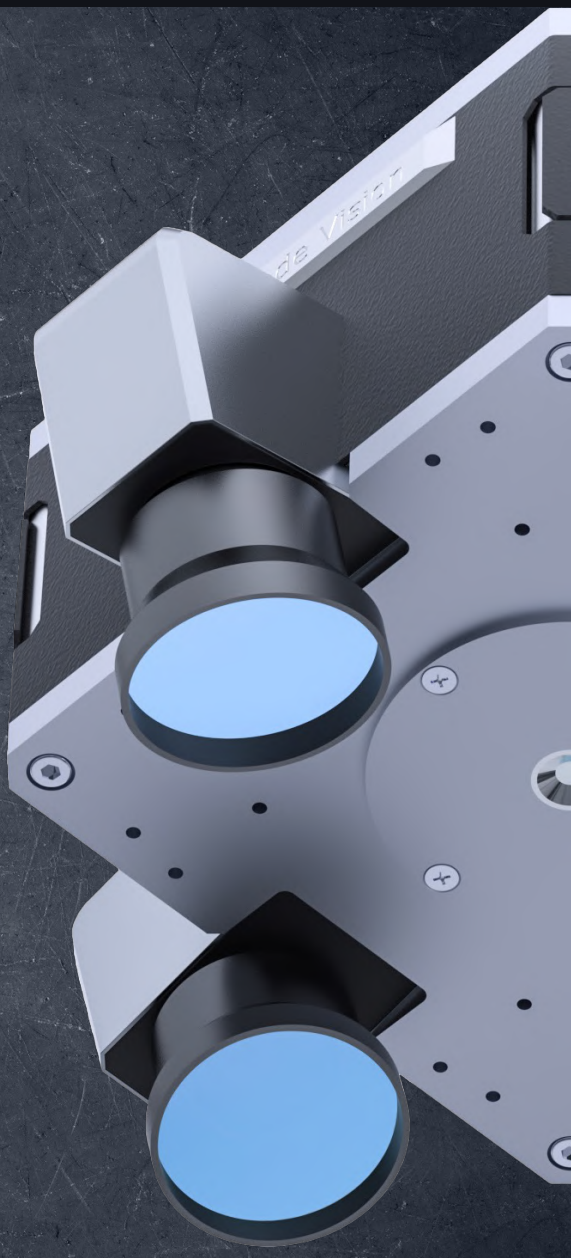
Saccade Vision

Focus On What Really Matters

Saccade-MD

World's First Multi-directional 3d Scanning Camera



- Focus on fine features with ultra-high resolution
- Variable scanning density and direction
- Locally optimized scanning
- Fast and inline 3D sensor with CMM precision
- Effortless setup by a non-expert

Vision Systems Design 2021 Innovators Awards

inVISION TOP INNOVATION 2022

member of emva
european machine vision association

Why Saccade

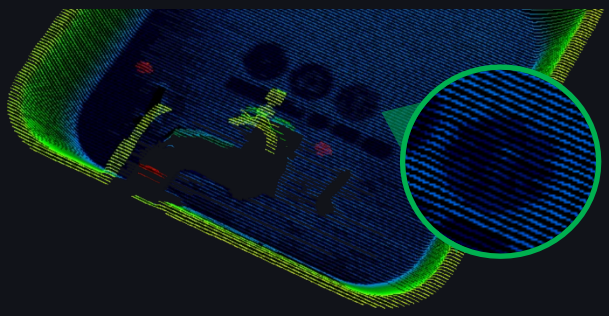
Variable point density

Industrial applications require accurate measurement / localization of 3D features – 3D edges, holes, trenches, pins or walls.

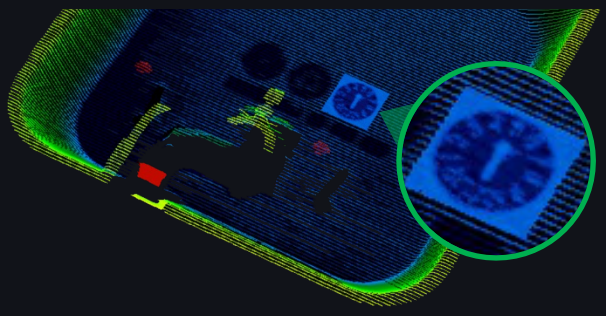
Typical 3D sensors (laser profilometers & structured light cameras) offer uniform resolution in the field of view. This resolution either insufficient for edge localization or excessive for smooth surfaces.

Saccade Vision sensors allow optimal feature-based resolution and point density.

Typical 3D sensor with uniform resolution



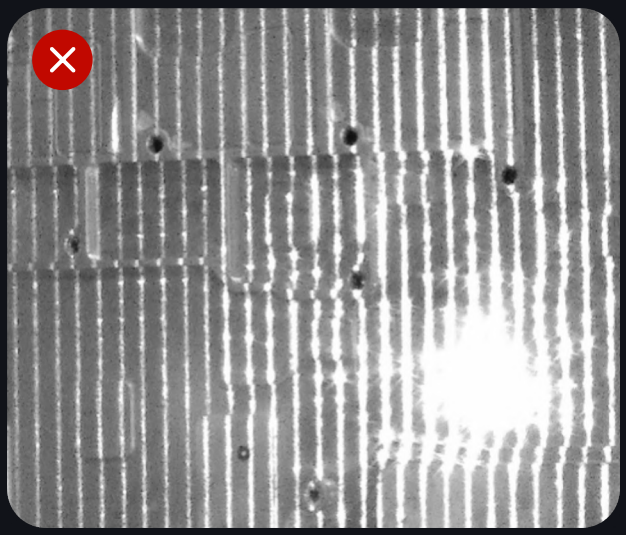
Saccade Vision sensor: high resolution only where needed



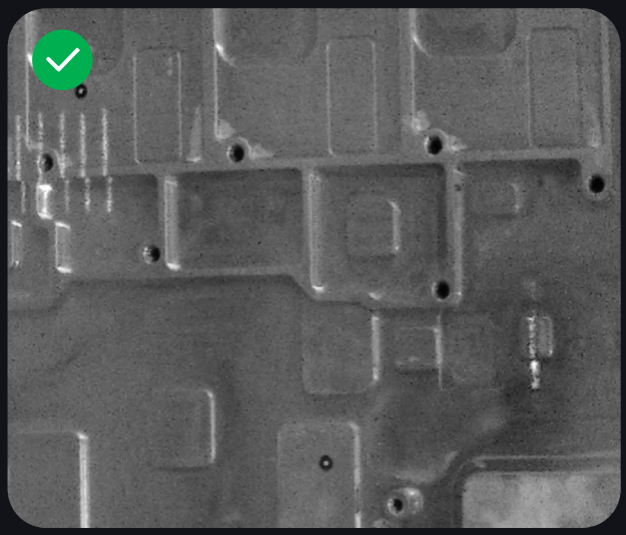
Focus only on important locations

Typically, in 3D sensors (both profilometers and snapshot sensors) the whole field-of-view is illuminated uniformly. In many cases this results in point cloud dropouts and requires sophisticated HDR algorithms.

Saccade vision allows illumination optimization separately for every small feature.



Typical 3D sensor with structured light on highly specular surface



Saccade Vision: Illumination optimized per small feature

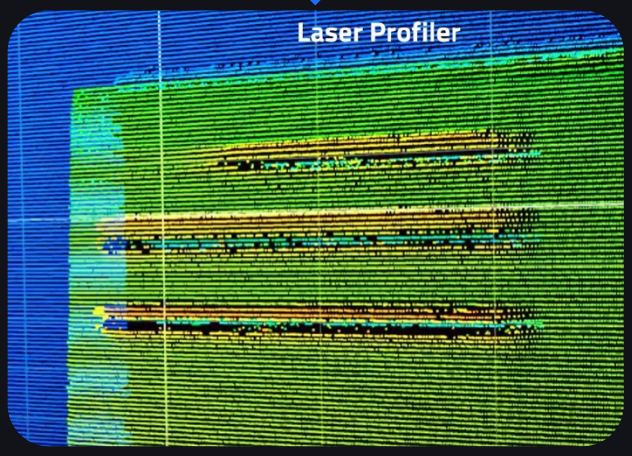
Why Saccade

Scanning is optimized locally per feature

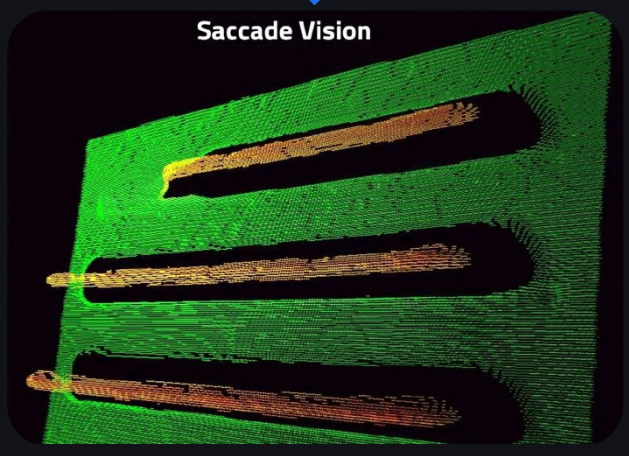
In profilometers and structured light cameras, the orientation of structured light / scanning direction is fixed. In many cases this results in under-sampling of small features.

Saccade vision optimizes the illumination pattern per small feature, resulting in optimal performance.

Thin-wall 3D printing target (0.3mm walls)



Scanning in a suboptimal direction



Each local feature scanned in an optimal direction

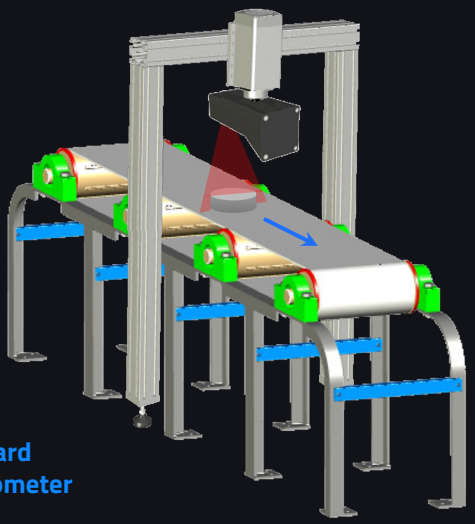
Precise measurement of stationary parts

High precision and accuracy

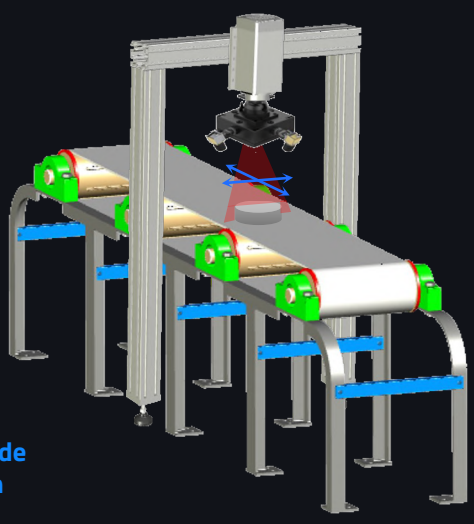
Saccade –MD provides profilometer precision on stationary object, eliminating measurement error due to vibration and imprecise motion.

Simple integration

Saccade-MD sensor can scan static sample – no need to synchronize with part motion



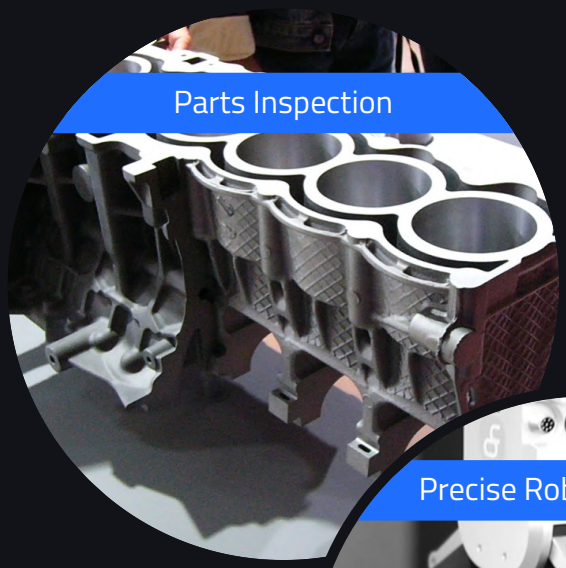
Standard profilometer

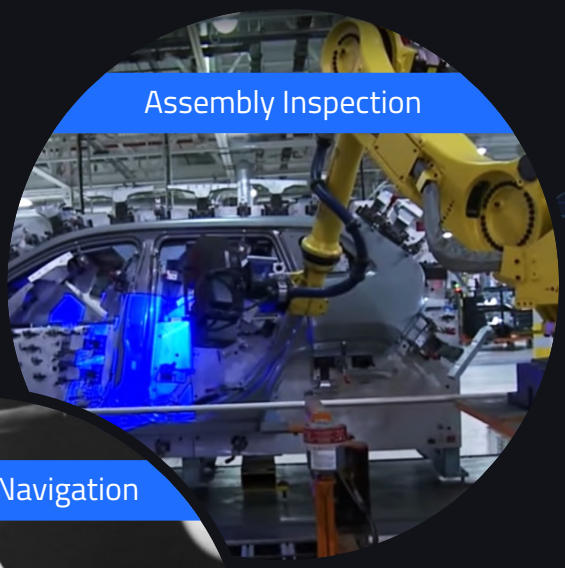


Saccade Vision

What machine vision integrators say:

- We can use **single** Saccade sensor focusing on the most meaningful part of the object
- We can program a new set of inspections with **few clicks**, which has a great impact on risks when dealing with new projects
- Saccade system **greatly simplifies the integration task and reduces overall time-to-solution**
- [for this project] existing solutions **will not deliver the required results**



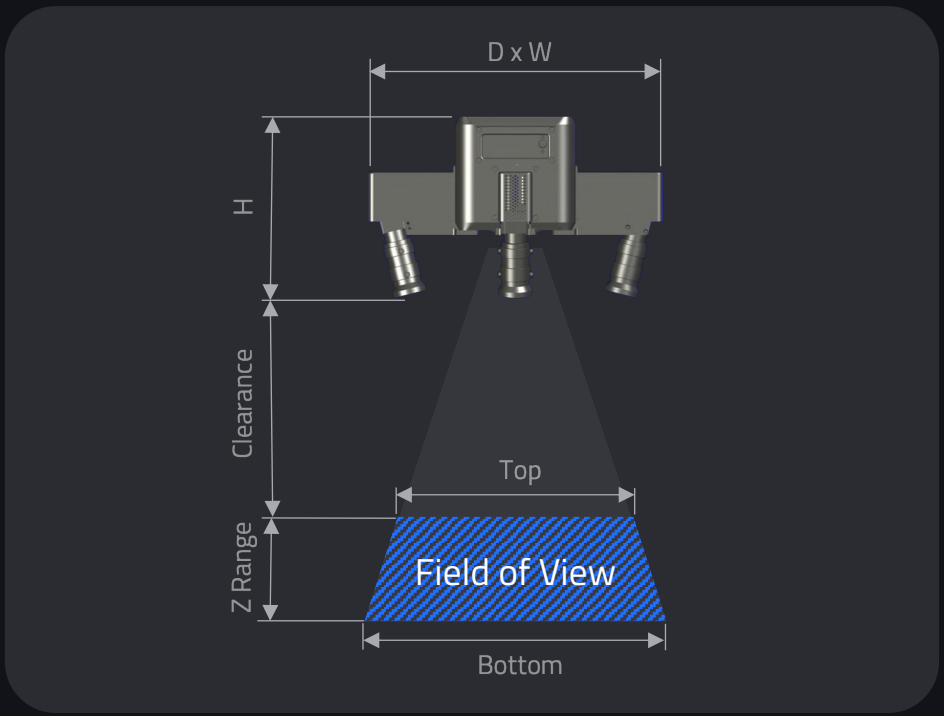


Fast Inline 3D Inspection with CMM performance

Main Specifications	Saccade-MD150	Saccade-MD300
3D data points per frame	Local resolution equivalent to 100-million-point density	
Angular Scan Resolution	0.003˚	
Field Of View (Top – Bottom) (mm)	82 - 150	164 - 300
Z Range (mm)	50	100
Dimensions (W x D x H) (mm)	210 x 210 x 212	380 x 380 x 212
Clearance (mm)	250	500
Local XY Resolution (mm)*	0.01 – 0.018	0.02 – 0.03
Z Resolution (mm)**	0.022	0.04
Z Repeatability (mm)**	0.0008	
Robustness (ambient light, contrast, color)	Dark Materials, Shiny Materials	
Part positioning	Position-agnostic performance	
Speed	Up to 500 local measurements per second	

* 5mm wall

** 5x5 mm measurement pad



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