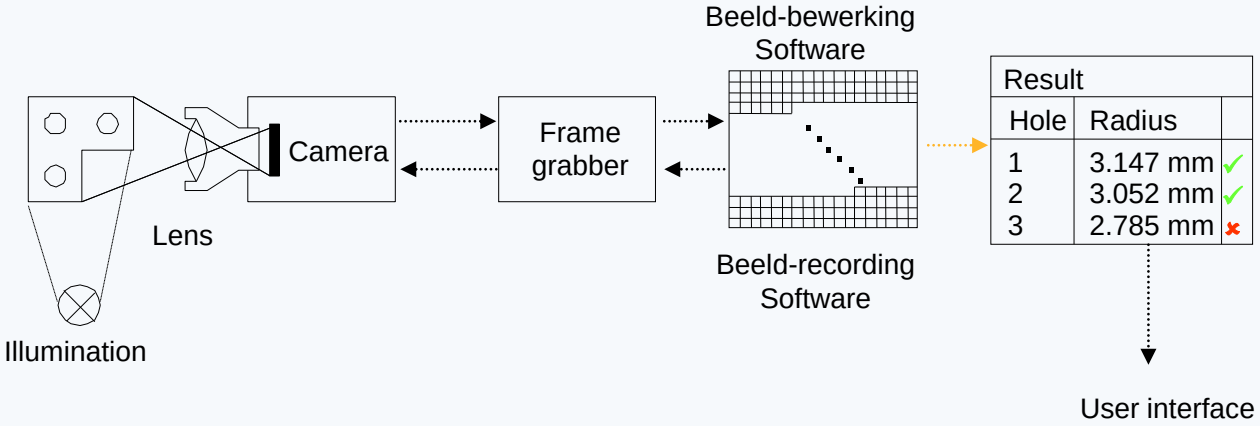

HALCON
MERLIC
BLOX

© Dr. Austin Richards

X-Ray	UV	VIS	NIR	SWIR	MWIR	LWIR
X-Ray	Ultra Violet	Visible	Near IR	Short Wave	Mid Wave	Long Wave
0.01-10 nm	10-400 nm	400–750 nm	750-1100 nm	1.1-2.5 um	3.0-5.0 um	7.0-14 um

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X-Ray	UV	VIS	NIR	SWIR	MWIR	LWIR
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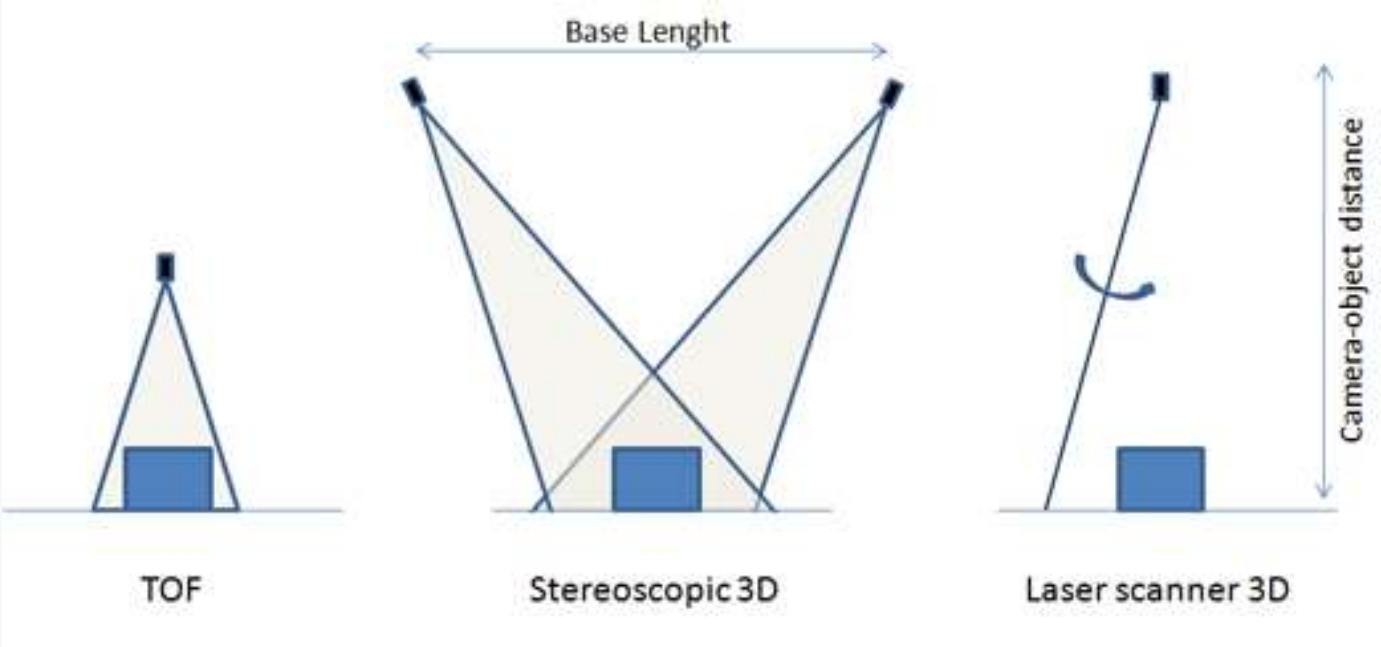
0.01-10 nm	10-400 nm	400–750 nm	750-1100 nm	1.1-2.5 um	3.0-5.0 um	7.0-14 um

3 D Vision


Base Lenght
Camera-object distance
TOF
Stereoscopic 3D
Laser scanner 3D

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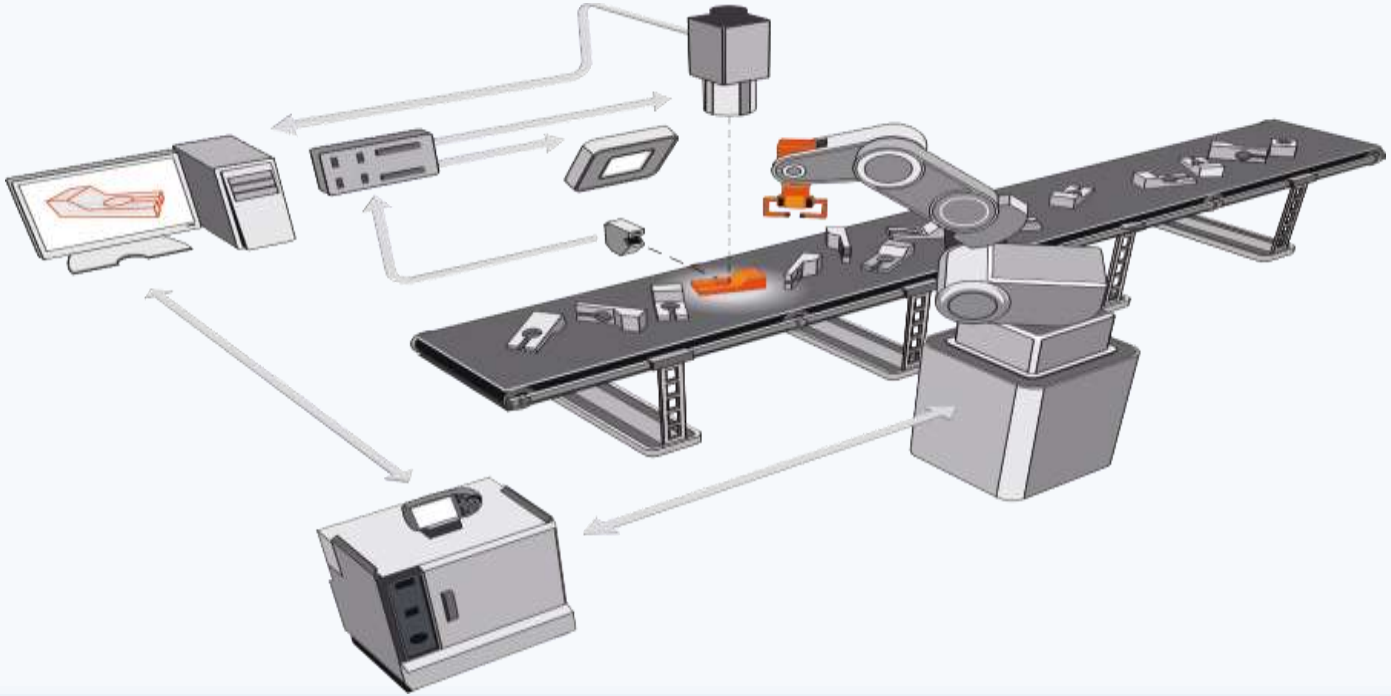
6 december 2018
1931 Congrescentrum
Den Bosch

Oriëntatie



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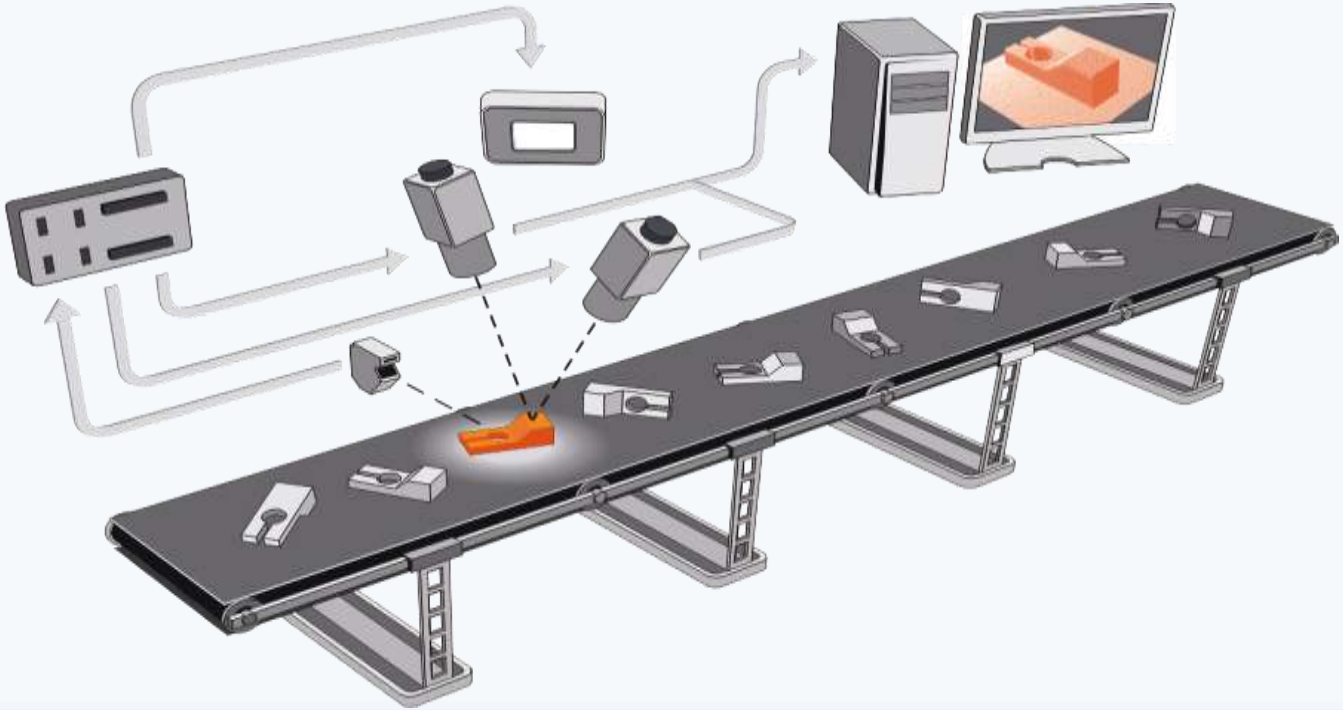
Vorm



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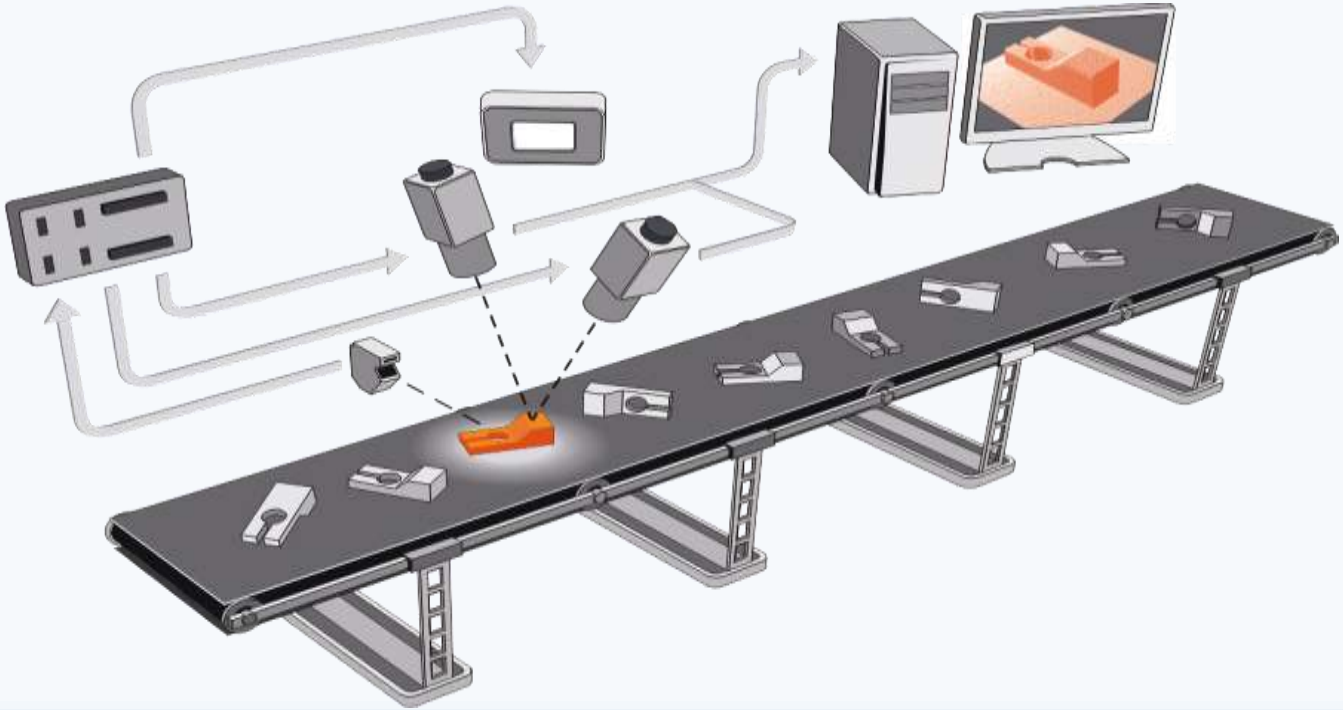
Kwaliteit



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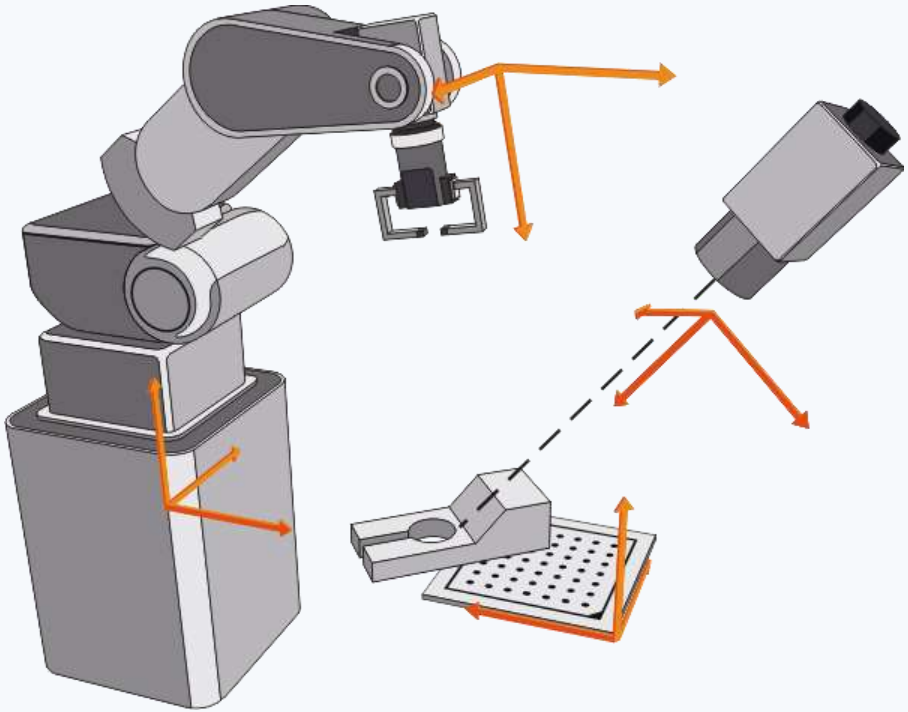
Kalibratie



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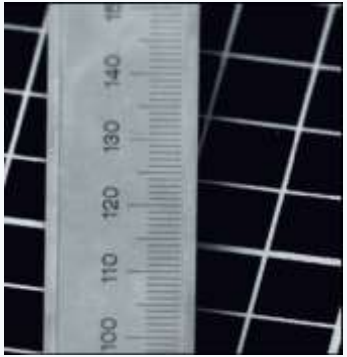
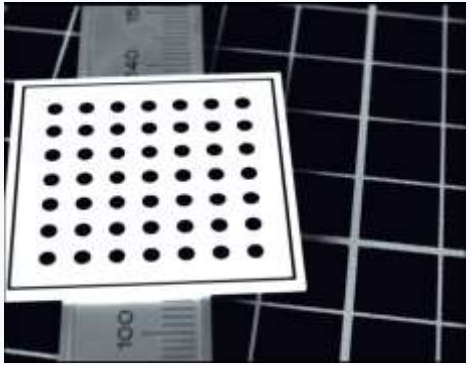
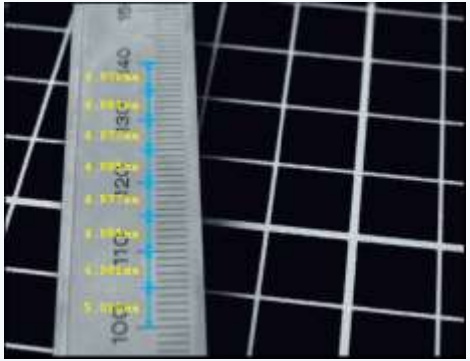
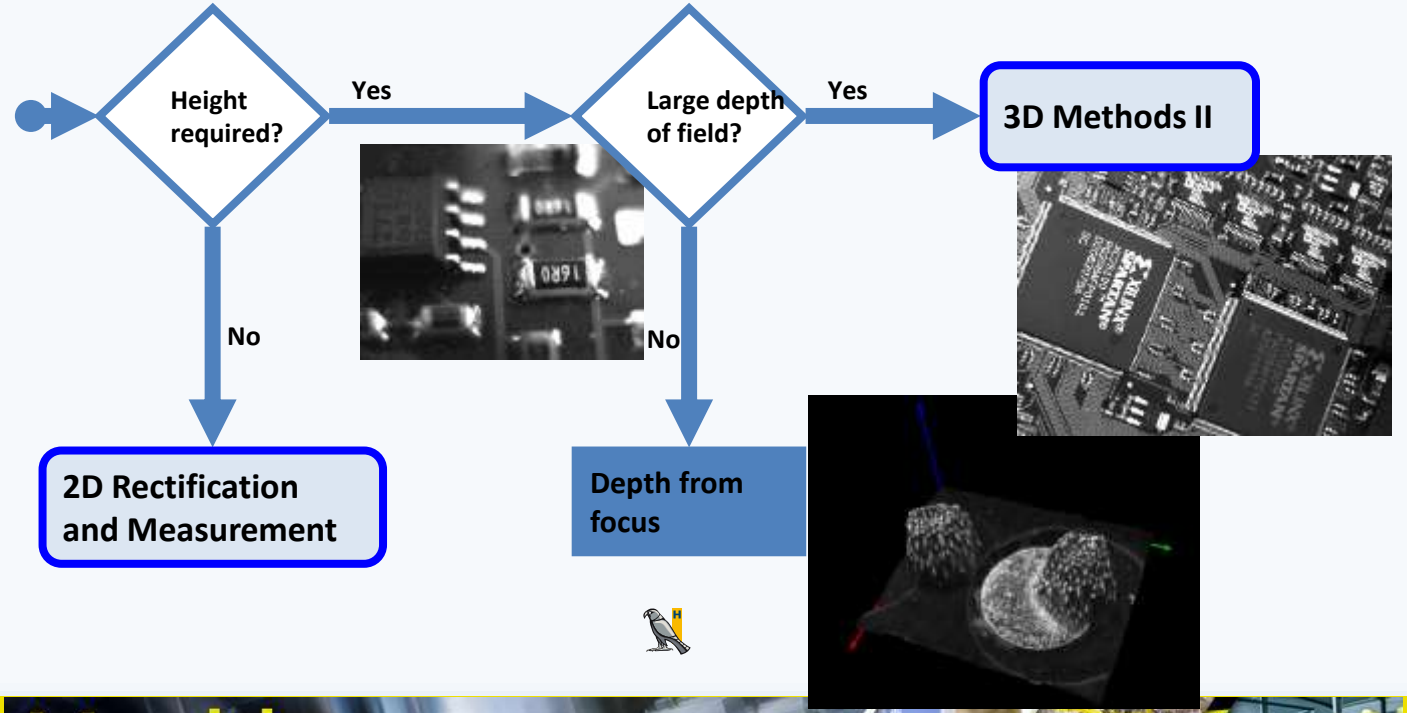
Van pixel naar millimeter







3D (1)



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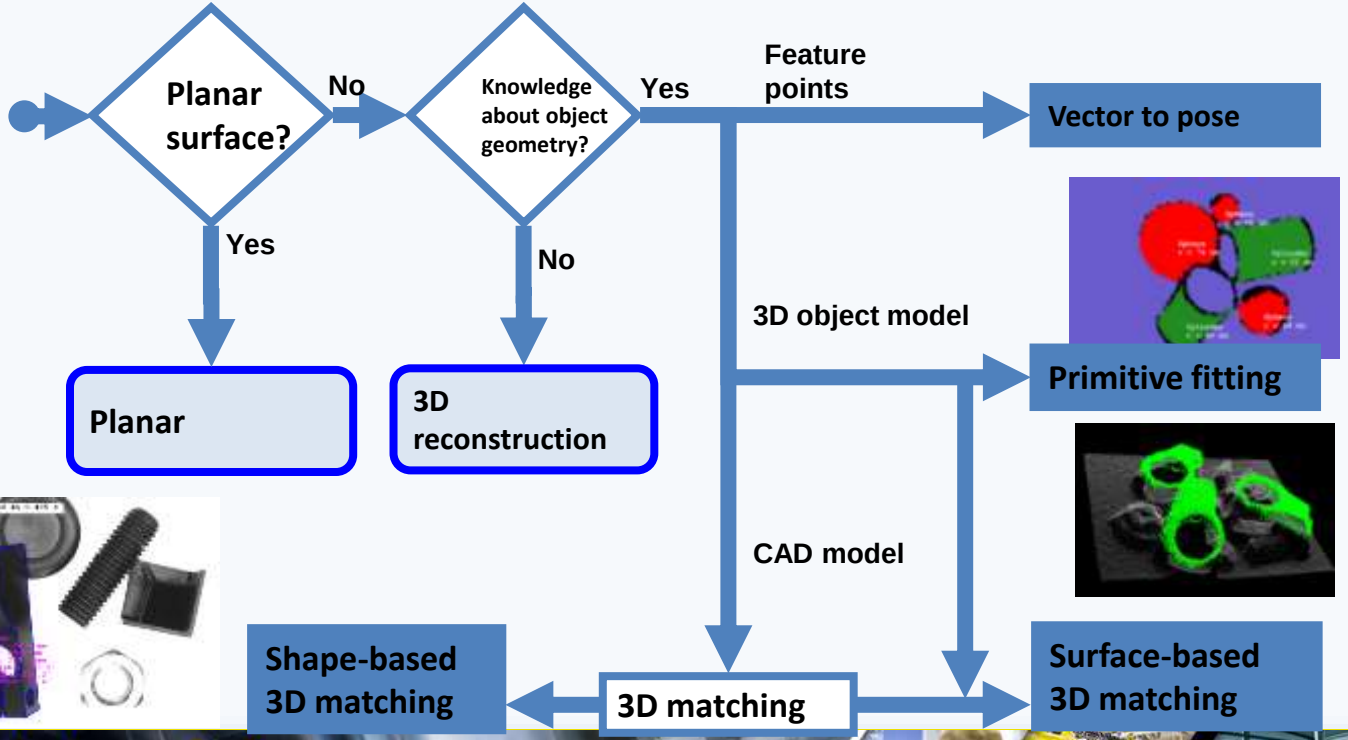
3D (2)



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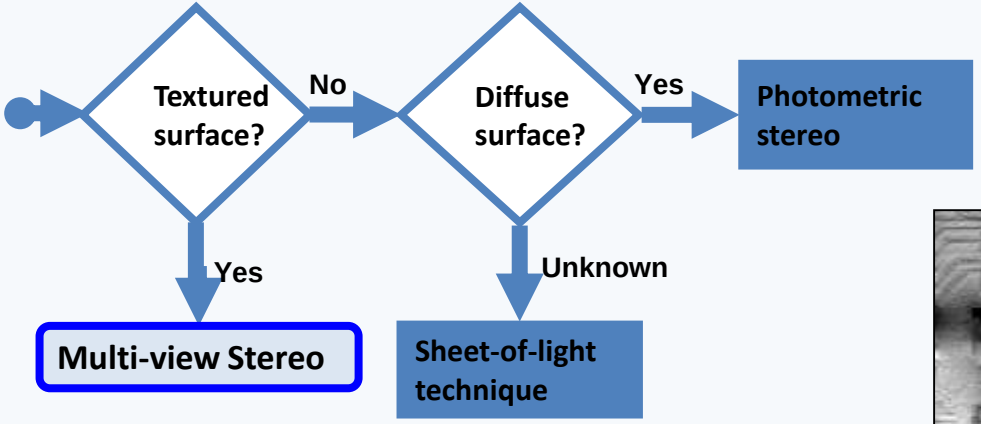
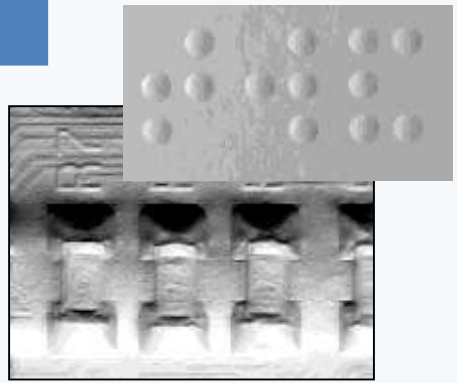
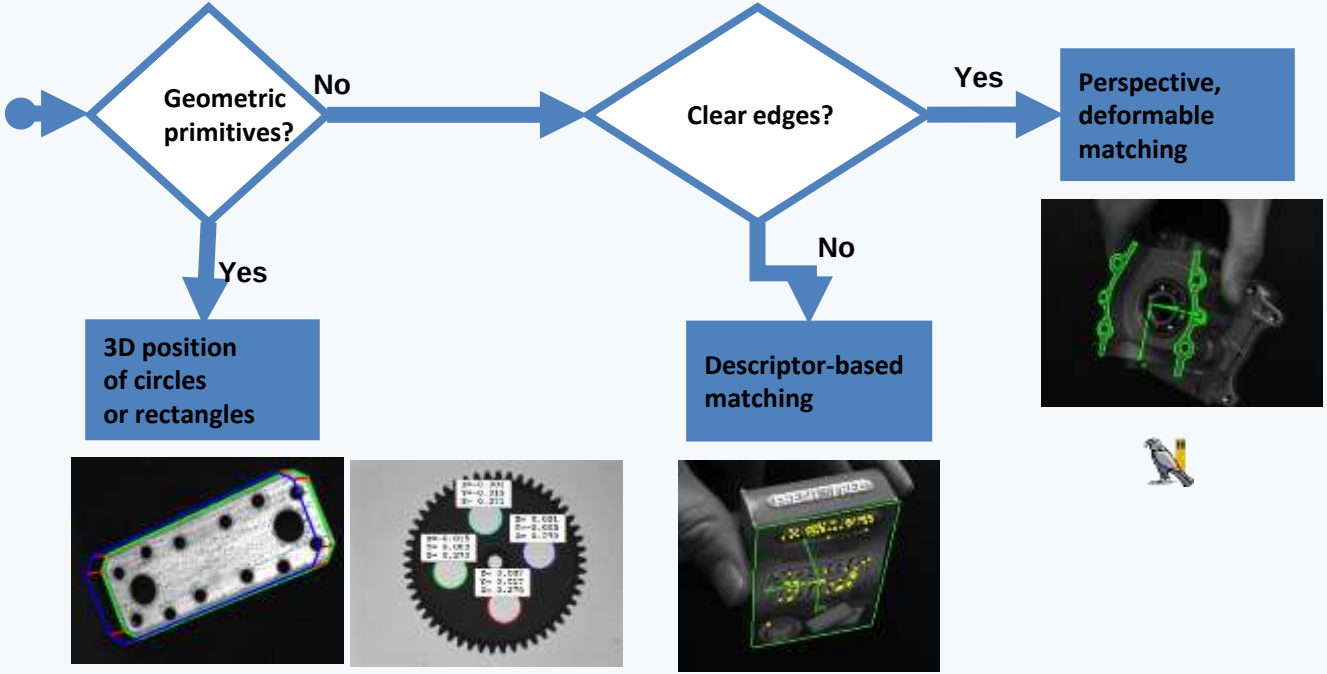
3D Reconstruction





3D Planar (vlak oppervlak)



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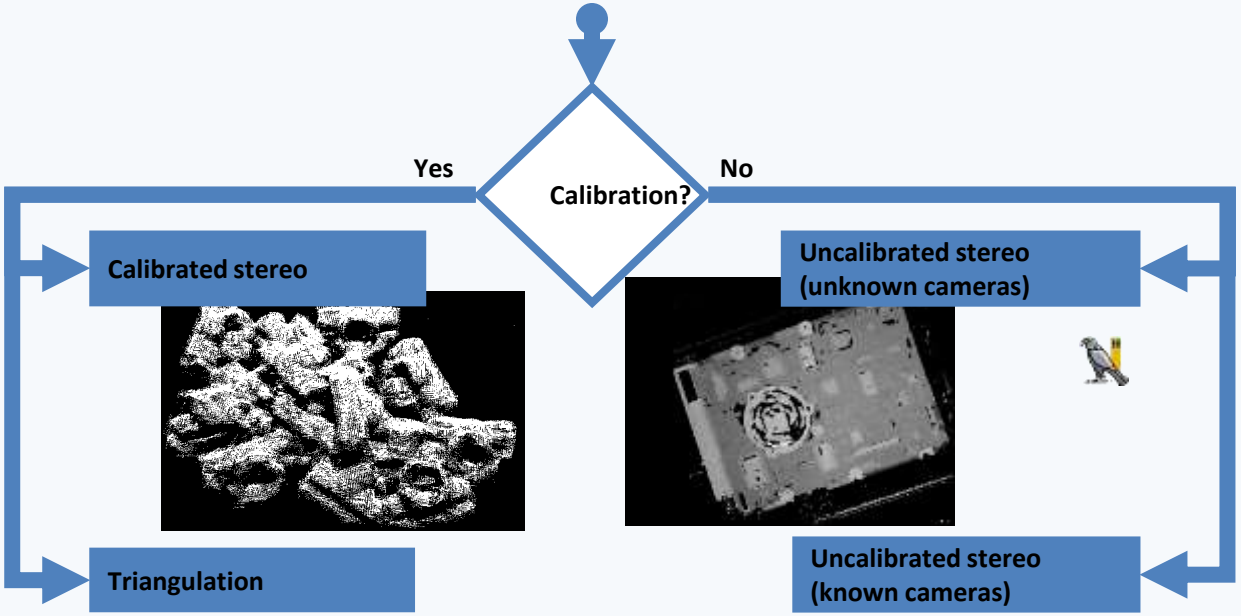
3D Stereo



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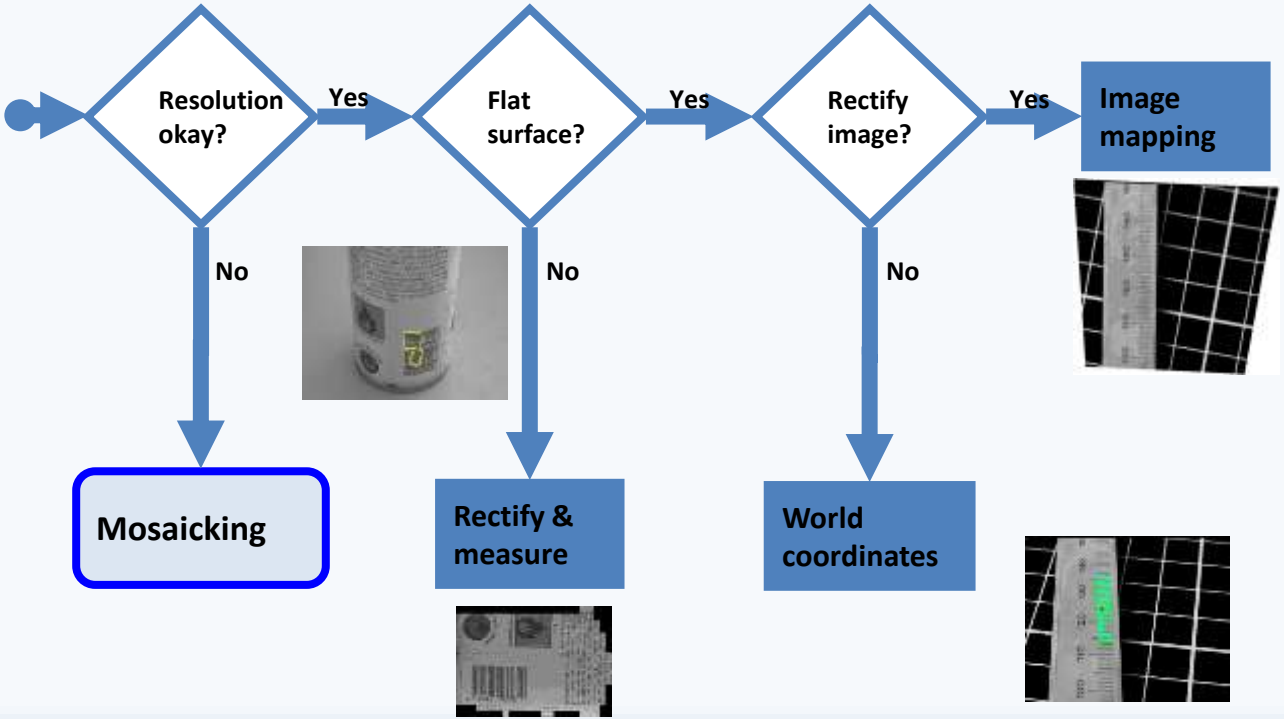
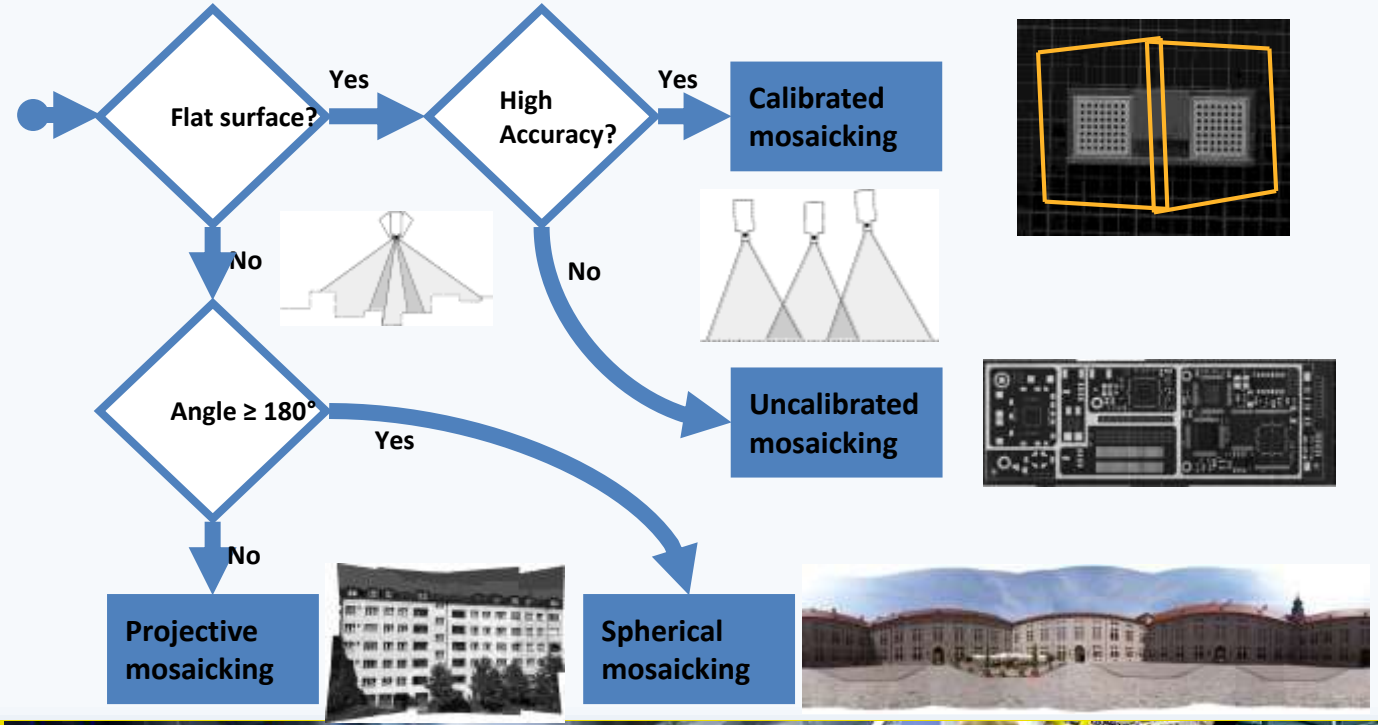
2D Rectification



Mosaicking



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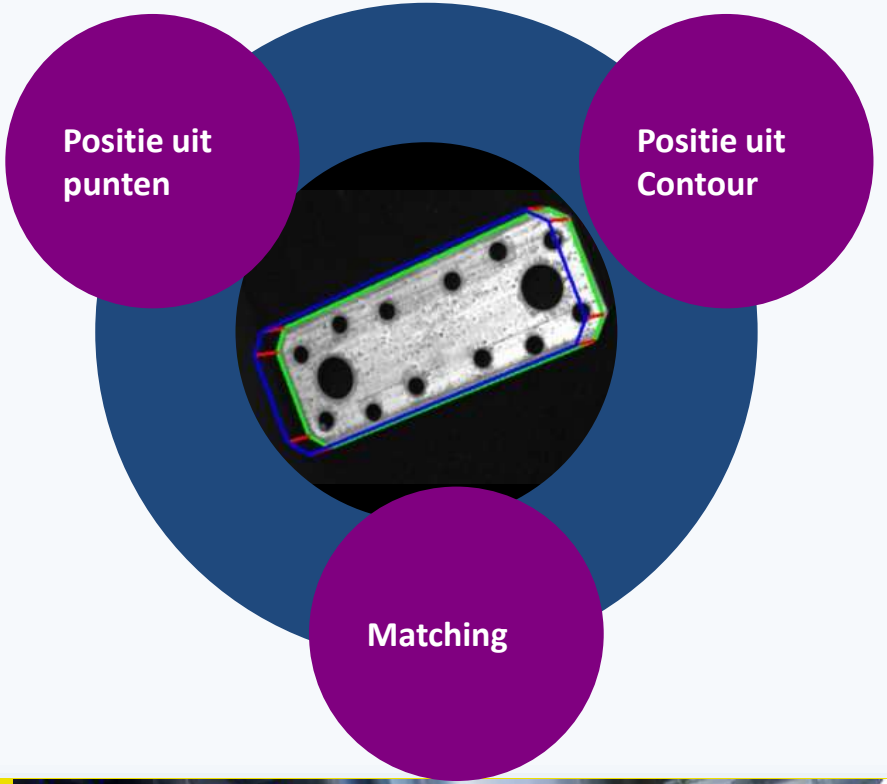
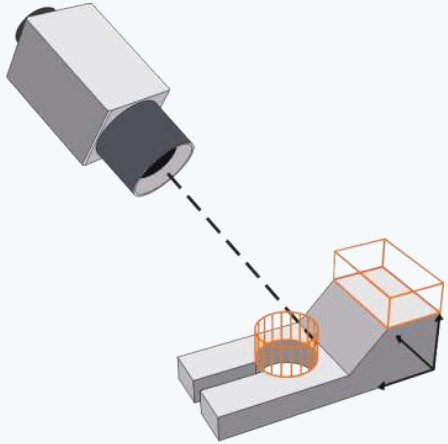
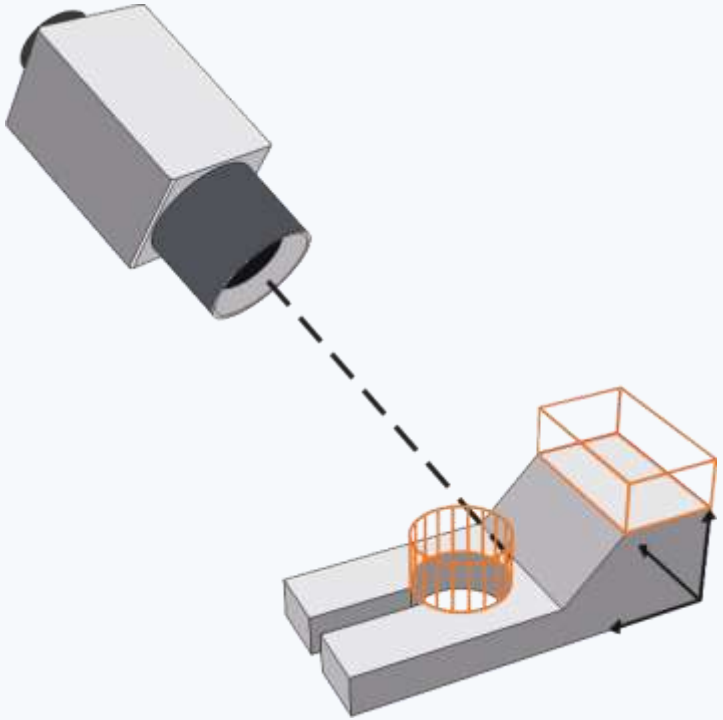
3D uit geometrie





3D uit geometrie



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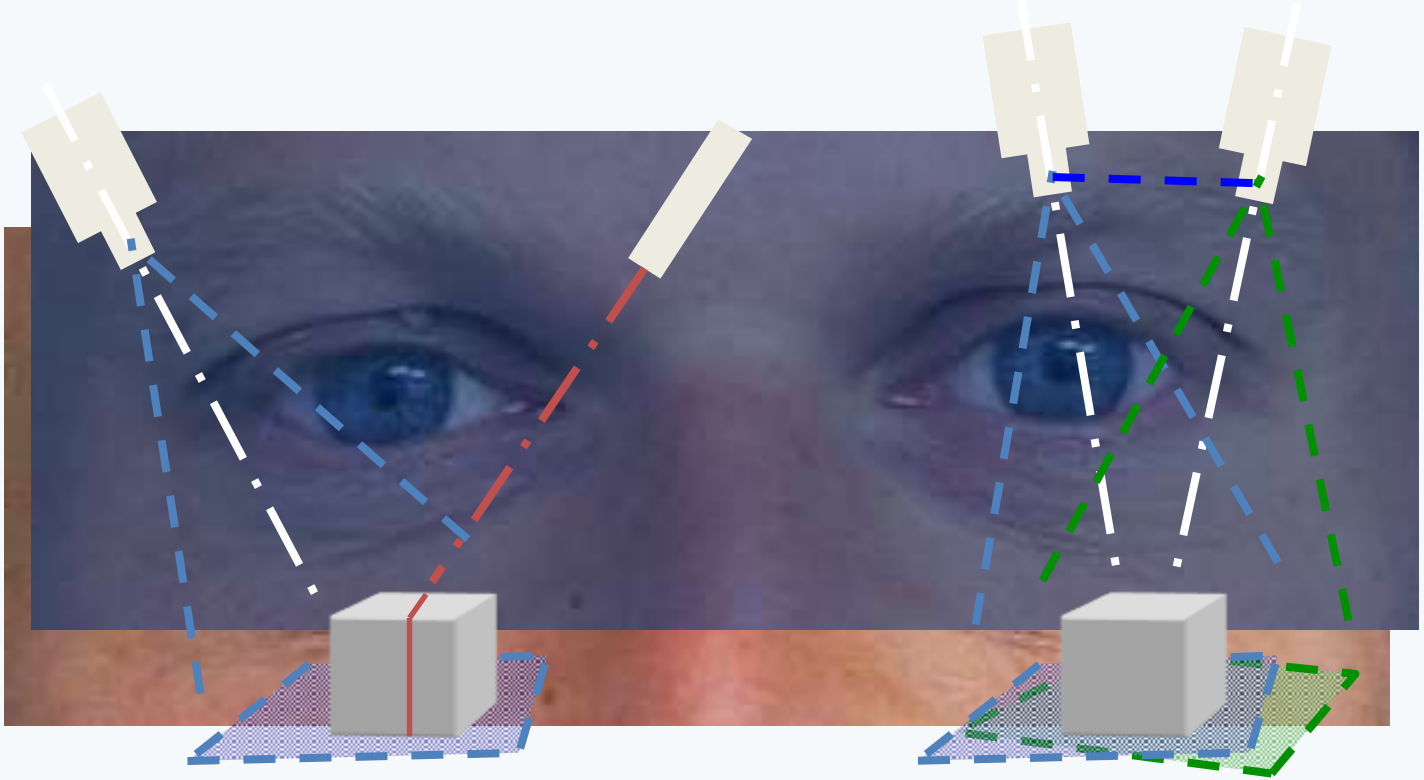
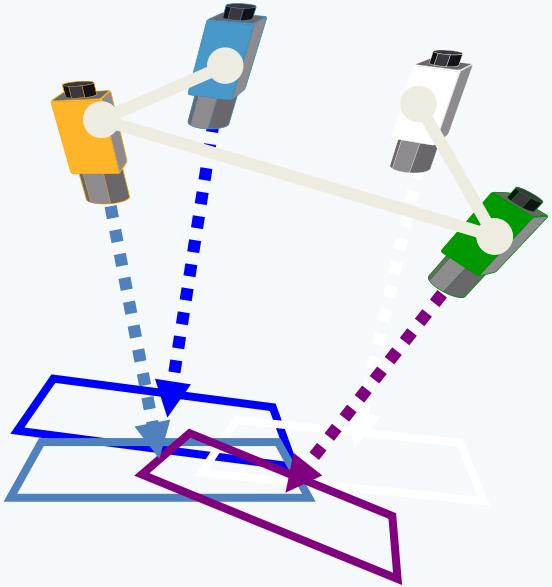
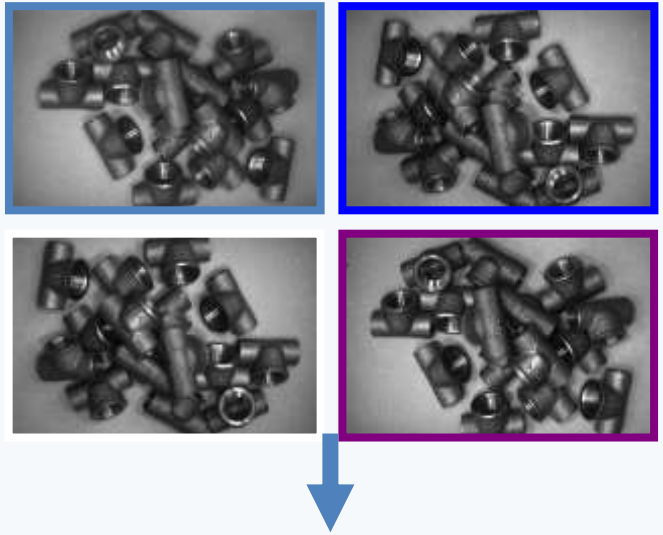
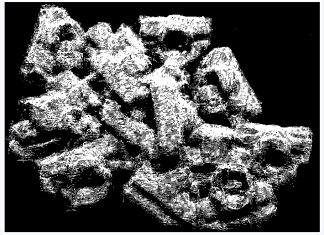
3D Stereo Vision



3D Multi Stereo Vision







-locate_pipe_joints_stereo

Stereo Set-Up

Maximaliseer de overlappende beelden

>> Base dan >> resolutie van afstand

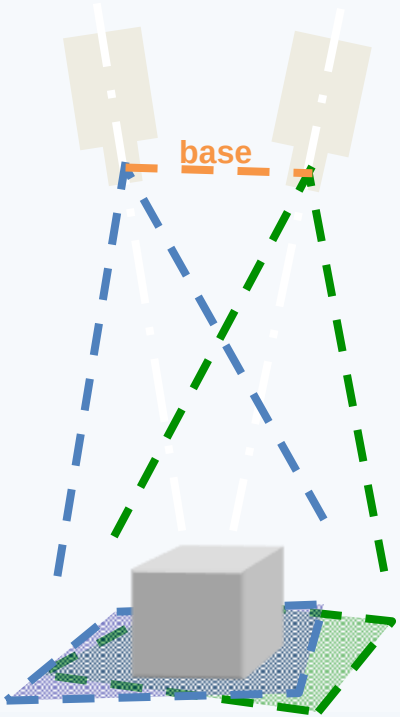
<< Base dan << Occlusions

Base lijn evenwijdig aan de te meten objecten

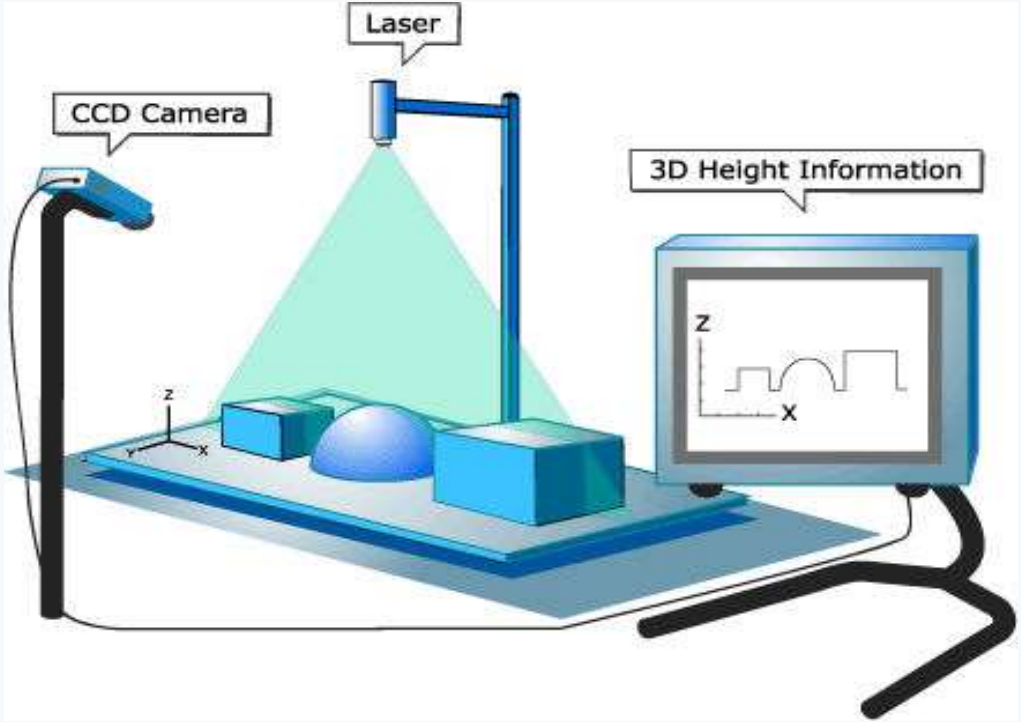
Verlichting zonder reflecties

Gebruik soortgelijk beeld

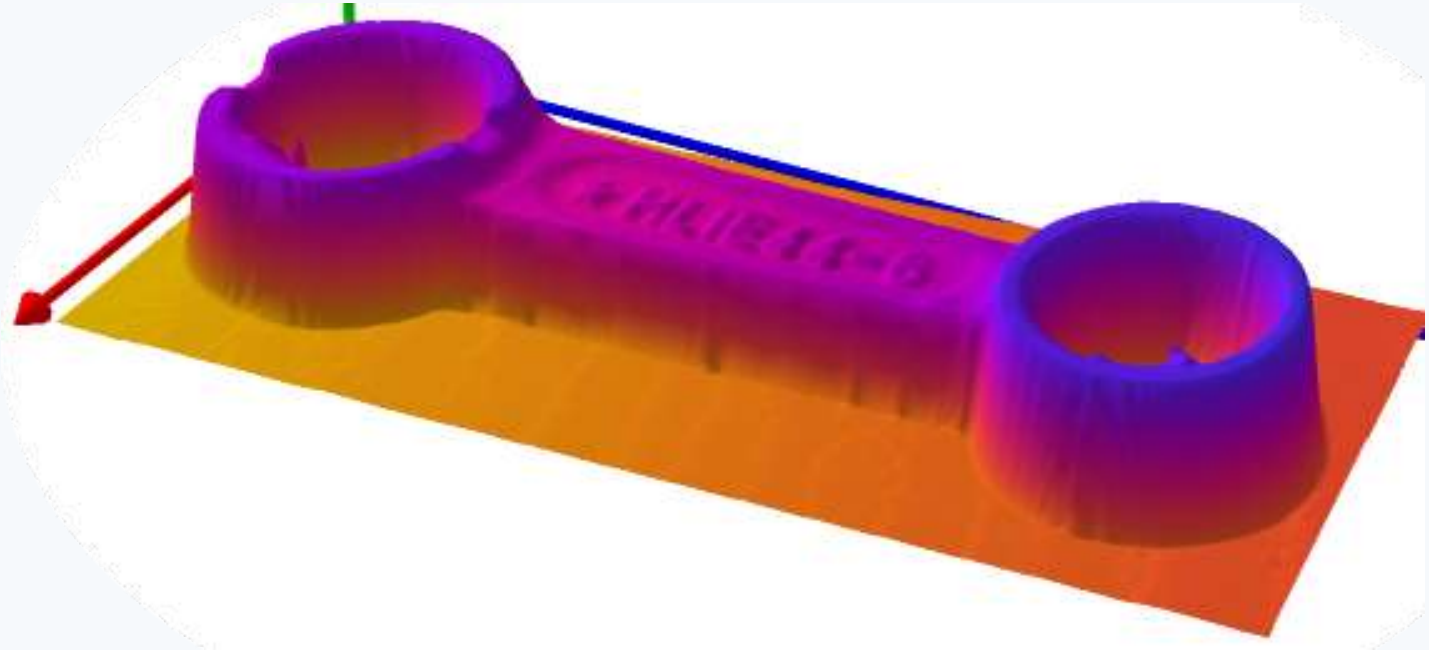
(resoluties ,focus, sensor)



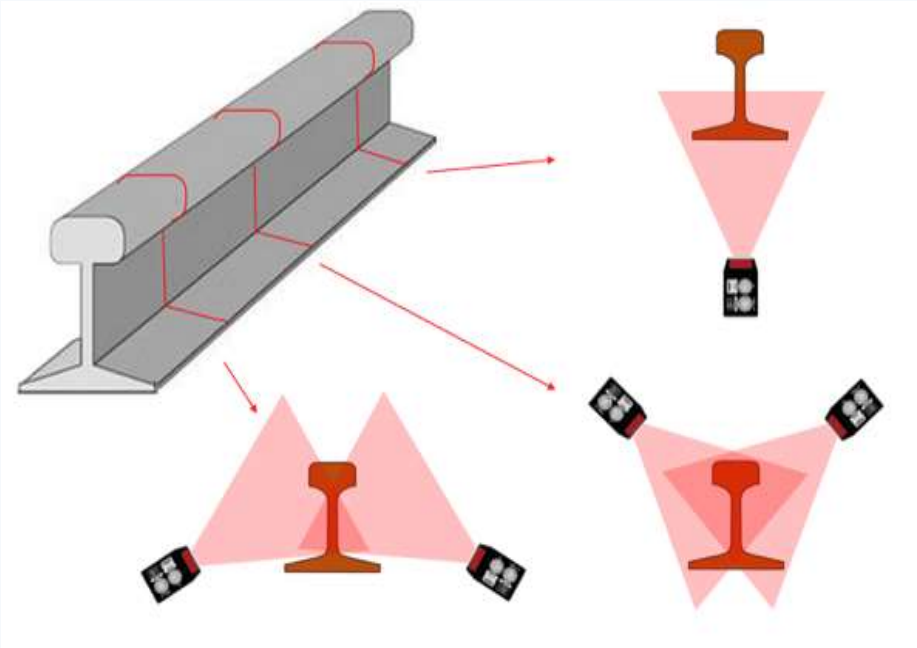
3D Triangulatie / sheet of light

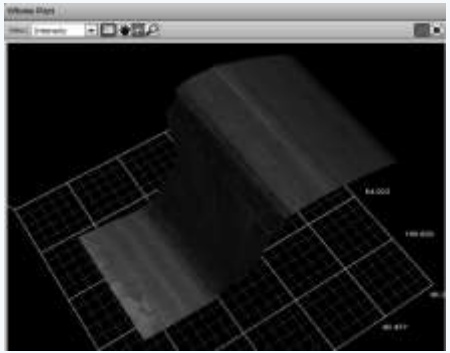


3D Triangulatie / sheet of light

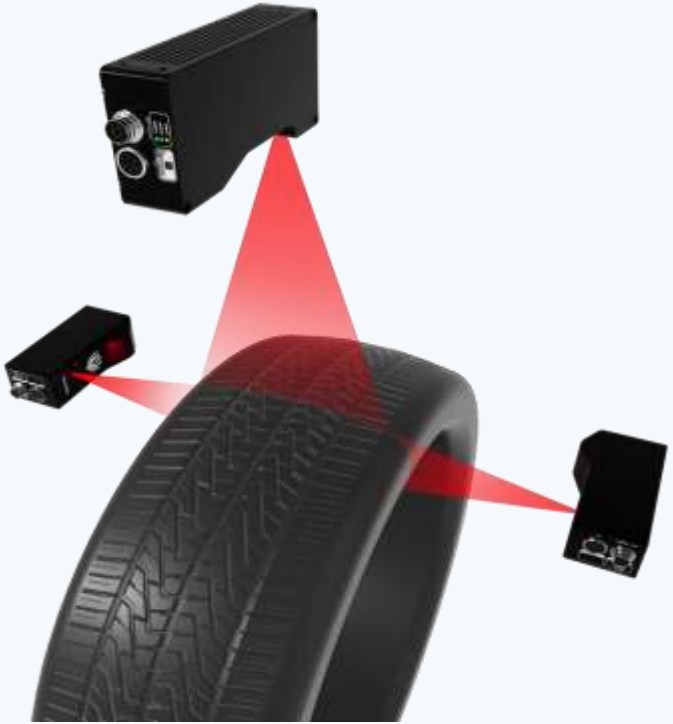


3D Triangulatie / sheet of light

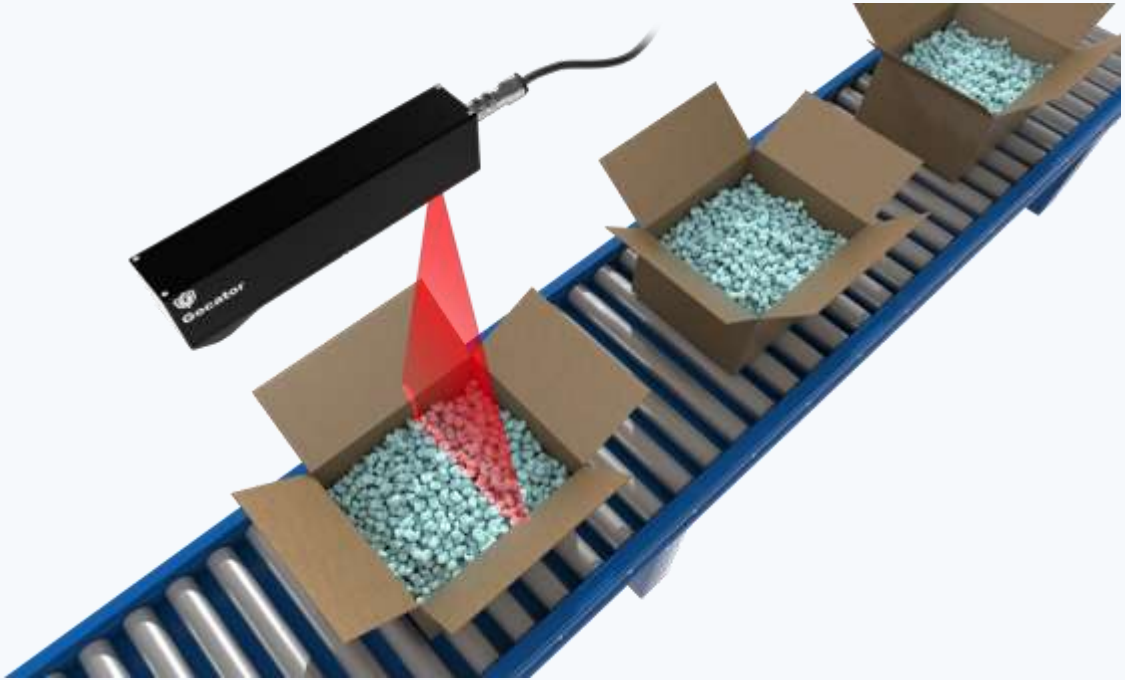




3D Triangulatie / sheet of light



3D Triangulatie / sheet of light



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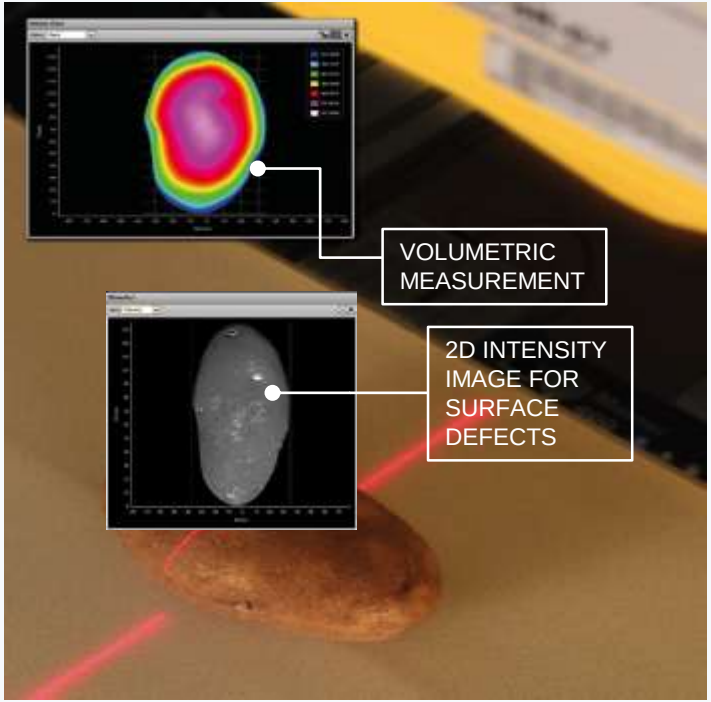
3D Triangulatie / sheet of light

3D Triangulatie / sheet of light



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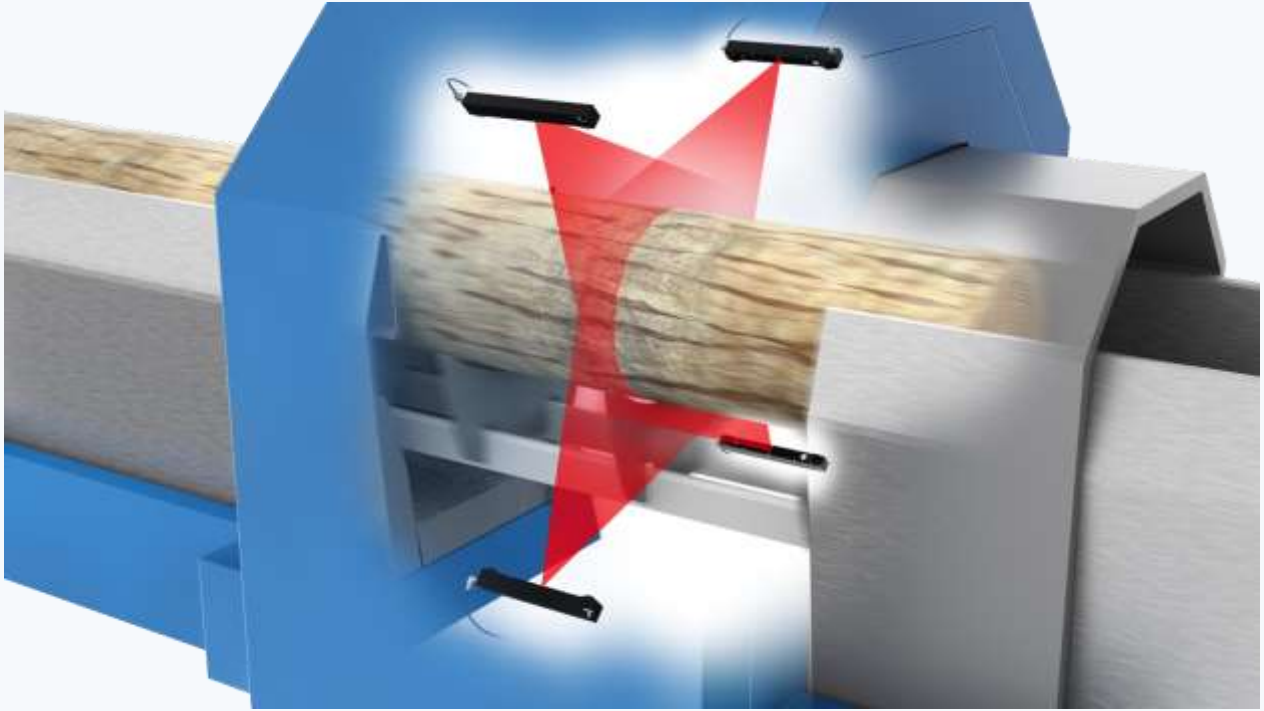
Wood processing – log optimization



Wood processing – log optimization

3D Structured light

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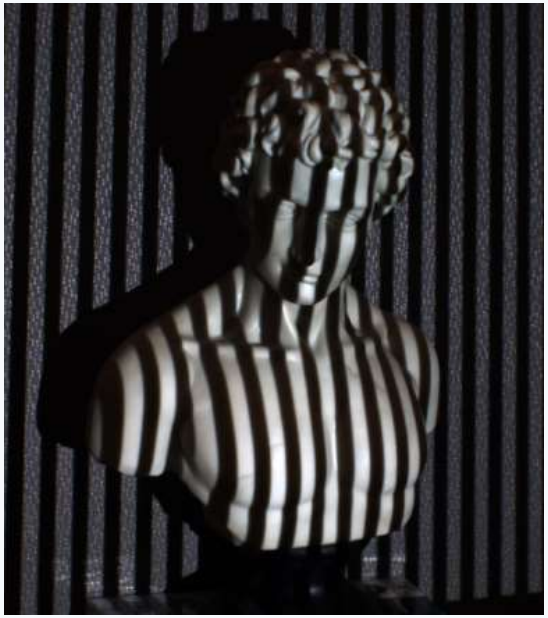
3D Structured light

Kenmerken:

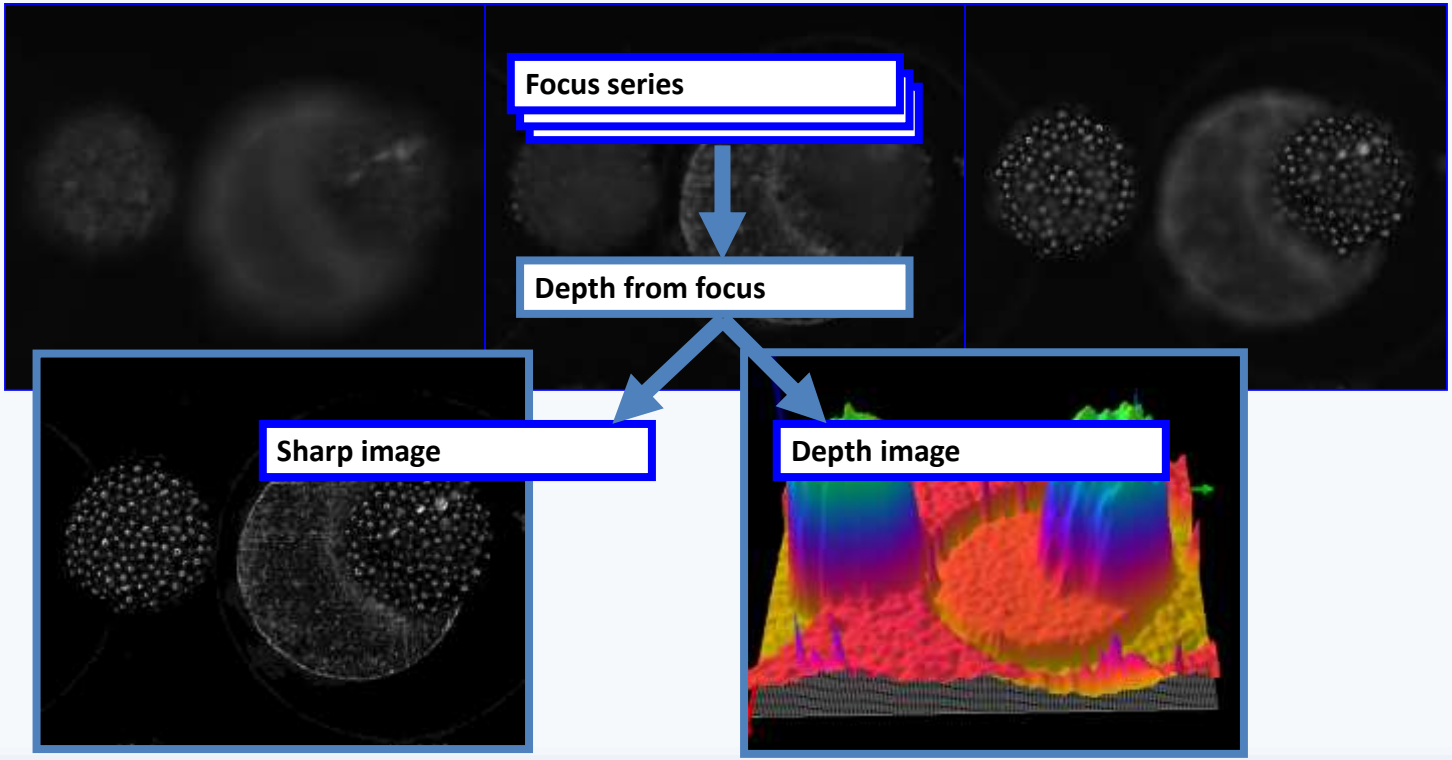
- meerdere patronen
- geen beweging
- kleur onafhankelijk



Toepassing:

- inscannen personen voor 3d games, prothesen
- 3d modellen / printers

3D Depth of Focus



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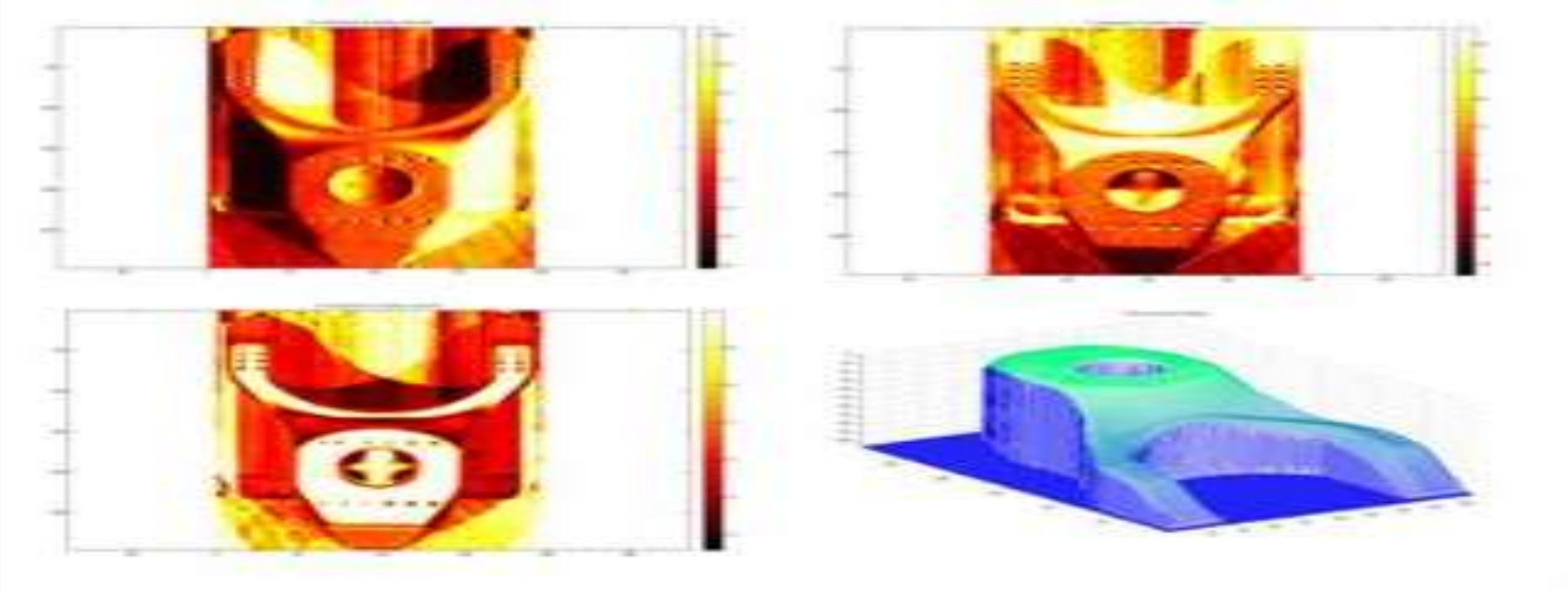
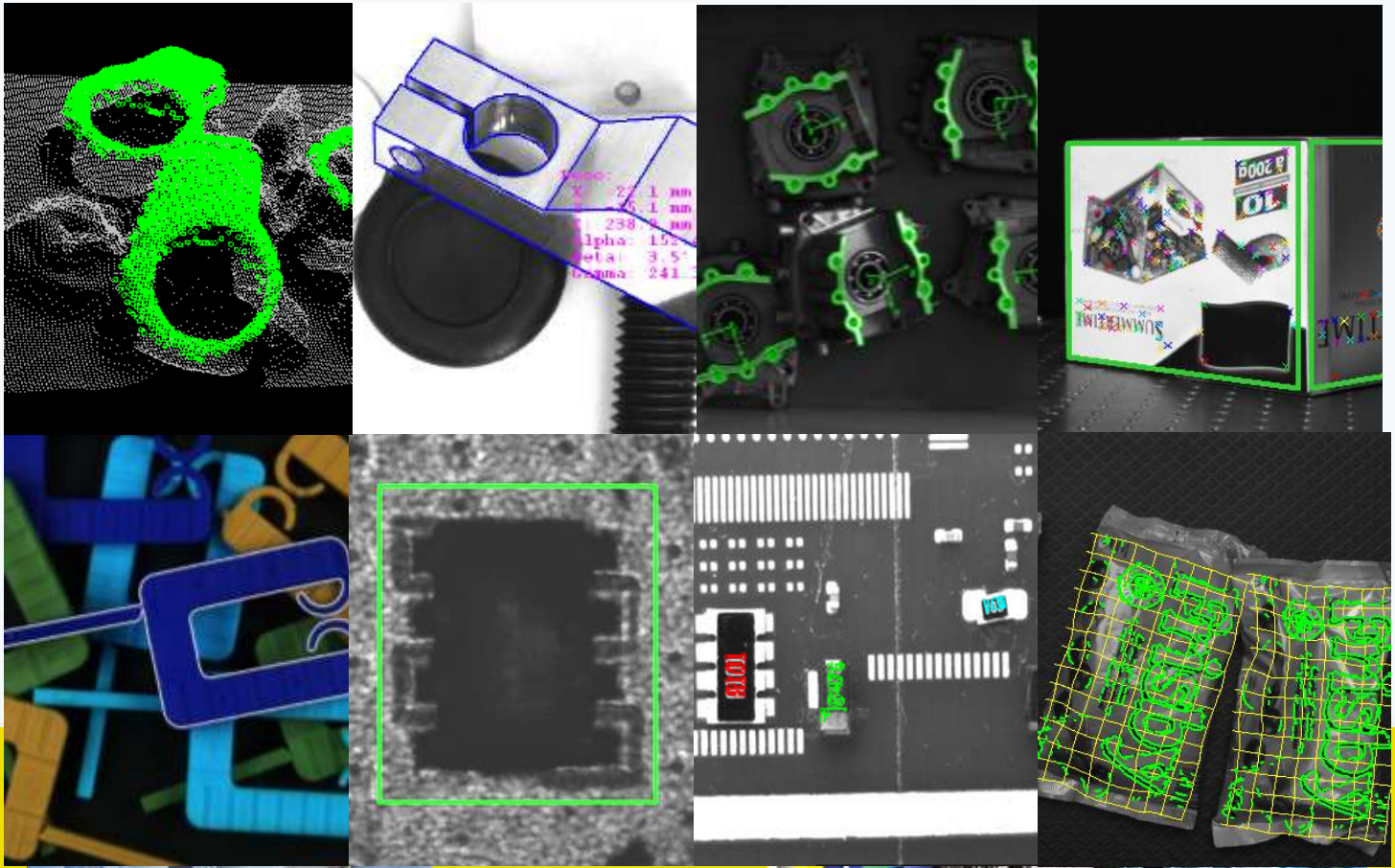
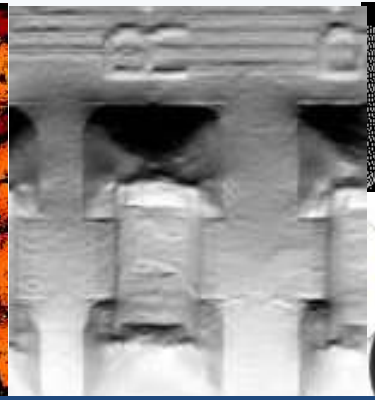
3D Depth of Focus

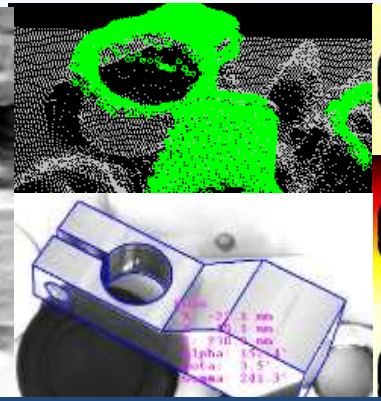



R101
10K

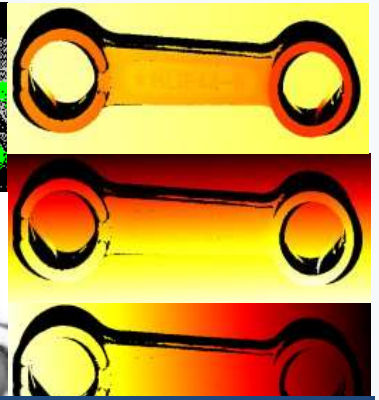
Multi-view stereo



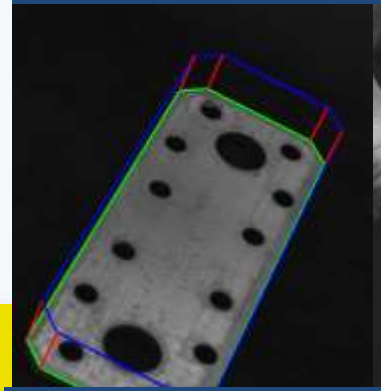
Photometric stereo



3D matching

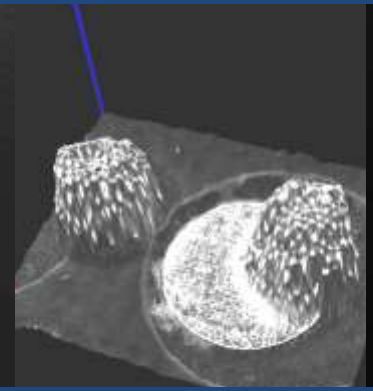


Sheet of light

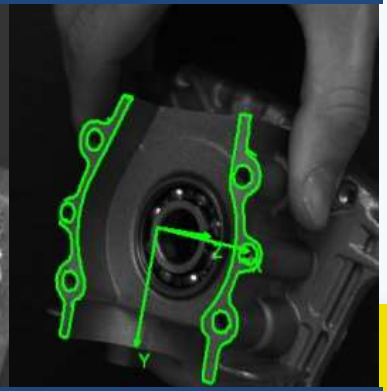


Pose from contours

Pose from points

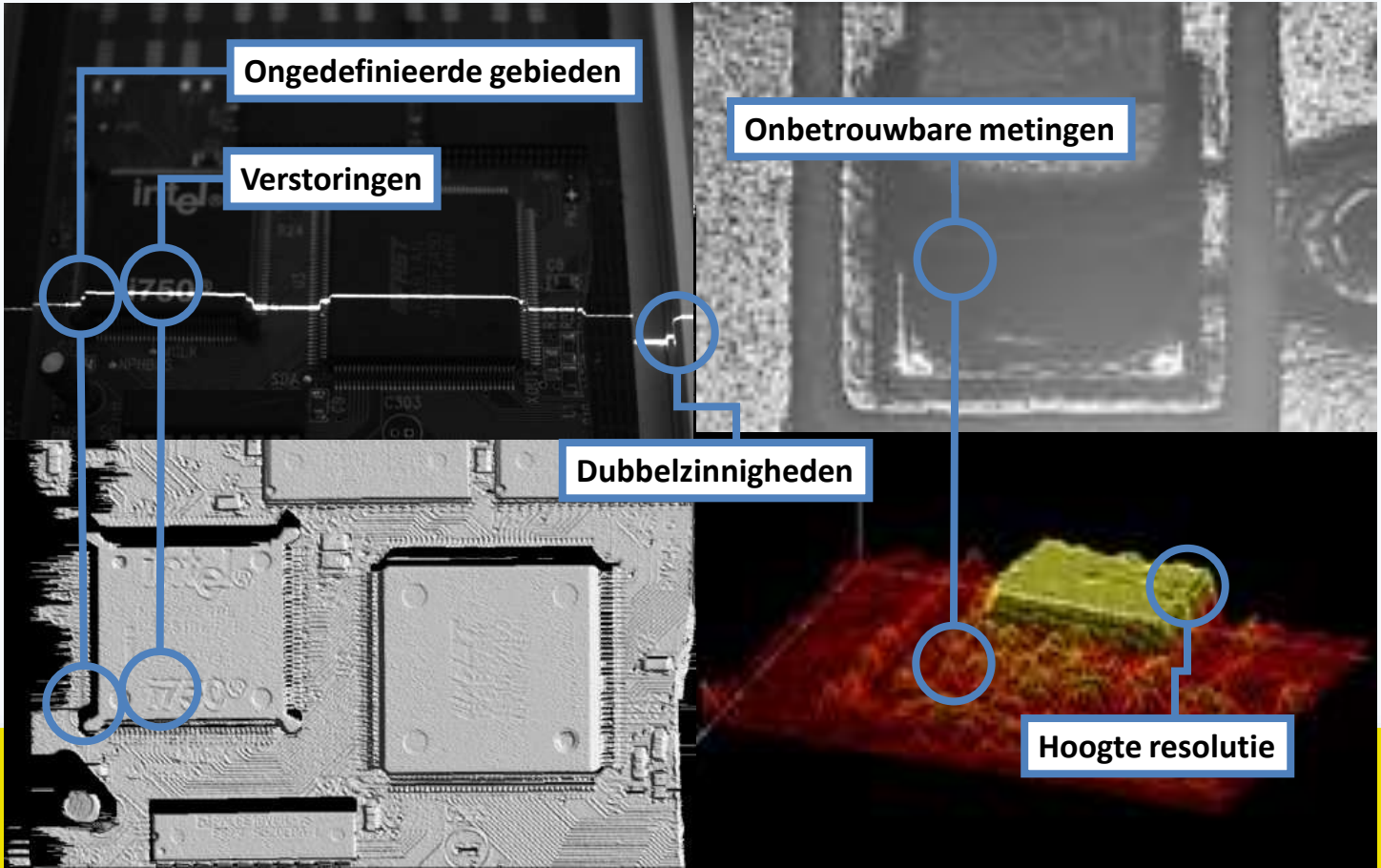


Depth from focus



Perspective matching

Hoe nauwkeurig wil ik meten?



Wat zijn de kenmerken van het object?

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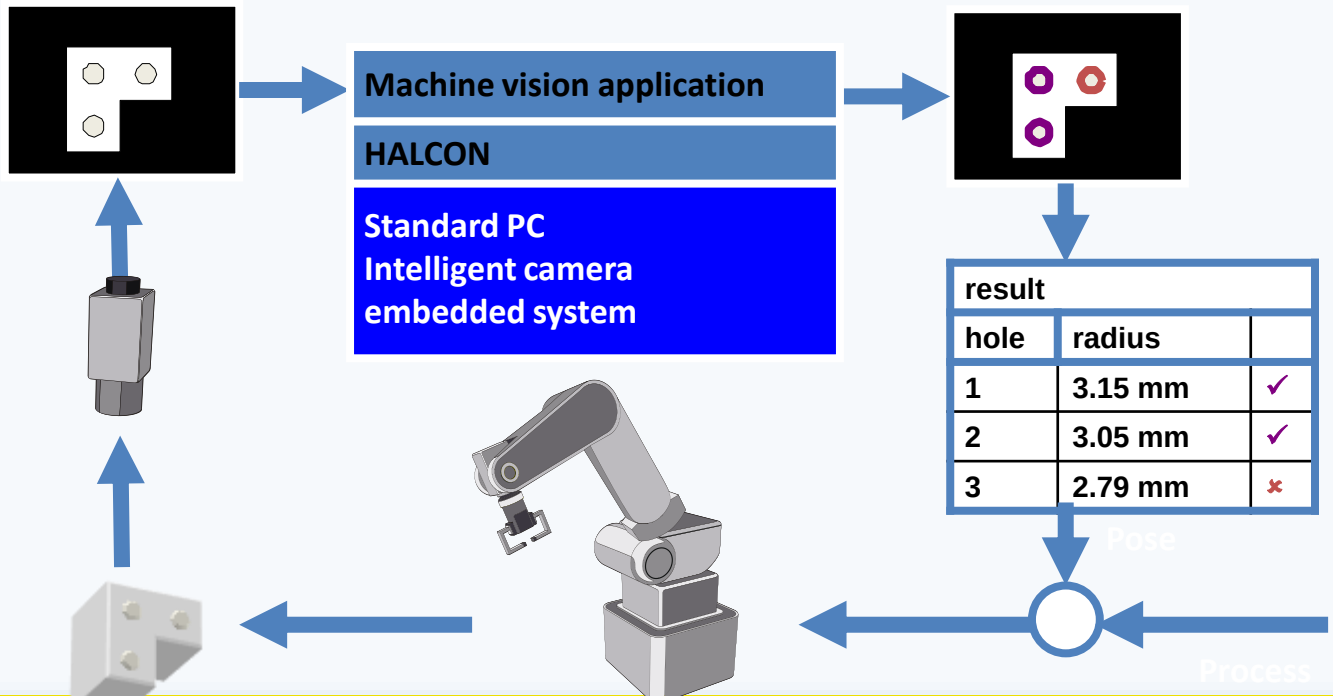
Wat zijn de setup beperkingen?

De Control Loop



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Thank you for your time

Your contact person
Harm Hanekamp
STEMMER IMAGING
+31 575 79 88 88
info@stemmer-imaging.nl
www.stemmer-imaging.nl

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