Technical specification · v1.0 · 20 October 2026

AI visual quality inspection

AI visual quality inspection puts an industrial camera over your line and checks every part or package as it passes: welds, seals, labels and print, fill level, surface and dimensions. A clear defect is rejected through your PLC; a doubtful one goes to the operator, whose answer becomes training data. The shift report shows which defect appeared, on which line and when.

Pilot	Build from	Licence a month
€7,000	€27,900	€1,500

Purpose	Checks every part or package on a production line from camera images, rejects or flags defects through the line's PLC, and keeps defect statistics and the image history.
AI area	Computer vision: detection, classification and segmentation of defects in images, and optical measurement.
Production process	Production control: in-line quality inspection after a process step or before packing.
Inputs	Images from 1 to 4 industrial cameras per station (GigE Vision or USB3 Vision, area-scan or line-scan); a trigger from a sensor or the PLC; optionally the batch or order number from MES or ERP.
Outputs	Pass, reject or check-by-operator for each part, with the defect class, location, measurement and confidence; reject and alarm signals to the PLC; results over OPC UA, MQTT or the REST API; defect statistics and the image history; a monthly quality report.
Defect types	Welds (porosity, undercut, short or missing seam, spatter); seals (wrinkles, product in the seal, open seal); labels and print (missing, skewed, wrong or unreadable date and batch code); fill level and caps; surface (scratches, dents, cracks, stains, coating faults); dimensions and presence of features.
Models and approach	Convolutional neural networks for defect detection and segmentation, pretrained and then adapted on your images; anomaly detection trained on good parts only, for defects that are rare; optical character recognition for date and batch codes; rule-based measurement of edges, distances and levels. Each model version is stored with its training data and test results.
Accuracy validation	On a held-out set of your own labelled images that is never used for training: recall (the share of defects found) and precision for each defect class, the false reject rate (good parts rejected) and the escape rate (defects missed). Acceptance thresholds are agreed in writing in the pilot, checked again for every new model version and, in use, on a daily audit sample.

Throughput	20 to 150 ms per image on the computer at the line, depending on resolution and model; up to about 10 parts a second per station.
Hardware	Per station: an industrial camera with a lens, LED lighting, a trigger sensor and an industrial computer with an NVIDIA GPU, specified for each line.
Integrations	PLC through digital I/O, OPC UA, Modbus TCP, or PROFINET through a gateway; MQTT; MES or ERP (Rivilė, B1, Business Central, Odoo) through APIs or import files; CSV and the REST API; alerts to Microsoft Teams, email or SMS.
Hosting	Two options: our cloud on servers in the EU, or on-premises on an industrial computer at your line, with nothing leaving the plant but service metrics. Daily backups kept for 30 days; TLS in transit, encryption at rest.
Languages	Interface in Lithuanian and English.
Limits	A defect must be visible in the image: the smallest reliable defect is about 4 pixels across, so the camera and lens are chosen in the pilot for the size you need. Up to 4 cameras and 30 defect classes per station. Transparent and mirror-like surfaces need special lighting, tested in the pilot.
Access	Sign-in with Microsoft Entra ID or Google, or local accounts for shared screens on the shop floor. Roles: operator, lead (quality, maintenance or production), administrator. Activity log of every confirmation and change.
Human oversight	Doubtful parts go to the operator; the thresholds for automatic rejection are set by your quality lead; a new model version needs approval before it goes live.
Support	Business days 8:00–17:00 Vilnius time, remote; critical faults answered within 4 business hours; availability target 99.5% a month for the cloud part.
Delivered as	A standard product under licence, configured for your line, with its models adapted to your data. It is not software or an AI model developed to your order.