DAIMLER TRUCK

Daimler Buses

Protection & monetization of 3D printed parts at Daimler Buses

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Webinar 3D Printing @ Daimler Buses

Neu-Ulm, 02.11.2022

Since December 2021 **Daimler Truck is an independent company**, including a majority listing at Frankfurt Stock Exchange

Schematic representation

Daimler Truck vision

Additive manufacturing – more than a fringe phenomenon?

3D printing is part of a tide of changes

3D printing …

- ✓ Internet
- ✓ Social Media
- ✓ Plattforms
- ✓ Technologies, **e.g. 3D Printing**
- ✓ …

3D printing: Basis and driver for a large number of changes

… a Game Changer?

- **Radical Life Extension**
- **De-Extinction**
- **Space Colonization**
- **Artificial Super Intelligence**
- **Human 2.0**
- **Human Machine Convergence**
- **Democracy 2.0**
- **Work 2.0**
- **Food 2.0**
- **Decentralization of Everything**
- **Empowerment Economy**
- **Logistics Internet**
- **Transport 2.0**
- **Institution 2.0**
- **Artificial General Intelligence**
- **Circular Economy**
- **Money 2.0**
- **…**

Achievements of additive manufacturing

Not only what, but how we can produce!

- ✓ **Printers bring the raw material directly in the correct shape :**
  - ✓ No milling
  - ✓ No waste
  - ✓ No tools
- ✓ **Manufacturing of complex forms in one step**

economical …

- ✓ **Time and cost savings**
- ✓ **Freedom** of design
- ✓ **Fast** availability
- ✓ **On Demand** production
- ✓ **Tool less** production
- ✓ **No minimum** quantities

… and ecological

- ✓ **Decentralized** production
- ✓ **Reduced** transport
- ✓ Use of **recycled** materials
- ✓ **Digital** warehouse

3D-Print - from project to integration in the company

New 3DD-CoC structure - an agile team, cross-functionally linked

The Team

Lead CoC 3D Printing

Project team, cross-functional

Project team, cross-functional

3DD Quality Mgmt.

3DD Product Mgmt.

3DD Digital Supply Chain Mgmt.

3DD Logistics Mgmt. & Category Buyer

3DD Application & Consultant Expert

3DD Technical Operator

External
- Classic
- PRIONT
- AMG
- R/D

Internal
- HR
- Parts manufacturing
- F/C
- IT
- Design
- etc.

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Scrum Team „Quality and Product Liability“

Scrum Team „Product Management & Marketing“

Scrum Team „Digital Services 3D-Printing“

Scrum Team „Logistics & Procurement 3D-Printing“

Scrum Team „Technical Consulting 3D-Printing“

Scrum Team „Technical Support & Training“

The core: 6 teams in tight coordination

Target: Establish and expand a new business model

Integration of 3D printing at Daimler Buses in three steps

3D printing at Daimler Buses

Establish and expand a new business model

New chances by Additive Manufacturing
New digital business modell

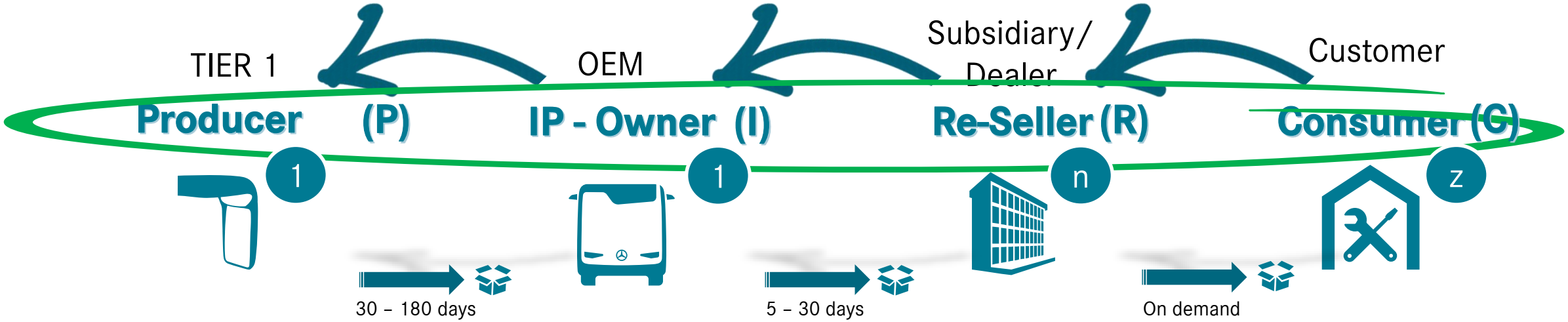
New strategies ➡ **How to handle the disruptive technology 3D-Printing?**

Digital Rights Management

- **Distribution of print licenses**
- **Virtual warehouse** (central & decentral)
- **Savings** (transport, customs, storage)

- **Reduction of CO_2**
- **Reduction of long-distance transport**

Existing Supply chain | stake holders & roles

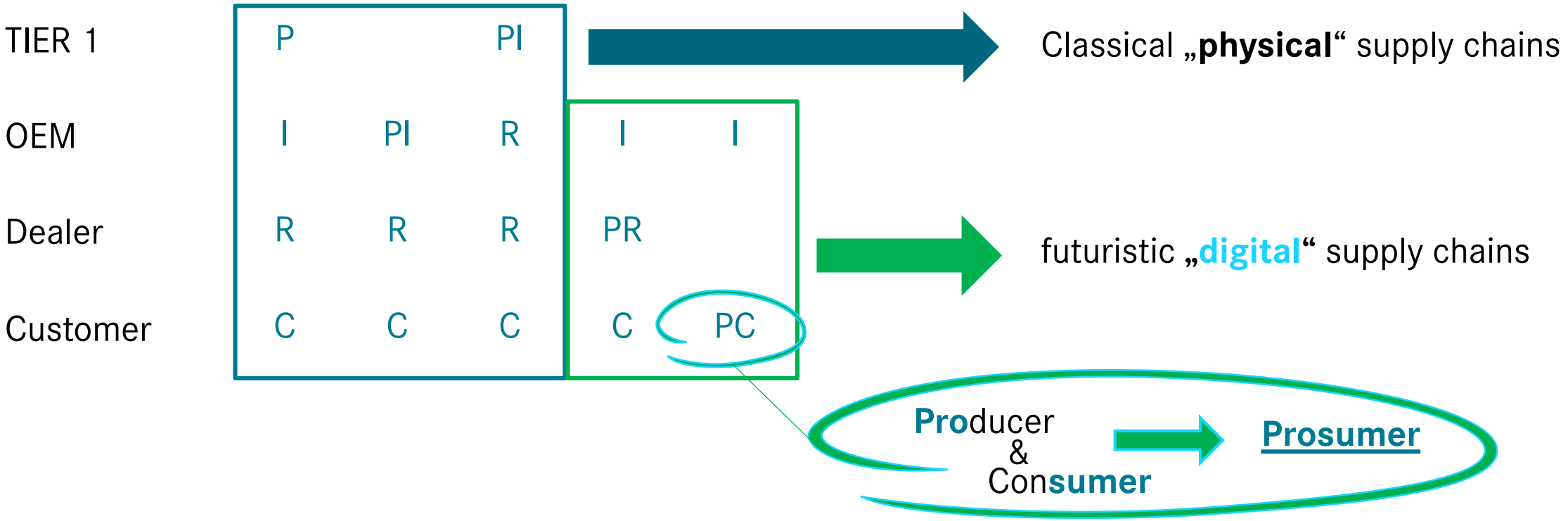


▪ Purchasing raw material ▪ Purchase/ produce tools ▪ Produce goods ▪ Sell goods to OEM ▪ Customs	▪ Planning dealer demands ▪ Purchasing goods ▪ Store goods ▪ Sell goods to Dealer ▪ Customs	**TASKS**	▪ Planning customer demands ▪ Purchasing goods ▪ Store goods ▪ Sell goods to Customer ▪ Customs	▪ Planning demands ▪ Purchasing goods ▪ Store goods ▪ Repair vehicles
▪ Predictability demands ▪ Pre processing ▪ Sell goods to OEM profitable ▪ Customs	▪ Predictability demands ▪ Minimum order quantities (MOQ) ▪ Stocking ▪ Freight / Lead times ▪ Customs	**Challenges**	▪ Predictability demands ▪ Minimum order quantities (MOQ) ▪ Stocking ▪ Freight / Lead times ▪ Customs	▪ Stocking ▪ Freight / Lead times ▪ Costs

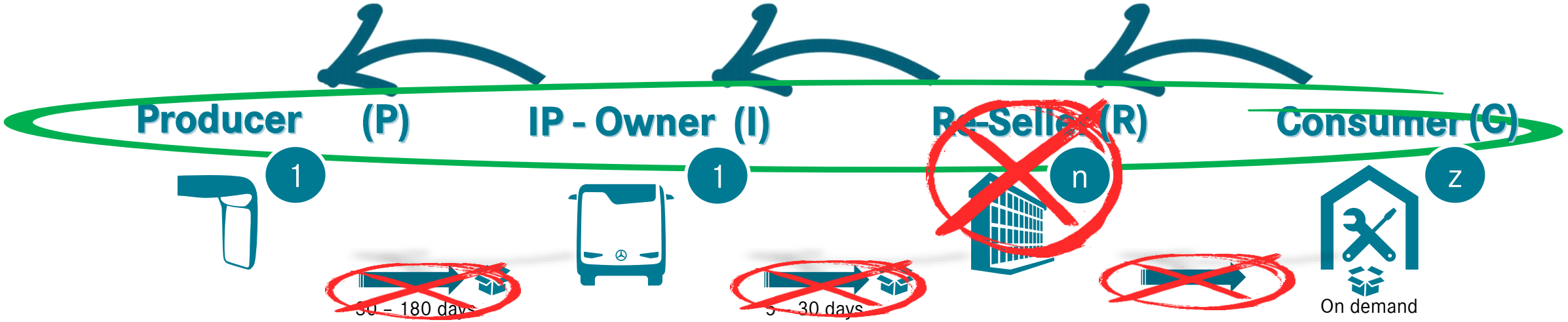
Supply chain models

Producer (P) **IP – Owner (I)** **Re-Seller (R)** **Consumer (C)**

Stake holder / Role



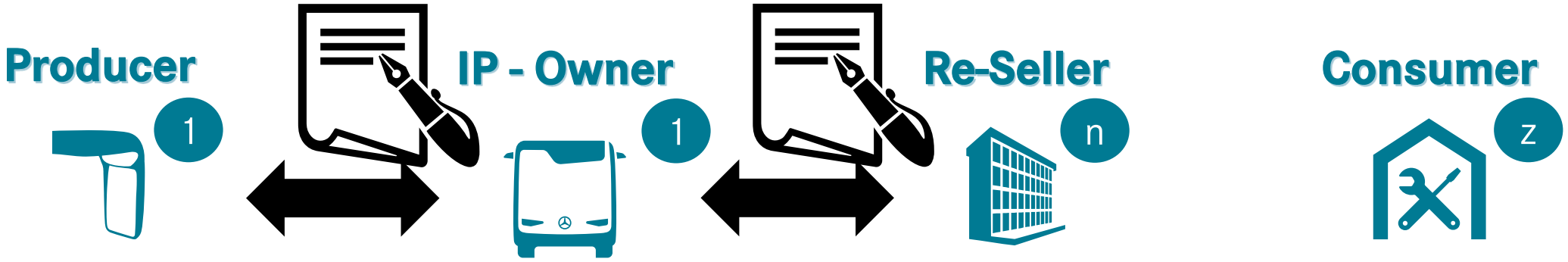
Future Supply chain | prosumer model



▪ Purchasing raw material ▪ ~~Purchase/ produce tools~~ ▪ Produce goods ▪ ~~Sell goods to OEM~~ ▪ Customs	▪ Planning dealer demands ▪ Purchasing goods ▪ **Store IP** ▪ **license IP** to Consumer ▪ Customs	▪ Planning demands ▪ ~~Purchasing goods~~ ▪ ~~Store goods~~ ▪ Repair vehicles
TASKS		
▪ Predictability demands ▪ **Less** Pre processings ▪ ~~Sell goods to OEM profitable~~ ▪ ~~Customs~~	▪ ~~Predictability demands~~ ▪ ~~Minimum order quantities~~ (MOQ) ▪ ~~Stocking~~ ▪ ~~Freight / Lead times~~ ▪ ~~Customs~~	▪ ~~Stocking~~ ▪ ~~Freight / Lead times~~ ▪ Costs ▪ **Quality Management**
Challenges		

Supply chains are trust based

Standard



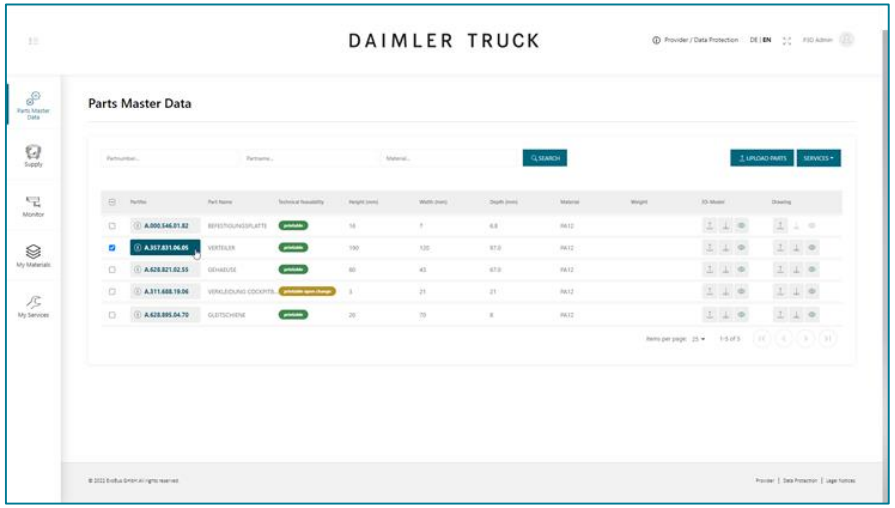
Prosumer

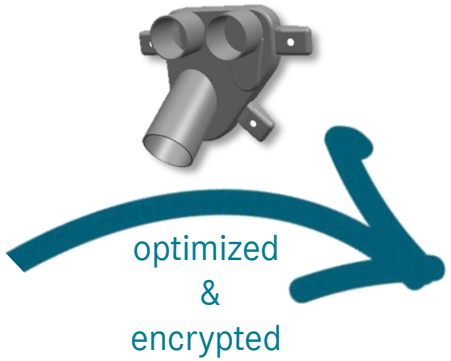
Increased risk of theft of IP
Risk of starting a “grey market”

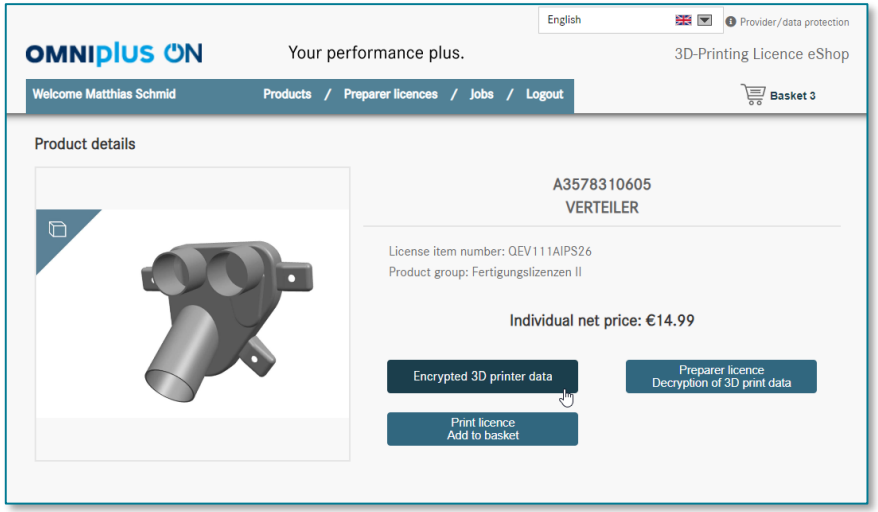
Digital Rights Management

Future Supply chain | Prosumer model

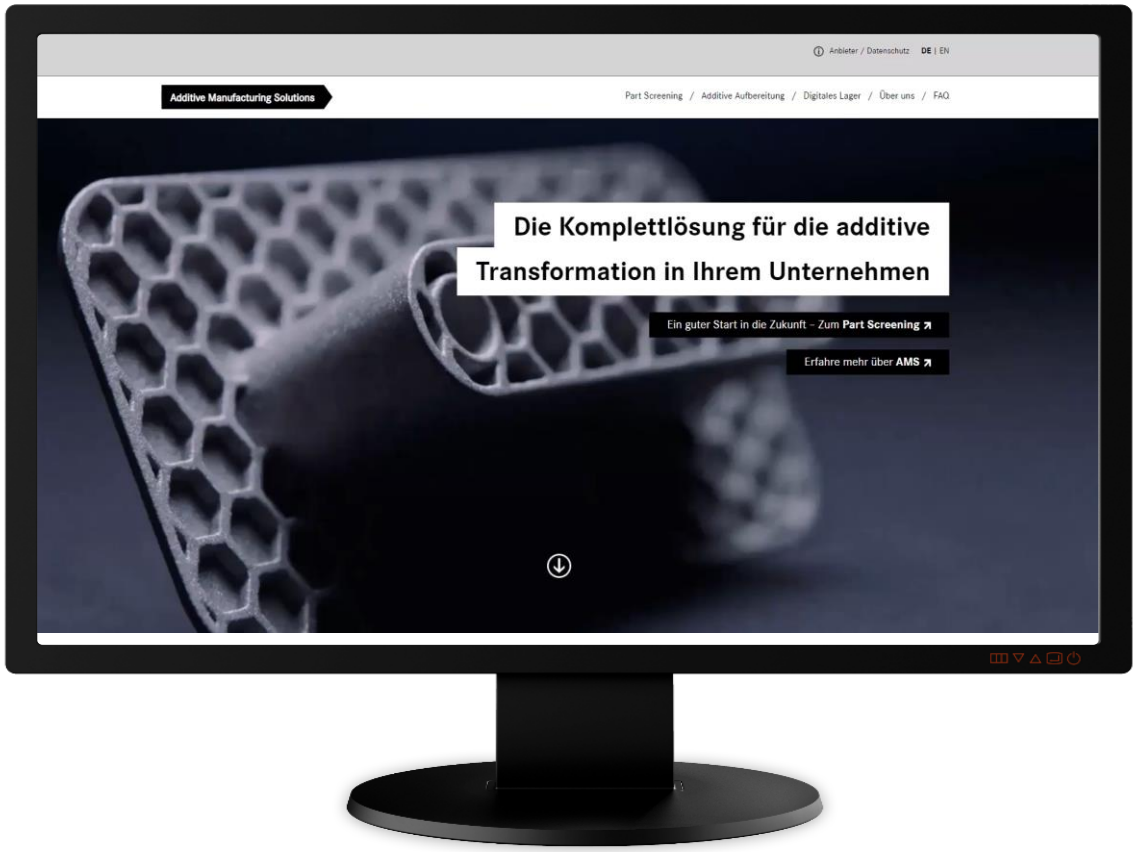
A fundamental shift from physical to digital







Thank you very much !



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