



# Jenoptik JENscan® Style - Translucent

JENOPTIK Business Unit Laserprocessing



MORE LIGHT

## Future Trend - Translucent

# Exterior of the Future

## Functional Lights, Design Elements, Car-to-Pedestrian Communication



References: Plastic Omnium (<https://www.plasticomnium.com/en/style-and-interactivity/>), Magna (<https://www.magna.com/de/blog/post/optische-anziehungskraft-mit-dem-mezzo-panel-von-magna>), Hella (<https://www.hella.com/soe/en/News/Panel-technology-HELLA-develops-new-design-concepts-for-the-vehicle-front-end-5022>), Audi (<https://www.audi-mediacycenter.com/de/pressemitteilungen/offen-fuer-zukunft-audi-skysphere-concept-14162>), Hyundai (<https://www.hyundai.news/de/articles/press-releases/hyundai-enthueilt-e-suv-konzeptfahrzeug-seven.html>), Mercedes Benz (<https://www.mercedes-benz.de/passengercars/mercedes-benz-cars/models/eqs/saloon-v297/explore.html>), Lexus (<https://www.lexus.de/discover-lexus/concept-cars/?lexReferrer=https%3A%2F%2Fwww.google.com%2F>), Volkswagen (<https://www.volkswagen-newsroom.com/de/pressemitteilungen/weltpremiere-des-id-roomzz-in-schanghai-4834>), Kia (<https://www.kia.com/de/ueber-kia/nachhaltigkeit/ev9-konzept/>) Osram/Plastic Omnium (<https://www.plasticomnium.com/en/plastic-omnium-to-acquire-amls-business-from-ams-osram/>)



# Exterior of the Future

## Functional Lights, Design Elements, Car-to-Pedestrian Communication

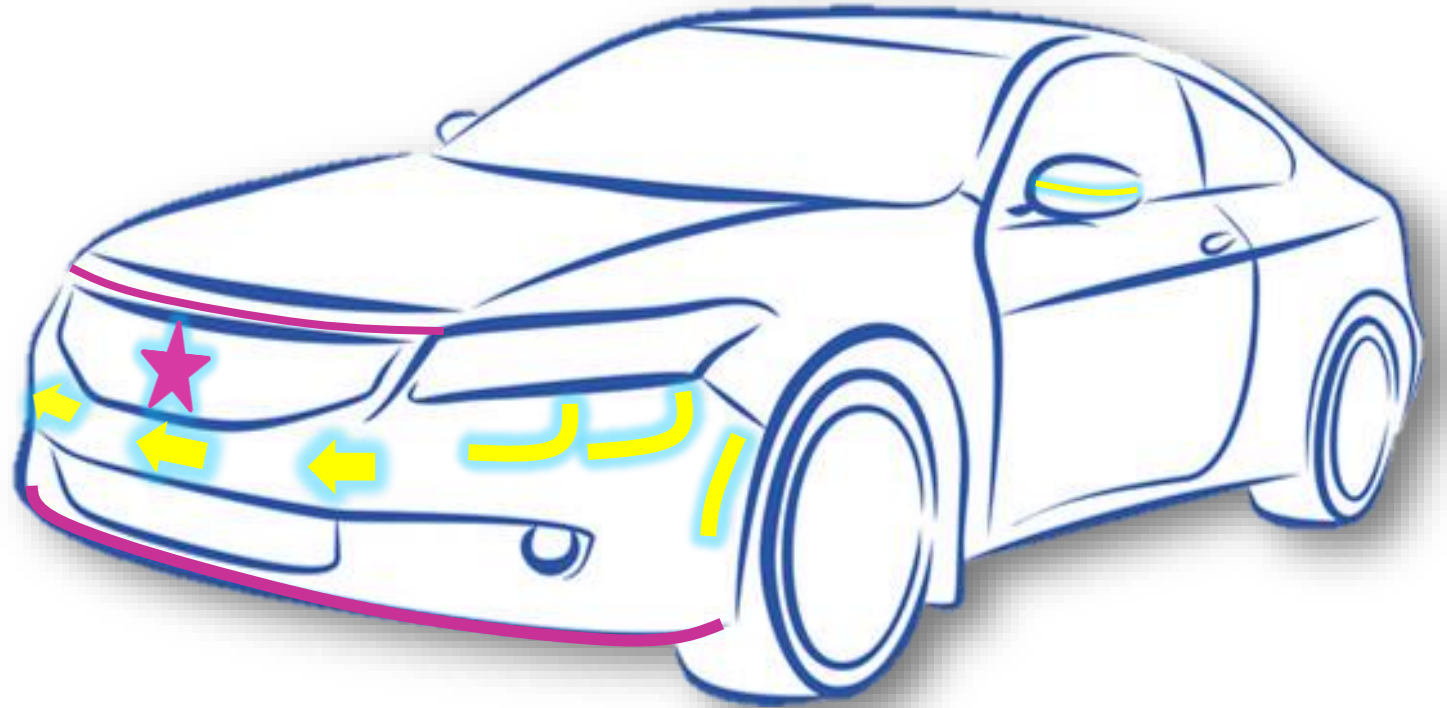
### Functional Lights



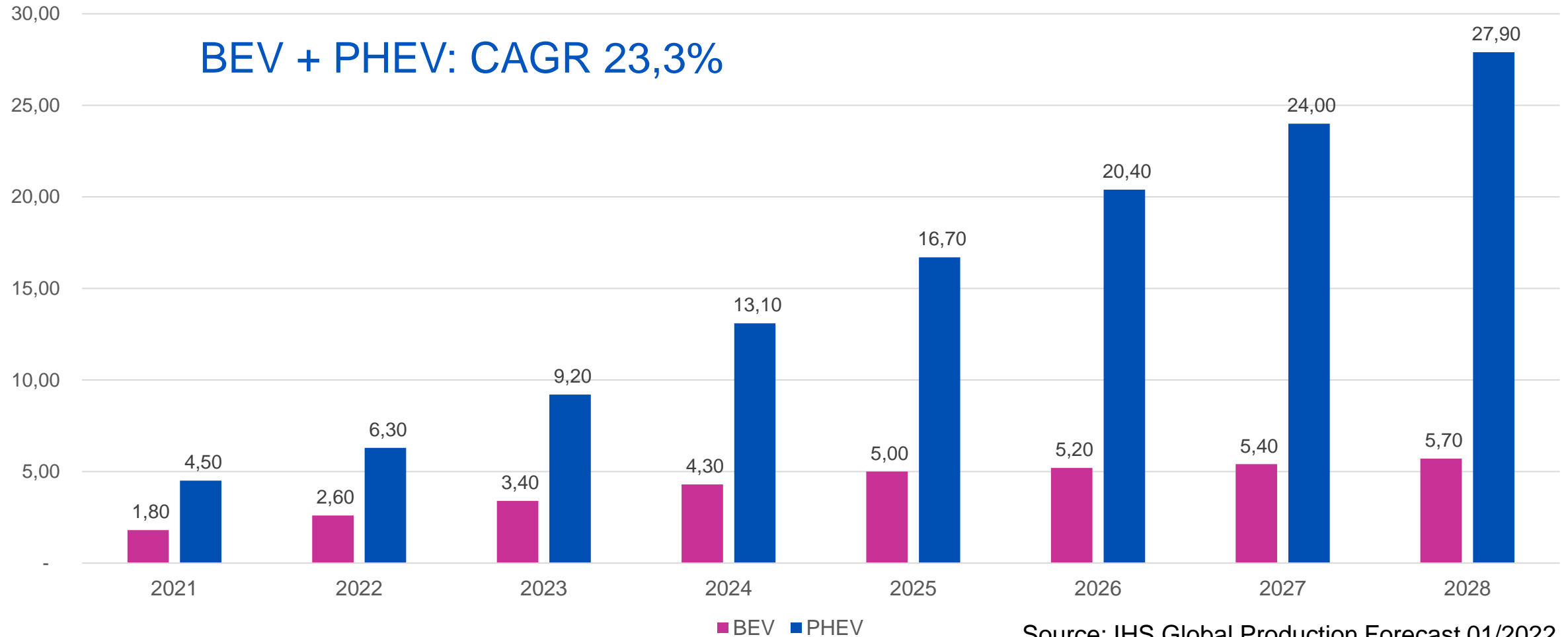
### Design Elements



### Car-to-Pedestrian



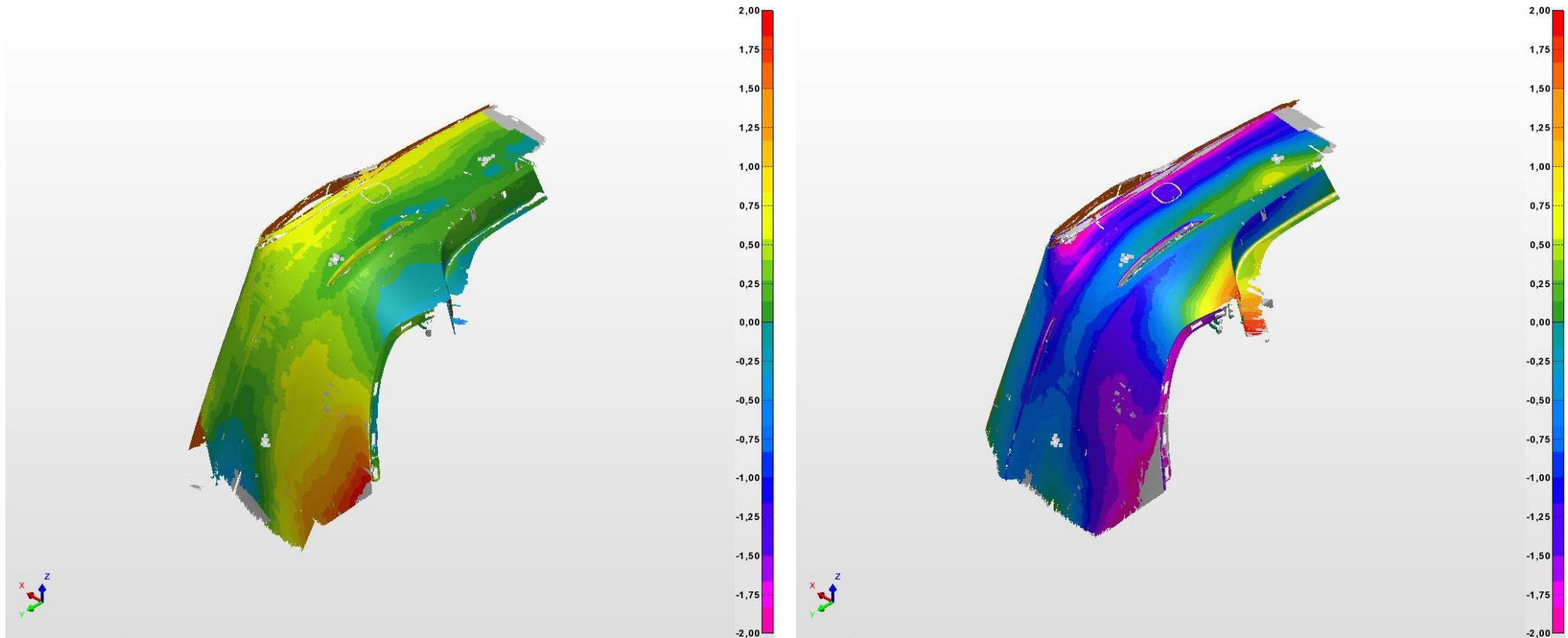
# Global Production BEV & PHEV in Millions



Source: IHS Global Production Forecast 01/2022

# The Problem of Processing Large 3D Plastic Parts

Part to part variation up to several millimeters

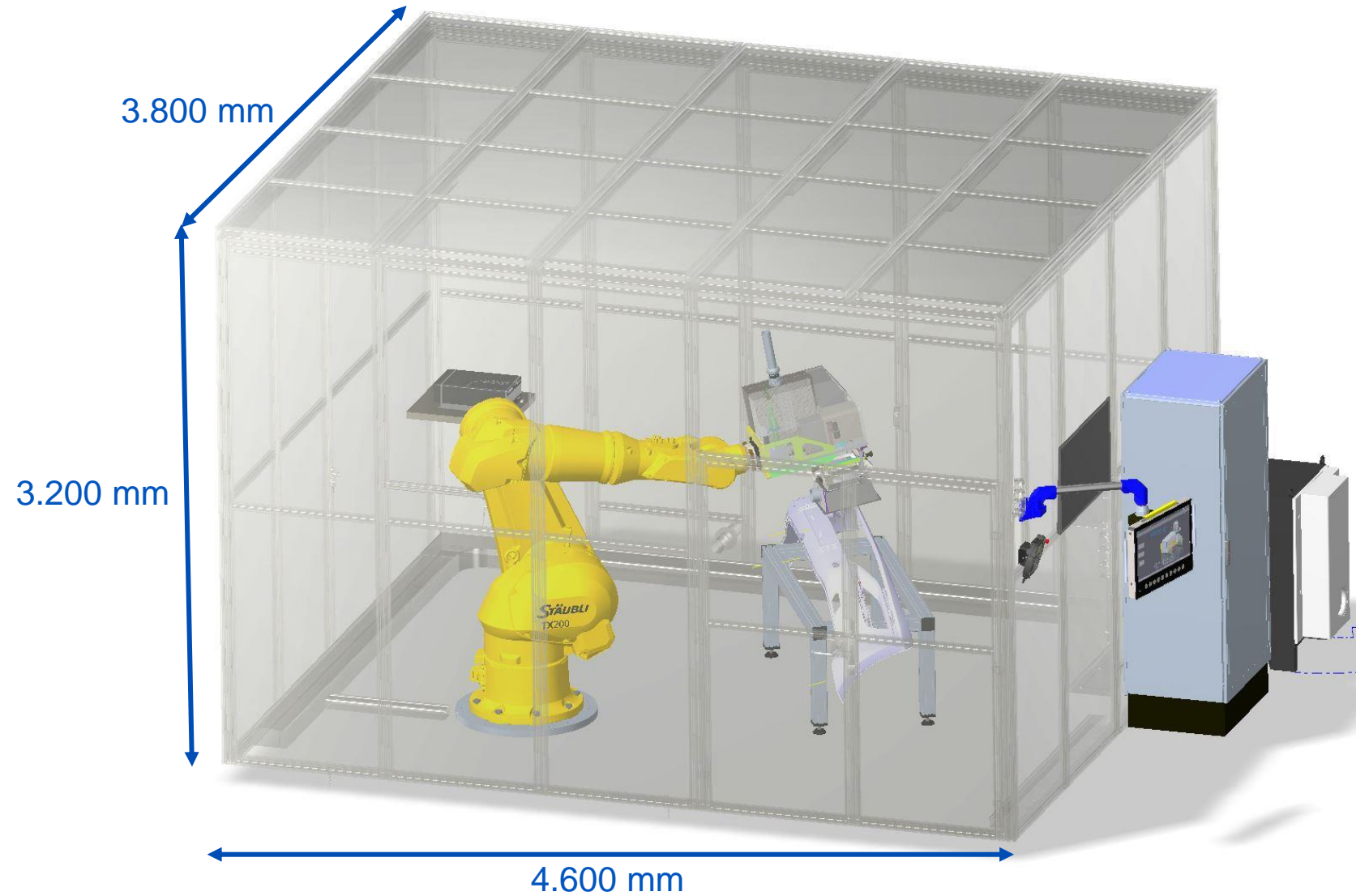




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# JENscan Style Technology

# Machine Layout



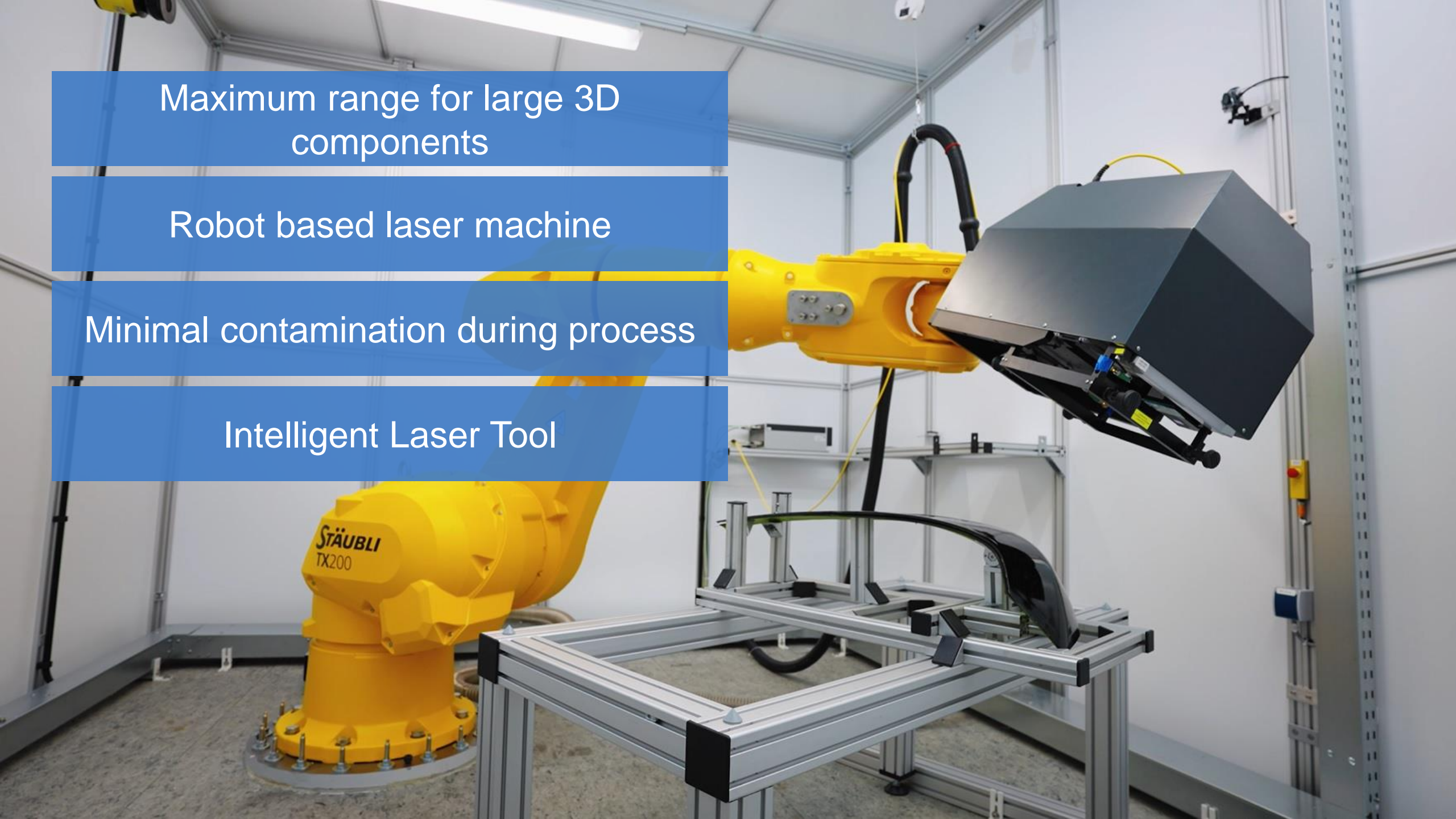


Maximum range for large 3D  
components

Robot based laser machine

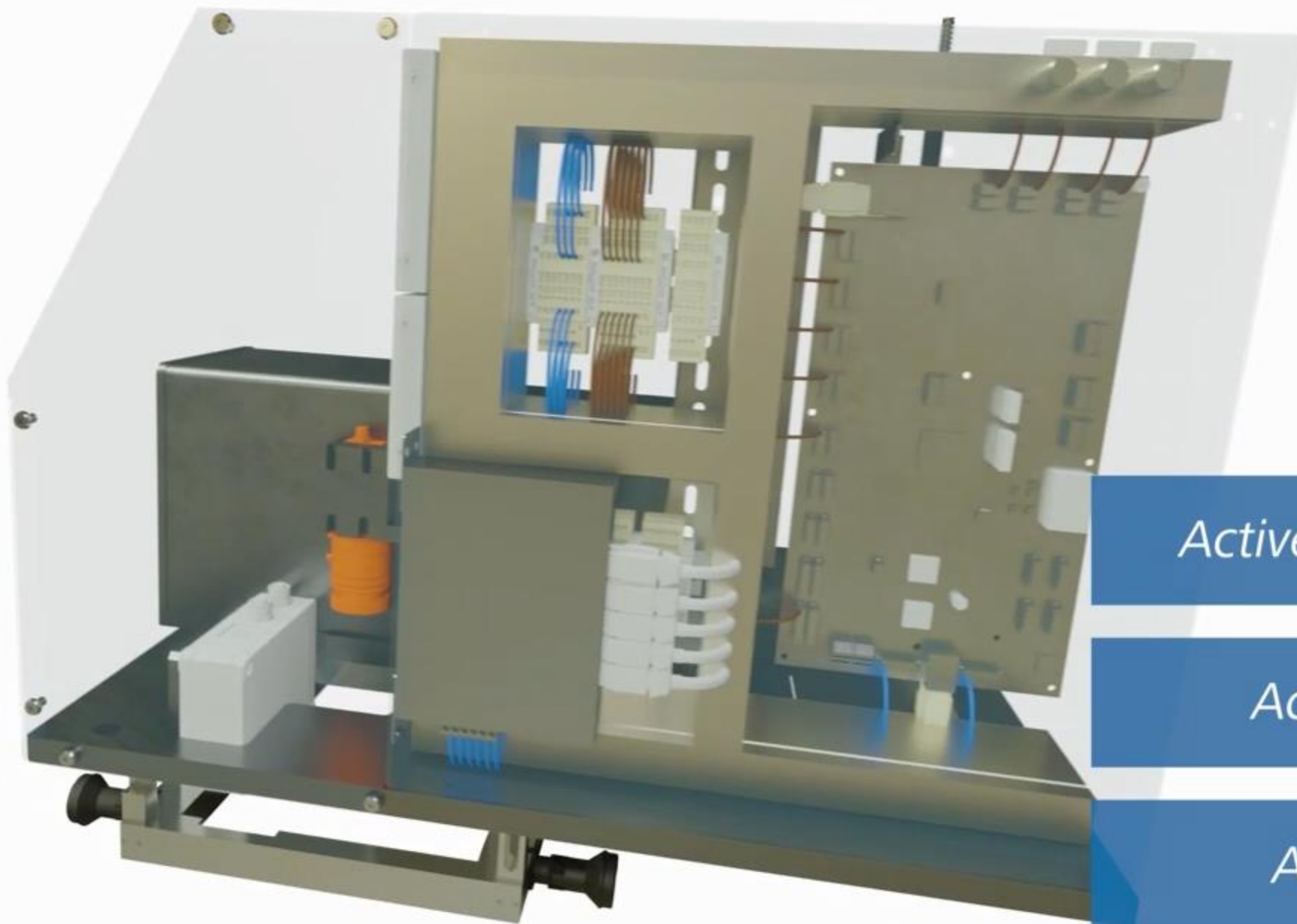
Minimal contamination during process

Intelligent Laser Tool





# JENscan® Style Intelligent Laser Tool



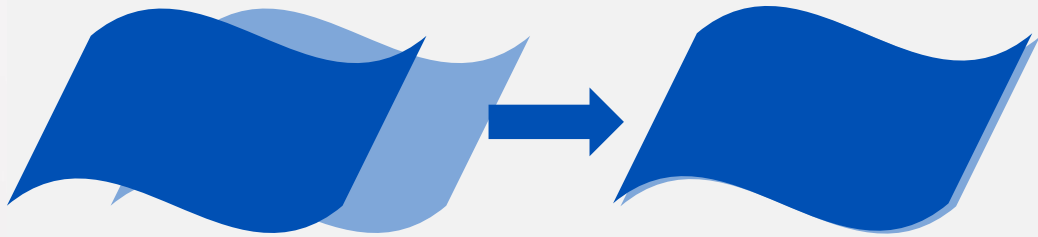
Active 3D Alignment

Active Feature

Active Stitch



## Active 3D Alignment Compensates part to part variation



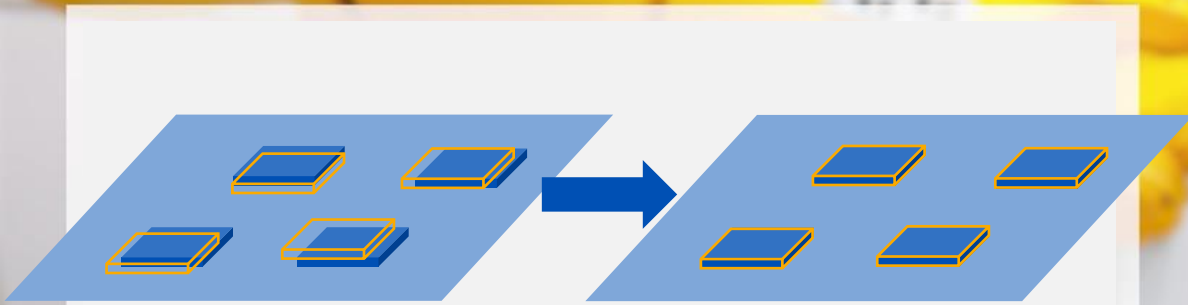
*3D vision system to measure the geometry of the part, in order to adapt the CAD design on the 3D geometry of the real part*

*Accuracy up to 500  $\mu\text{m}$*



## Active Feature

Precise Alignment of small features e.g. imprints

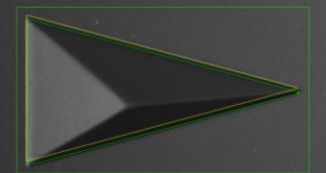
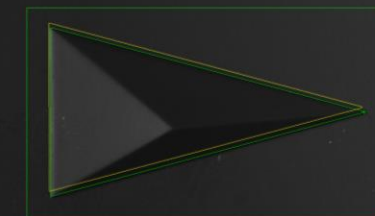
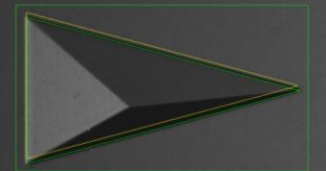
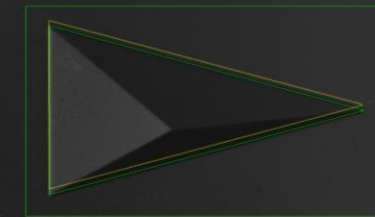
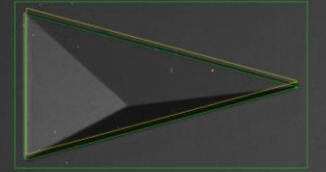
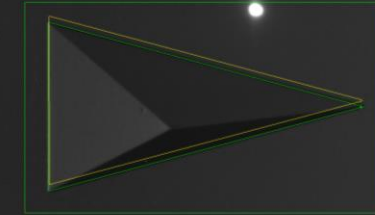
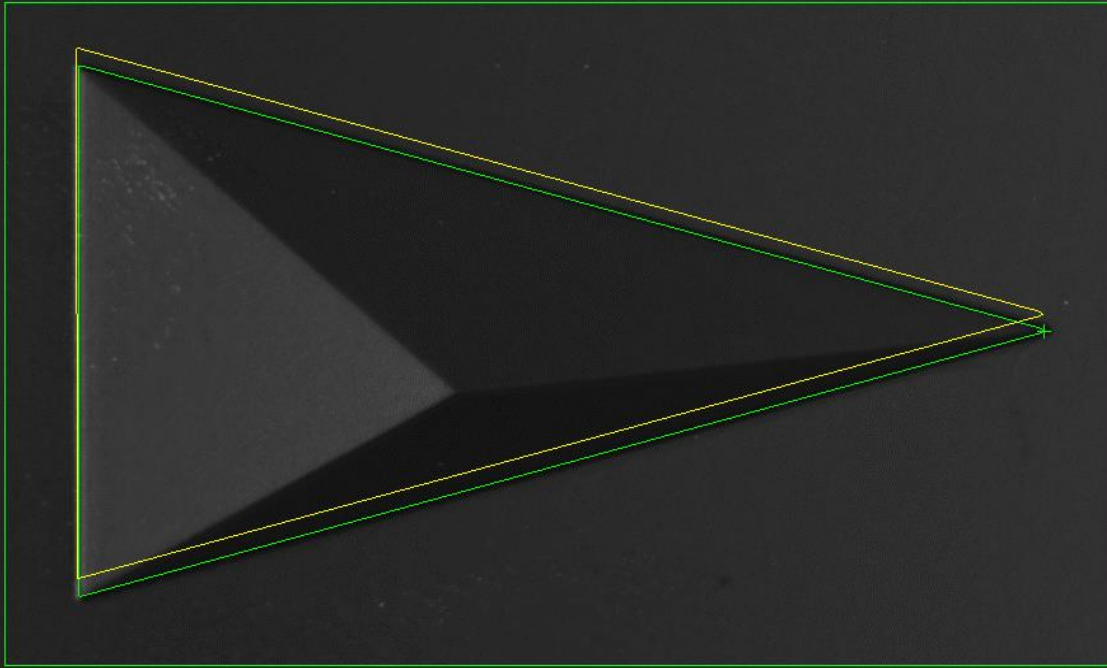


*Vision system to detect specific features within the 3D area of the plastic part*

*Accuracy up to 100  $\mu\text{m}$*

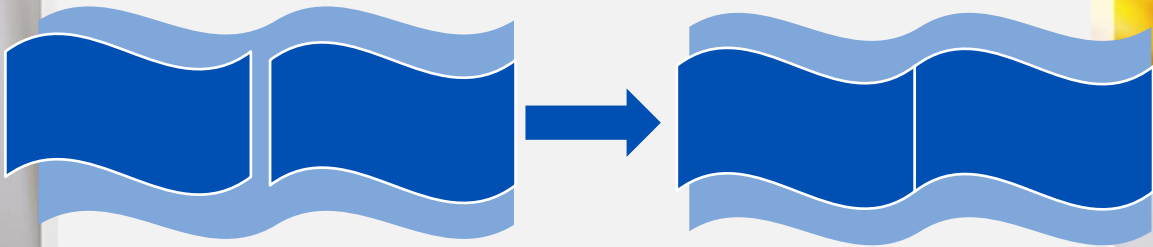
## Active Feature

Precise Alignment of small features e.g. imprints



## Active Stitch

Seamless stitching of large patterns

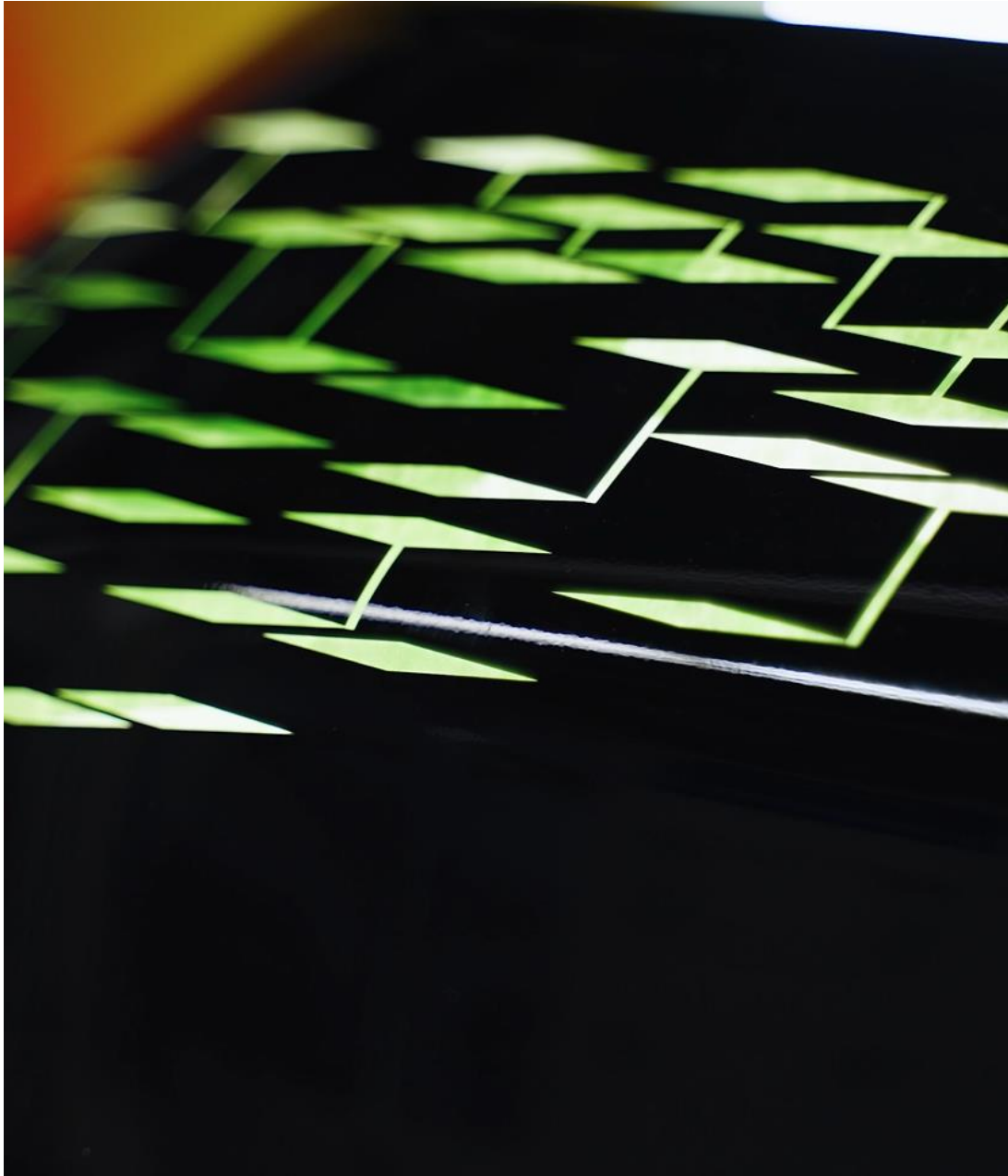


*Vision system which detects the exact stitching position*

*Accuracy up to 100  $\mu\text{m}$*







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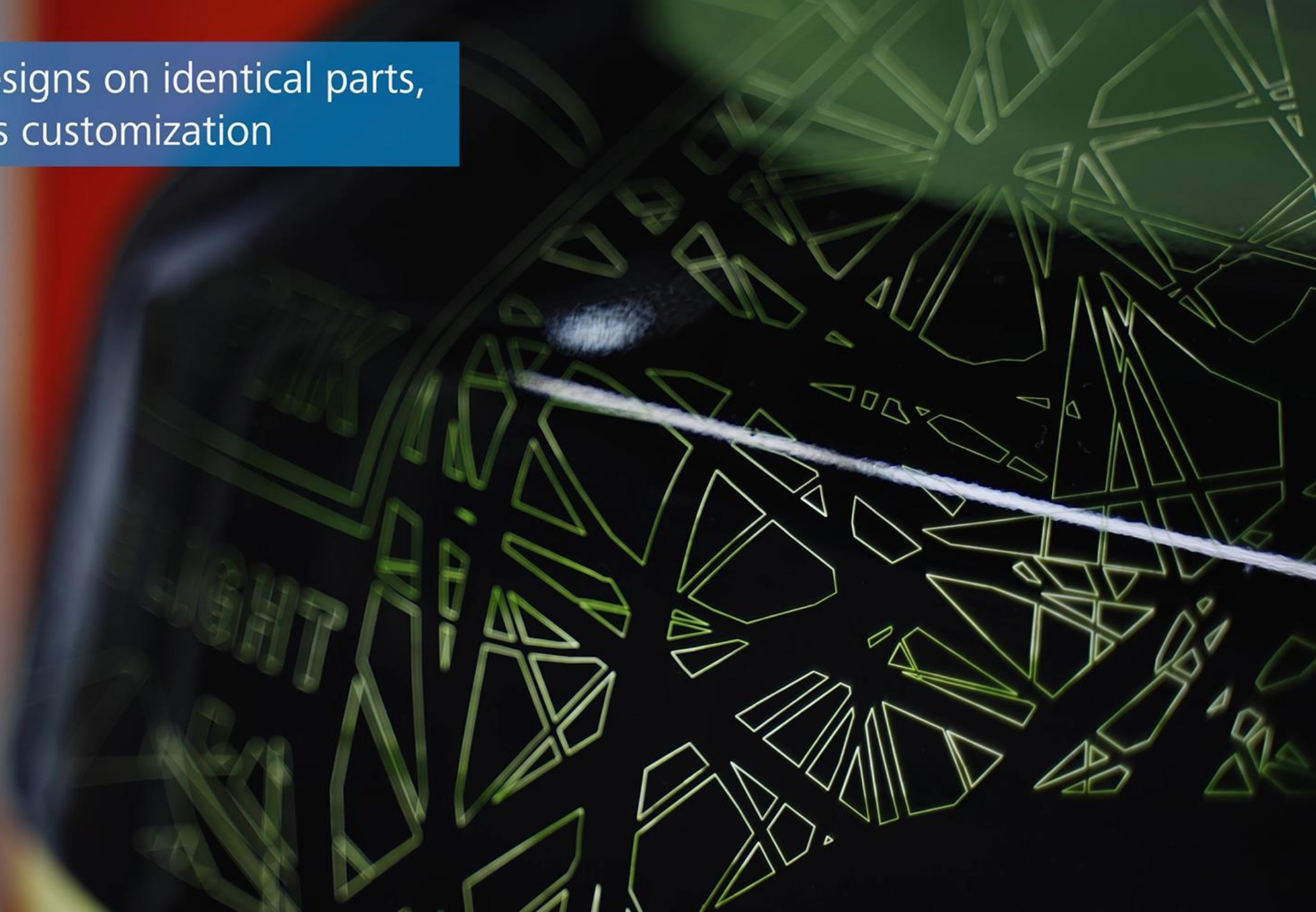
# JENOPTIK Applications- Translucent



Individual designs on identical parts,  
enables mass customization

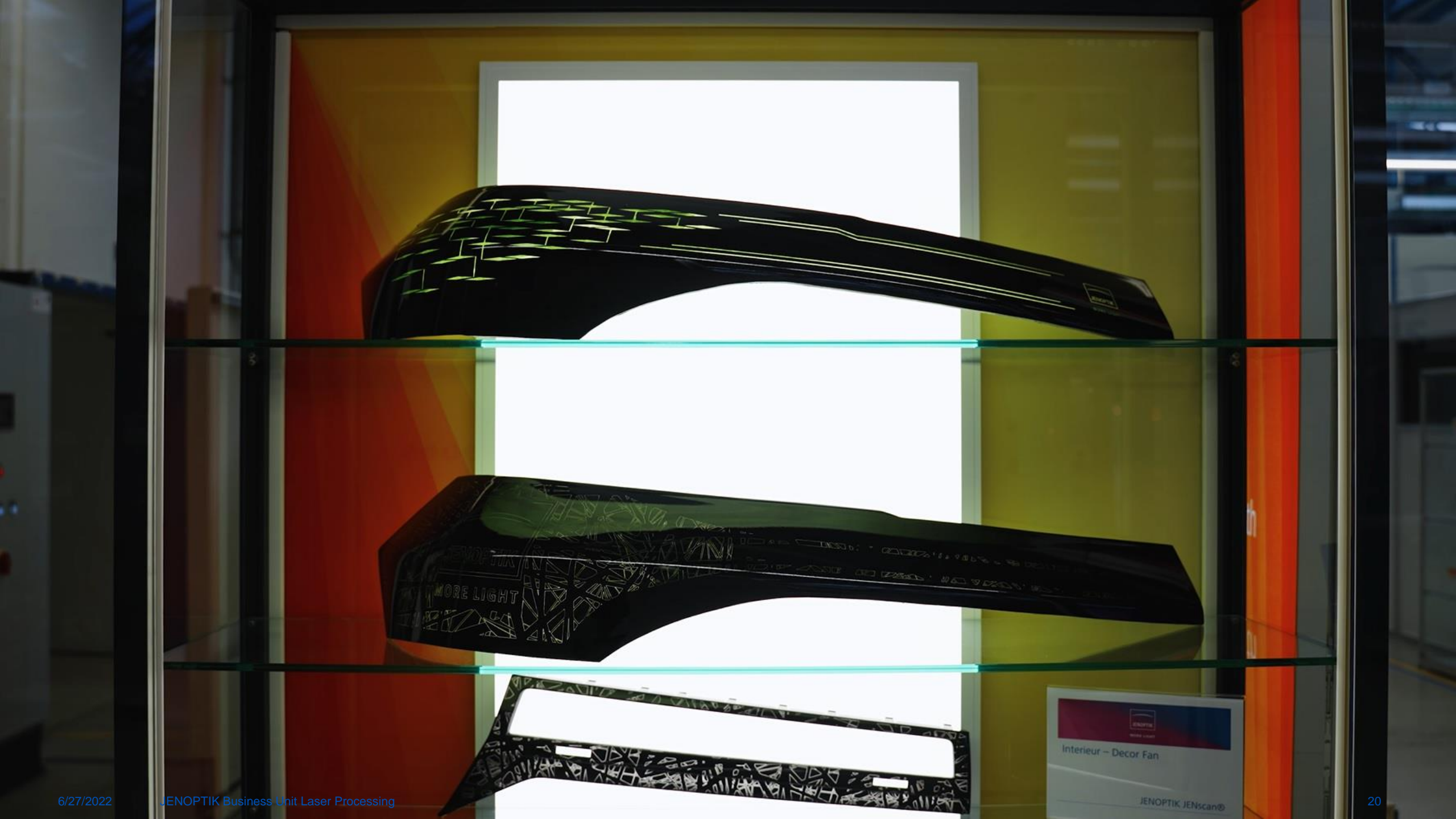


Individual designs on identical parts,  
enables mass customization











## 3D Interior Panel





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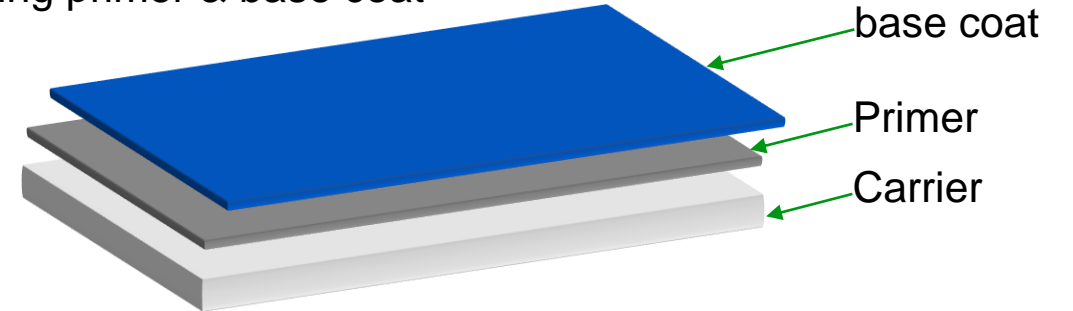
# Production Process

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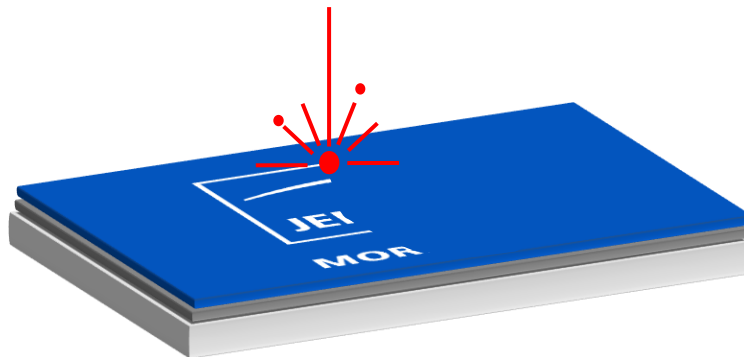
**Step 1:**  
Carrier without color additives



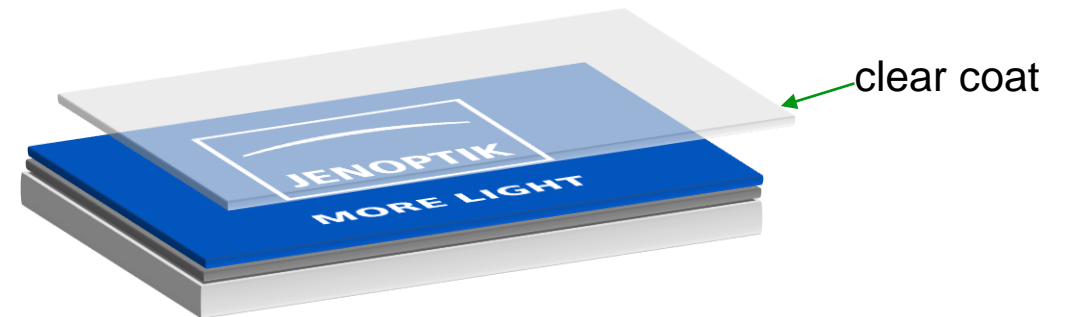
**Step 2:**  
Applying primer & base coat



**Step 3:**  
laser ablation



**Step 4:**  
applying of clear coat





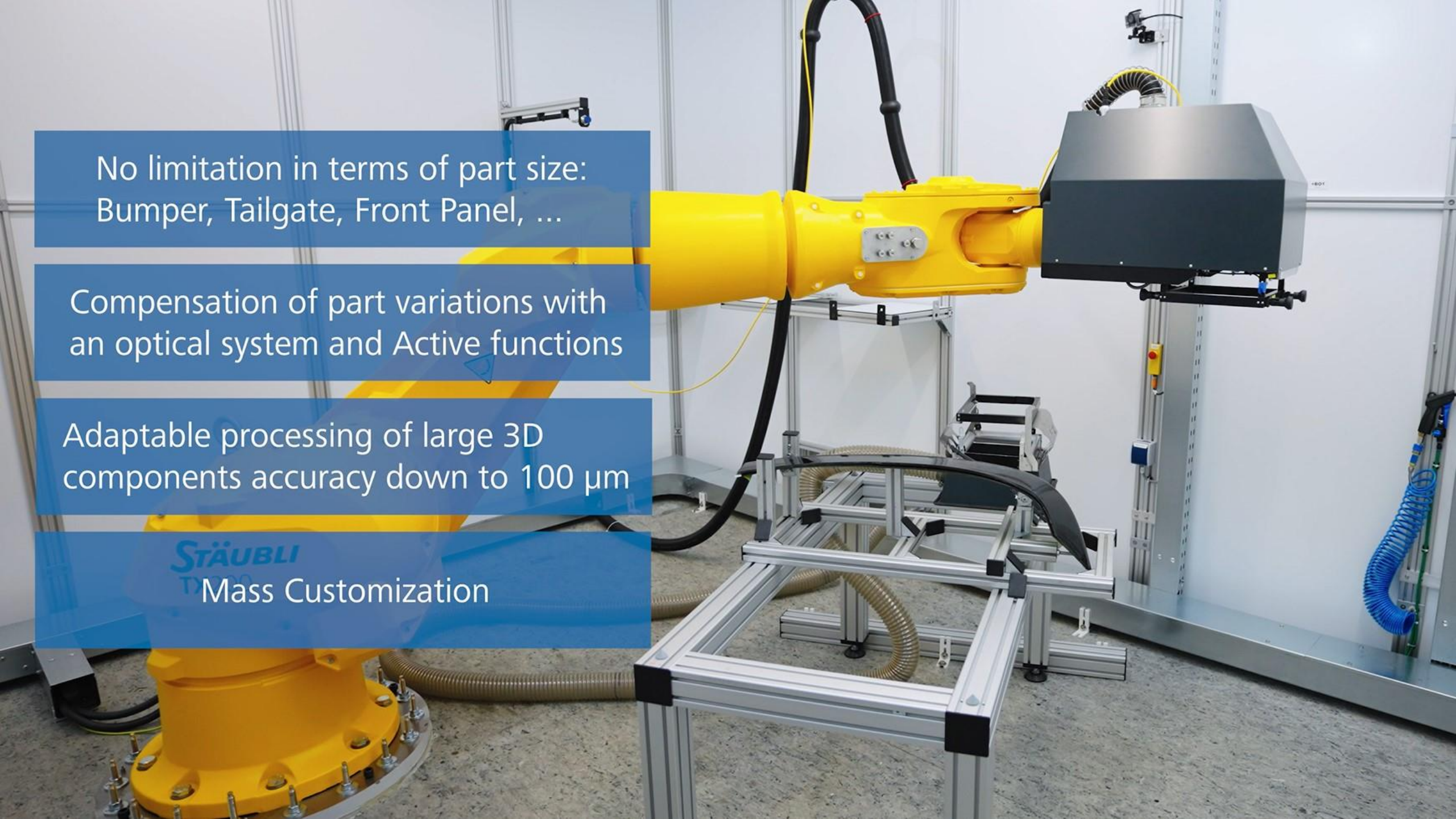
No limitation in terms of part size:  
Bumper, Tailgate, Front Panel, ...

Compensation of part variations with  
an optical system and Active functions

Adaptable processing of large 3D  
components accuracy down to 100  $\mu\text{m}$

STÄUBLI  
TX200

Mass Customization







# Contact us

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Thank You