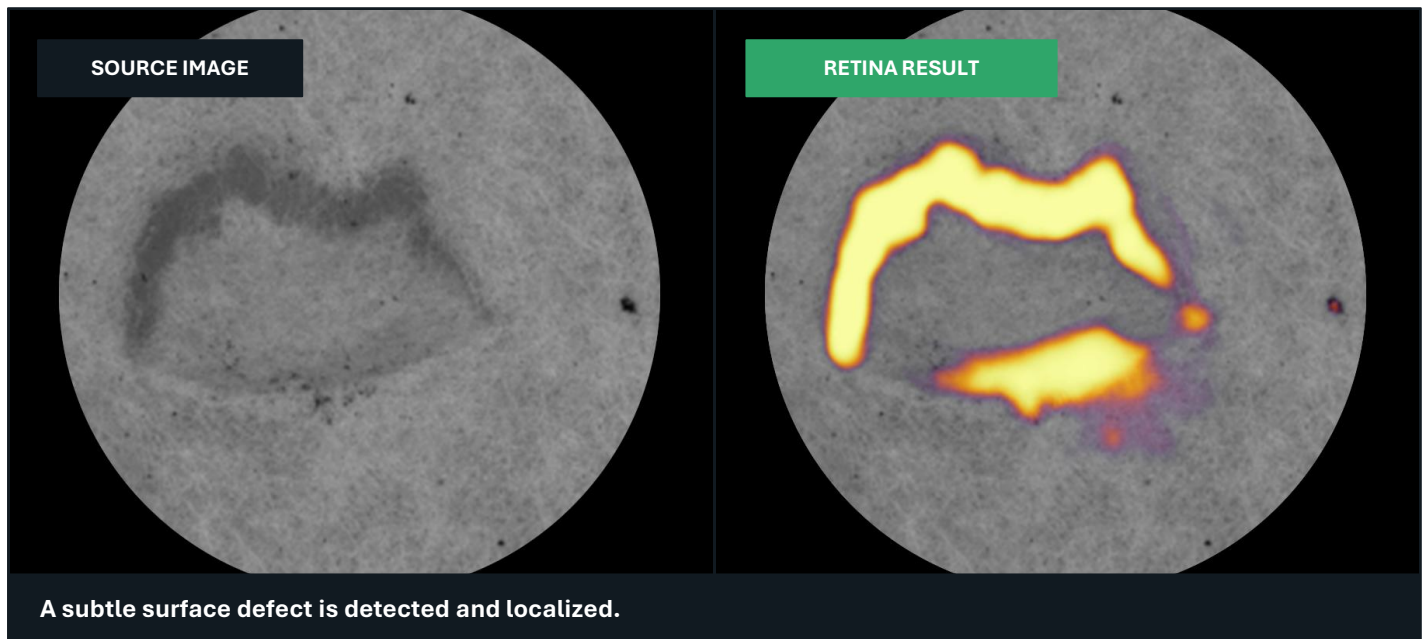


Inspect difficult defects.

Keep every image on your site.

Retina A.I. Vision learns natural product variation, finds defects conventional rules miss, and runs directly on industrial hardware.



TRAIN IN MINUTES

Start with a small, representative image set.

PROCESS LOCALLY

Production images stay on your machine or factory network.

DEPLOY WITH 3HLE

One accountable partner from feasibility to production.

From examples to an automatic decision

01 COLLECT

Capture representative OK and NOK images.

02 TRAIN

Label examples and build the inspection model.

03 INSPECT

Return OK/NOK, position, class or text results.

Send us sample images for a feasibility assessment.

3HLE supplies the camera, optics, lighting, industrial PC, software, integration and support.



Four inspection jobs. One vision platform.

Designed for quality teams, not data-science specialists.

Surface and defect detection

Scratches, cracks, contamination, sealing and cosmetic anomalies.

Presence, position and localization

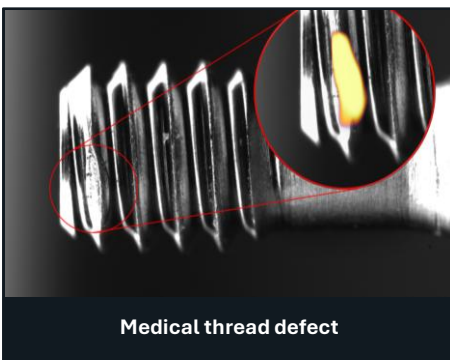
Find missing, misplaced or overlapping components.

Classification and sorting

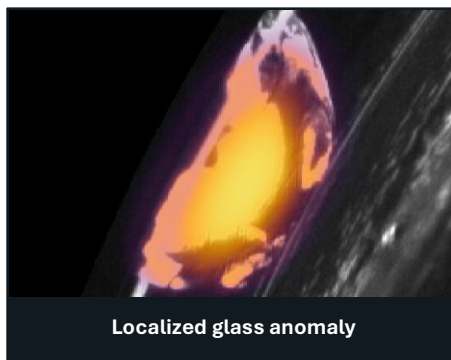
Separate product variants and defect classes.

OCR, markings and traceability

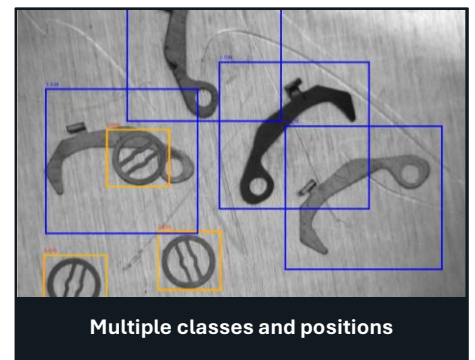
Read difficult characters, codes and direct-part markings.



Medical thread defect



Localized glass anomaly



Multiple classes and positions

Software or complete inspection solution

- Retina A.I. Vision software
- Application-specific camera, optics and lighting
- Local industrial PC
- Commissioning, operator training and support

Standalone or inside V.R.A.I. Eyebot-IQ

Retina makes the visual decision. V.R.A.I. adds robot motion, the digital twin, process flow and quality traceability.

PUBLISHED REFERENCE BENCHMARK

5 min training | 20 images | about 35 ms per 1.3 MP image

Reference measurement from the 2023 flyer. Performance depends on the task, resolution and industrial PC.

PROVEN APPLICATION AREAS

Watchmaking | Medical devices | Packaging | Precision components

Bring us the part, the defect and the cycle-time target.

3hle.ch | info@3hle.ch