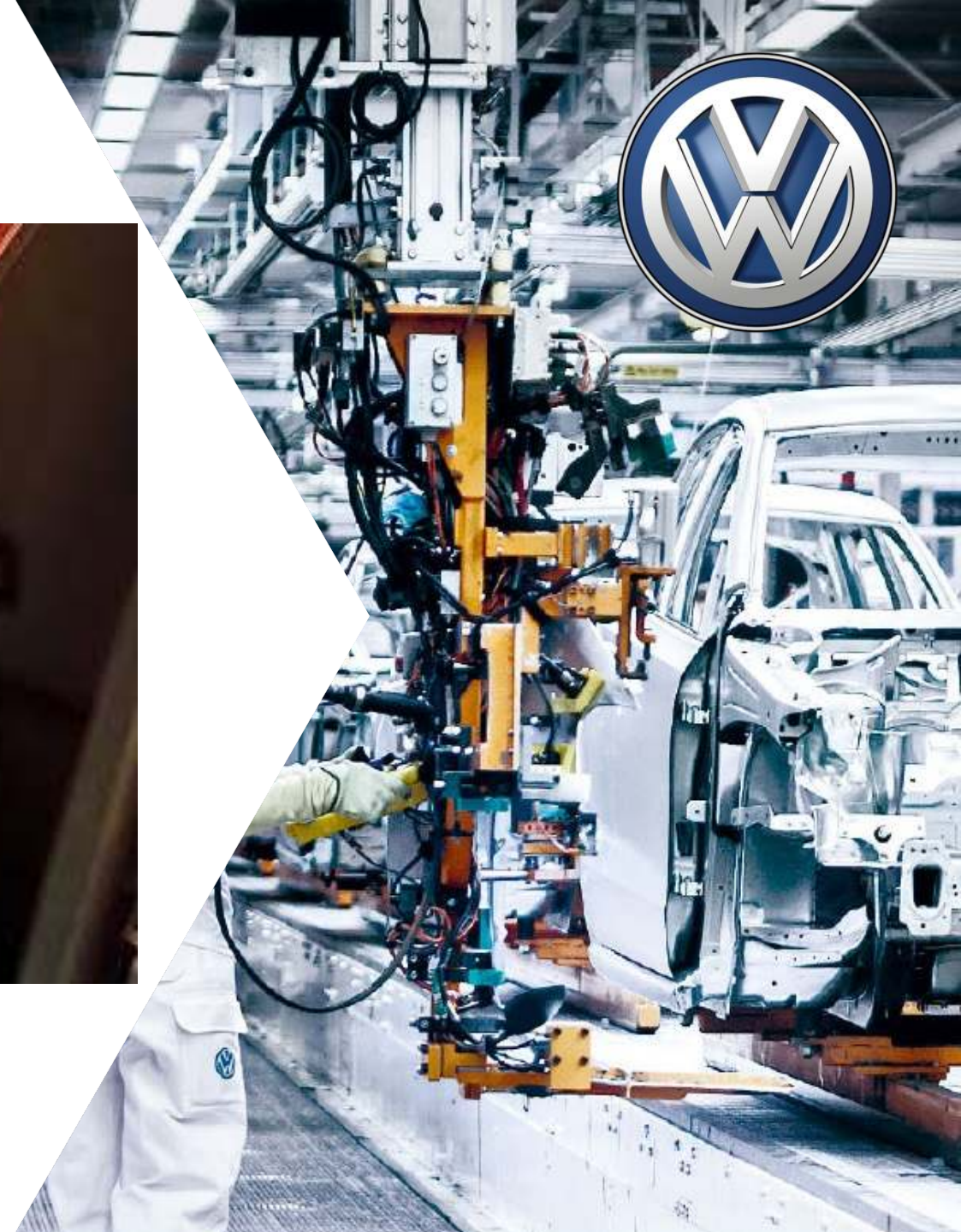
Replacement part***

* (Designed as an original FFF end part)

** (3D print copy of the original design, only small changes to the design to be able to 3D print it. Out of a catalogue what companies have in their warehouses)

*** (Part designed for FFF to replace a part with optimized functionality, not designed as a spare part)

Volkswagen user case



Volkswagen saves > €325,000 per year with 3D Printing

“In 2017, we estimated that we avoid around €325,000 of costs by 3D printing multiple tool and fixtures with Ultimaker 3D printers.

The enhanced feeder on the Ultimaker S5, designed to print with advanced technical plastics such as composite materials, allows us to print reliably with an even wider range of industrial-grade materials, which is a great benefit for us.”

Luis Reis, Pilot Plant Engineer at Volkswagen



Stopper Tool	External Suppliers	Ultimaker 3D Printers
Cost	€800 per part	€21 per part
Project	56 days	10 days



Liftgate Badge	External Suppliers	Ultimaker 3D Printers
Cost	€400 per part	€10 per part
Project	35 days	4 days

Industry:
Automotive

Results:

- €325,000 savings per year
- 91% cost reduction
- 95% tool development time
- 35% improvement in final product quality
- Robustness and process flexibility
- Innovation

Ford user case



Industry:
Automotive

Results:

- Savings of €1,000 per tool
- Time optimization
- Cost optimization
- 50 3D printed tools
- Innovation

Ford saves €1,000 per tool with 3D Printing

“In automotive, every second counts, so we are pleased to see that the Ultimaker S5 has a larger build volume which allows us to print larger jigs and fixtures or multiple manufacturing aids at once.

Combined with the automated, reliable print process and the ability to now print with a very wide range of industrial-grade materials, the Ultimaker S5 allows our engineers and designers to fully iterate and test certain functional prototypes to as real conditions as possible without scaling.

After conducting successful tests, we also use our Ultimaker 3D printers to create the final end-use manufacturing aids that continuously help us to improve our workflow.”

Lars Bognar, Research Engineer Additive Manufacturing, Ford



Industry:
Automotive

Results:

- Savings of €1,000 per tool
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- Innovation

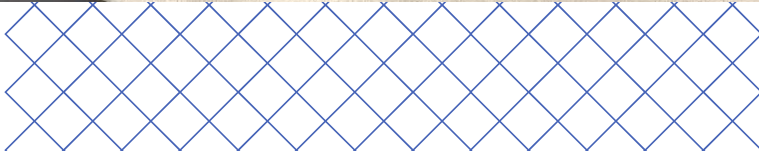
KLM saves > €200,000 per year with 3D Printing



Ergonomics & Time

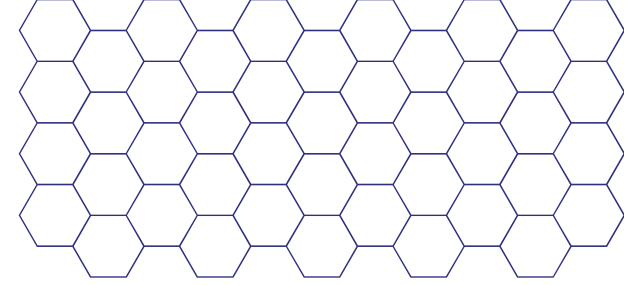
- Maintenance of aircraft rims
- Masking tool in paint shop
- Manual labor to mask holes
- Saves yearly 200K on tape
- TPU 95A plugs for easy masking
- Reusable

Conventional manufacturing	Ultimaker manufacturing
Conventional masking time Minimal of 20 mins per rim	Optimized masking time Maximum of 1 min per rim
Conventional masking cost € 8 masking tape per rim	Ultimaker 3D printed plug cost € 0,33



KLM / Ultimaker cooperation





Questions?