

# Data Generation for Deep Learning

Mario Russi

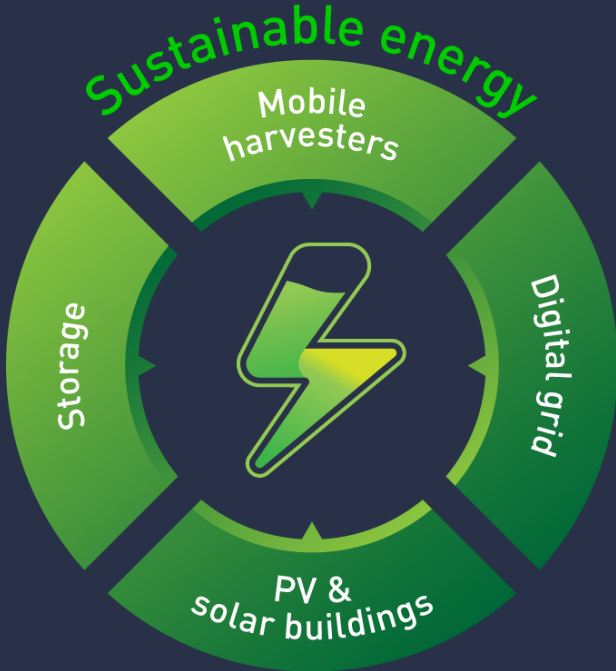
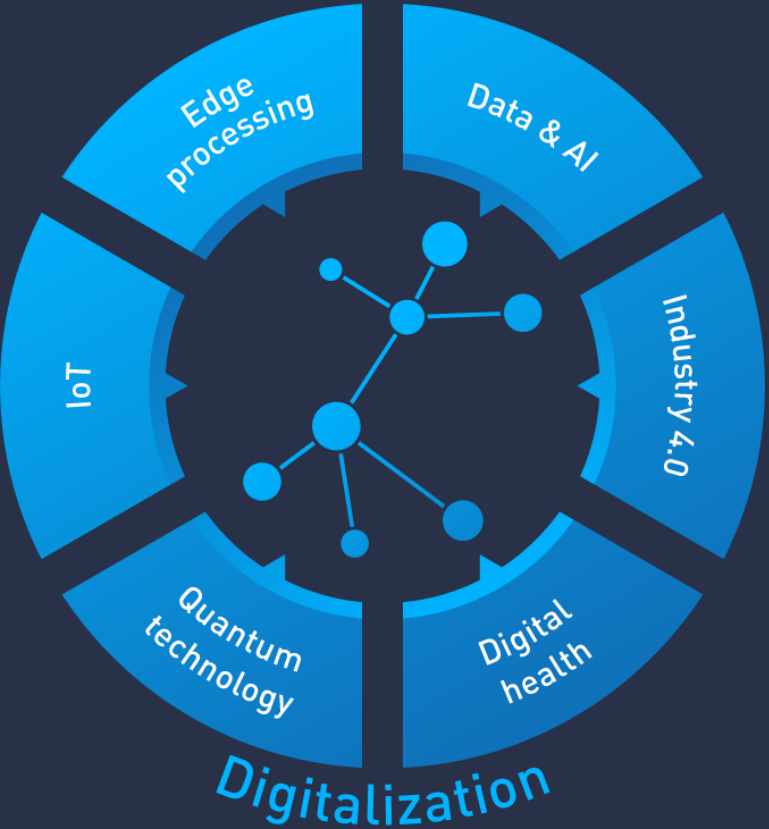
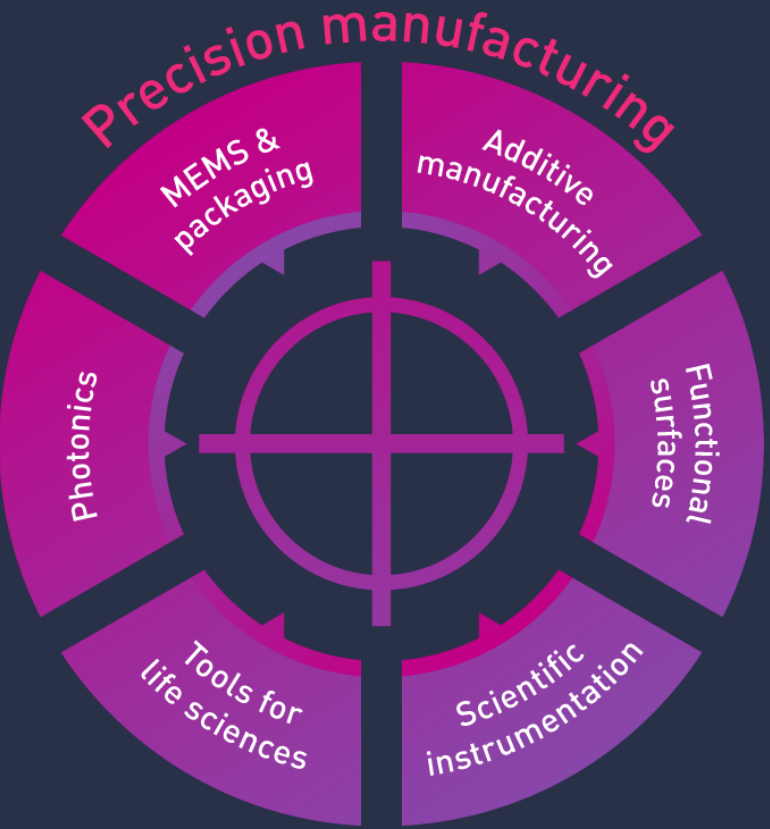


CSEM - TECHNOLOGY  
ORGANIZATION IN  
SWITZERLAND

The CSEM logo, consisting of two vertical bars followed by the lowercase letters 'csem' in a blue sans-serif font, is mounted on the white facade of the building.

# Technology Transfer to Industry

# Technologies **in focus** at CSEM



# Power of AI



**«The world's most valuable resource is no longer oil,...**





••• **but annotated data** »

# Data generation for industry



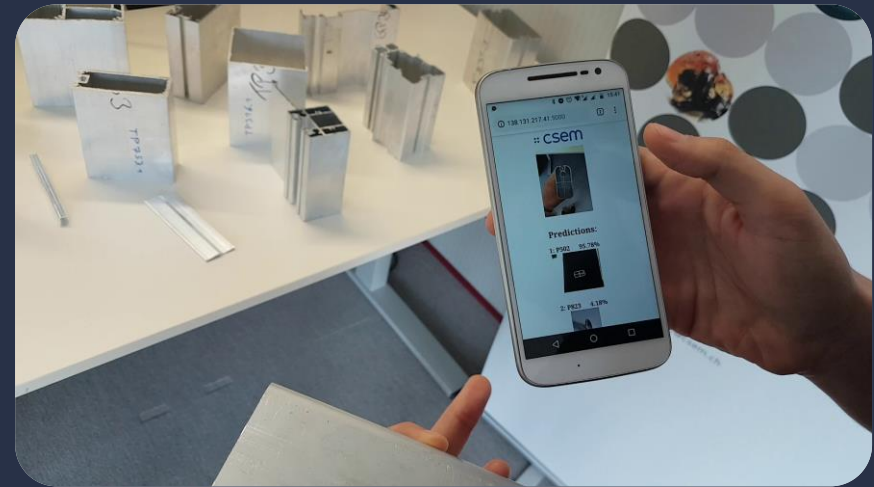
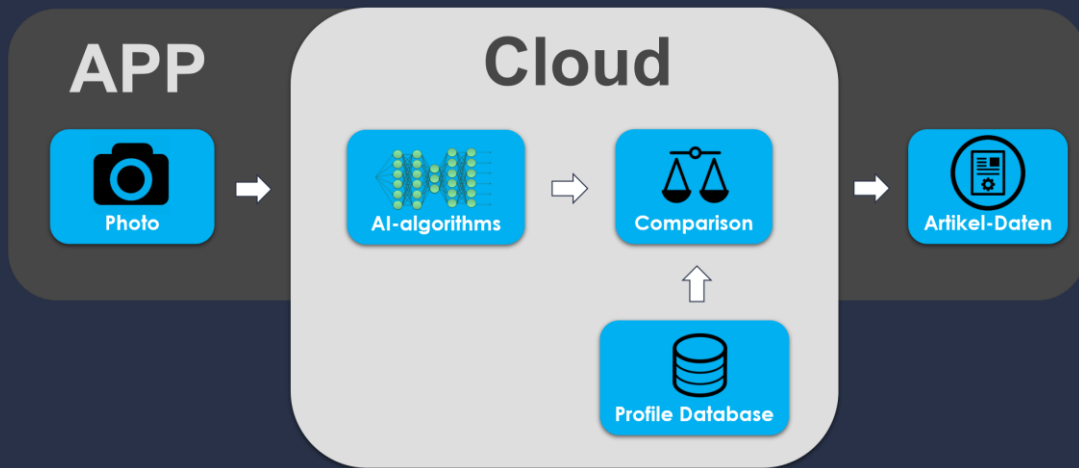
Source: Airbus Industrie  
Source: minimum.de  
Source: deutsche-fensterbau.de



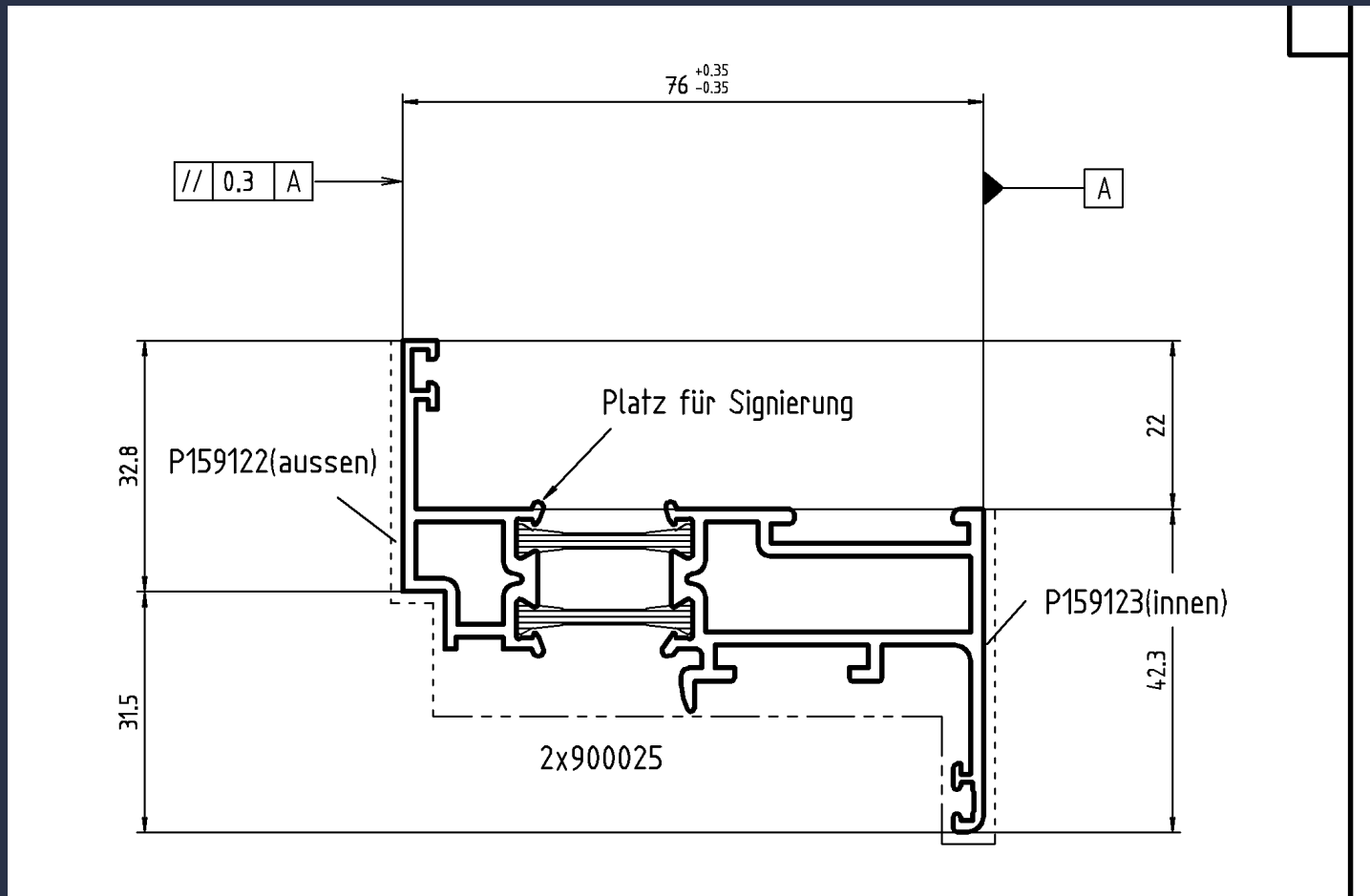
**e.luterbachag**  
Anlagenbau für die Lackierindustrie



Source: stakapal.de

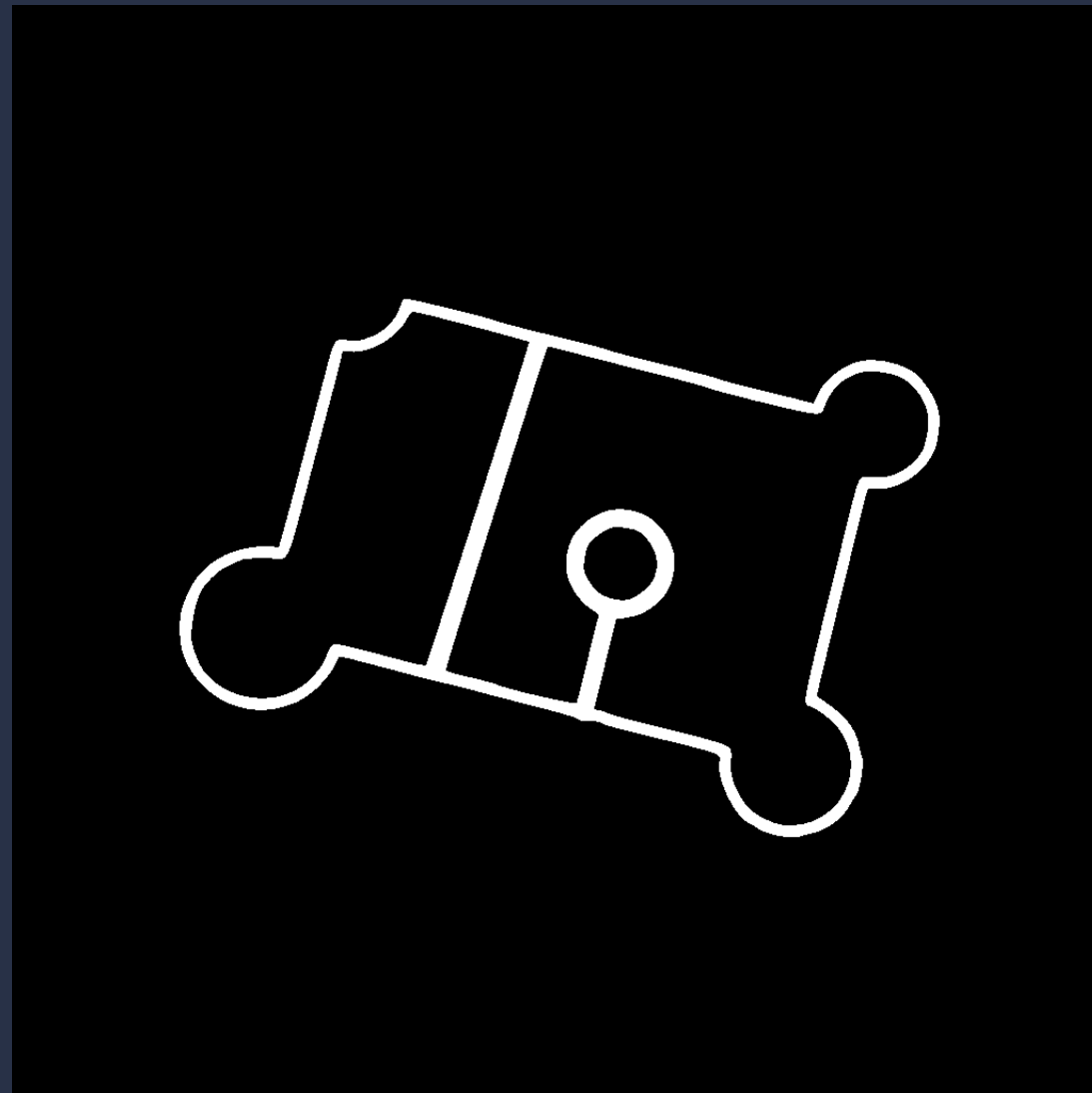


Many drawings, but few photos...





# Rendering for industry





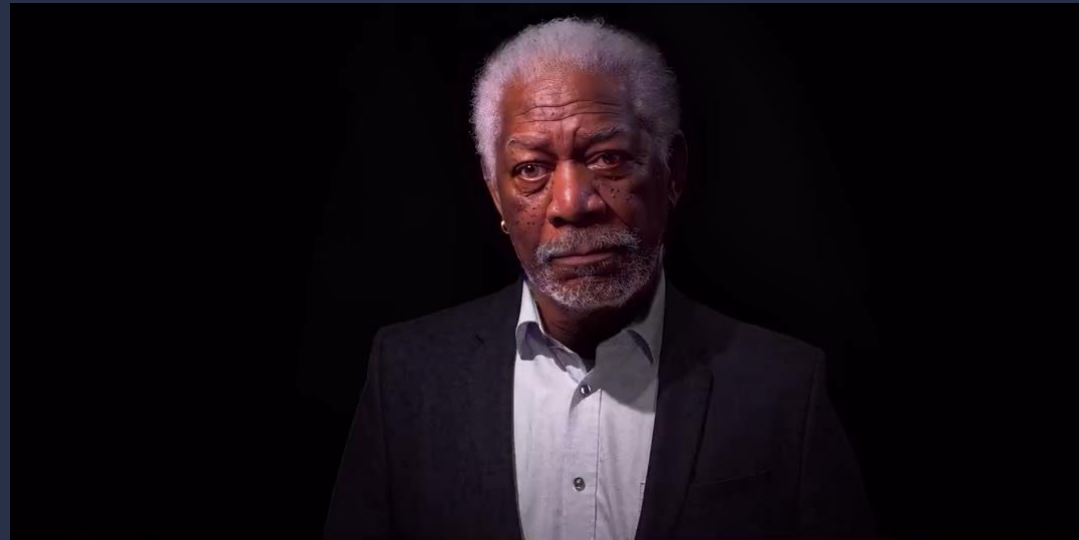
Red area → annotation



## Rendering for industry

- 1 Mio. generated profiles
- 6'361 real profiles in database
- Top1 score 98.2%
- Top3 score 99.9%

# Deepfake for industry



← fake

real →



# Deepfake for industry



Original image



Desired defect location



Image with artificial defects



## Kontakt

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