INSPEKTO
AUTONOMOUS MACHINE VISION

INSPEKTO S70
The Fast Track to Automate Visual Inspection

One product - unlimited use-cases
Immediate to deploy, easy to set up, self optimized

The INSPEKTO S70

Provides dynamic AI guided optimization

Defect Detection - No Prior Defect Definition or Training Required

Our AI engines recognize the characteristics of a good part and on this basis, deduce a defected part.

- The system can perform an industrial grade inspection based on very few good part samples.
- The use of defected parts is optional, not a prerequisite.
- Picks up on small defects that would be missed by the human eye.
- Highly sensitive, the system enables identification of defects vs. permissible variations and in multiple regions of interest (ROIs).

Inspects a plenitude

of use cases and scenarios

The Inspekto S70 can inspect products and parts in endless situations - as is!
No need to tailor the system to the specific use case.
Suitable for a variety of industries, a wealth of manufacturing processes, different materials, inspected for different reasons and handled in a host of methods.

Production Processes

- Plastic injection molding
- Metal casting
- Coating
- Mechanical assembly
- Material removal
- Incoming goods
- Packing & labeling

Inspection Types

- Assembly verification
- Surface verification
- Existence / absence of components
- Alignment of components
- Integrity of parts

Handling

- Moving parts
- Stationary
- Robot / Cobot integrated
- Manual

Objects characteristics

- Single component, multi-materials or assemblies
- Reflective or diffusive, hybrid
- Transparent or opaque
- From small size <1 CM parts to large >1 m ones

Use one autonomous visual inspection system

for all key production line steps

- Combining cutting-edge hardware and software, the INSPEKTO S70 is an AI-driven industrial visual quality inspection solution with unprecedented use-case versatility and ease of use.
- Easily integrated into the production line, the INSPEKTO S70 is ready for immediate deployment and can also be used as a stand alone station.
- Powered by the unique Autonomous Machine Vision-AI (AMV-AI™) technology, the INSPEKTO S70 continuously ensures the inspection performance throughout the life cycle of the produced part.

Making quality inspection EASY!

Fast track to automated visual inspection

The INSPEKTO S70

An all inclusive industrial QA product

High Performance:

- Accurate & reliable
- Scalable
- Resilient

Immediate:

- System ready to deploy
- Extremely quick set-up

Easy to use:

- No machine vision experise needed
- Low amount of simple production data
- Continuous optimization

Line Connectivity:

- PLC
- ERP
- MES

AMV-AI™ Guided Technology:

- Built-in

Affordable:

- Low Total Cost of Ownership
- Minimal resources to deploy

Risk Free:

- POC prior to purchase
- Reusable for future needs

Applicable:

- Standardized product
- Wide range of inspection use-cases
- Many production processes

Harness Autonomous Machine vision AMV-AI™

Ensure the Best Quality Inspection

Powered by 3 synergetic AI engines, INSPEKTO S70 can easily inspect and make decisions automously for complex sequence scenarios with multiple inspection points.

Simplicity and Ease of Use Created by Multiple AI Engines

Acquisition AI Engine

Obtains the image

Recognition AI Engine

Identifies the part

Inspection AI Engine

Inspects for defects

1st AI ENGINE

Obtaining the Image - **Acquisition**

- Self set-up of all optics parameters per specific use case & scenario
- Self adjust mechanism during runtime dynamically mitigating changes in production
- Smartly selects the optimized image from the live stream for the recognition and inspection engines

2nd AI ENGINE

Identifying the Part - **Recognition**

- Recognizes and detects rigid objects of nearly any shape and surface
- One reference image is sufficient for detection
- Supports variations in location and rotation in the field of view (FOV)
- Can be self-triggered or be triggered externally

3rd AI ENGINE

Finding the Defect - **Inspection**

- Semi-supervised, non-specific AI technology overcomes specific data scarcity and leverages generalization
- Requires a few good parts (OK)
- Defected (NOK) parts can be added for performance finetuning
- Understands product tolerances and physical attributes
- Differentiates between defects and permittable defects without any prior defect references or training
- Ongoing improvement via continuous deep-learning

PROPRIETARY

Fully Contained Electro-Optic System - HW Layer - **Novel electro-optic layer**

- A multi parameter electro-optic vision system designed for ultimate flexibility
- Embedded smart PWM lighting array with varying light direction and intensities
- Mega pixel global shutter image sensor with optical zoom
- Novel, patent-pending architecture

Integrated optics and lighting optimization

- Now, you can inspect reflective parts accurately. Our patent pending anti-reflection (AR) technology eliminates self reflection and reflections from external sources.
- INSPEKTO S70 can inspect with or without AR in both stationary parts and parts in motion in production.
- Flickering is eliminated, ensuring comfort and safety to nearby employees.
- Real time, dynamic adjustments are performed autonomously to the full set of electro-optic parameters.

Self supervised for selective sensitivity control

- Control the detection sensitivity of each defect type separately; can be initiated with good parts only.
- Allows selective sensitivity - without crosstalk - maintaining the sensitivity levels on all regions of interest.
- INSPEKTO S70 is capable of selectively boosting the inspection sensitivity to a specific defect type, while maintaining general sensitivity to other types of defects.

AI-driven optimization to mitigate changes in production

- The unique AMV-AI™ technology adapts to the changes in your production line and to modifications of the produced parts.
- The system analyzes your inspection requirements, offering performance optimizing AI-based recommendations for the best quality inspection.

Receive immediate Results and Reporting

- Unlimited actionable inspection areas and regions of interest (ROIs).
- Unlimited number of detected defects.
- Unlimited inspection profiles can be supported on a single INSPEKTO S70.
- PLC reporting is provided per region of interest (ROI) for max. accuracy.

Continuous Insights

Quick set-up from unboxing to inspection

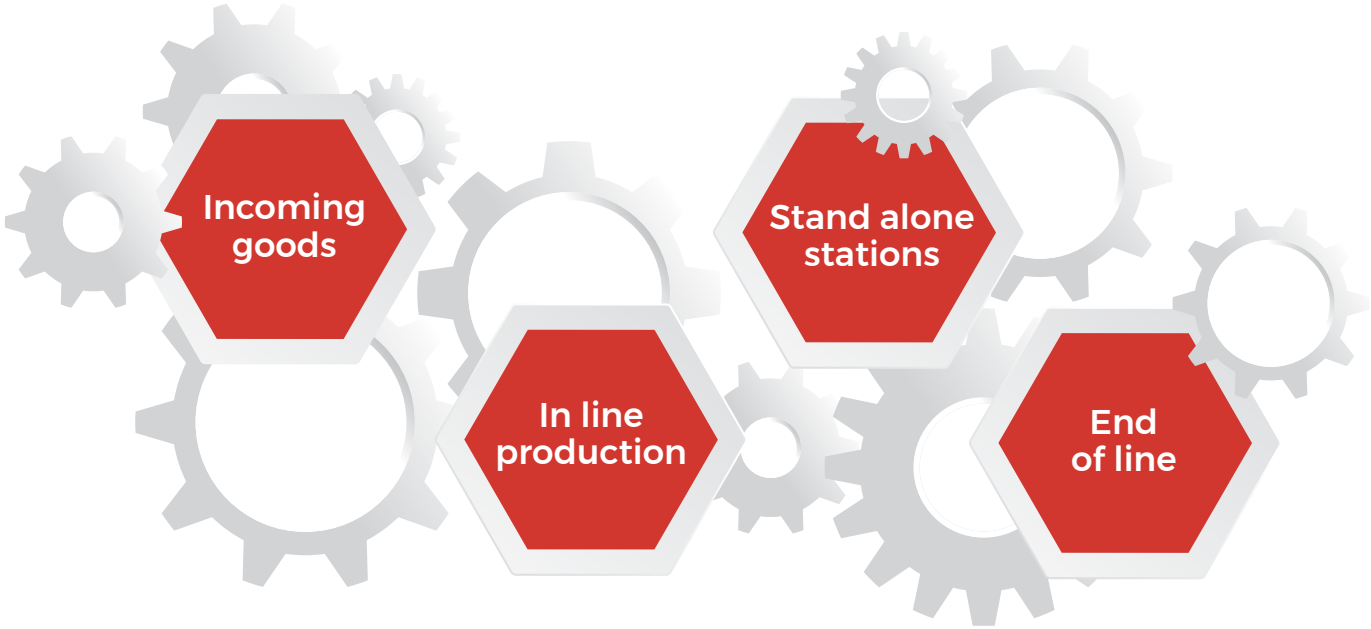
01 **Unbox**

02 **Mount at Location**

03 **Easy & Quick Setup**

04 **Adapts Autonomously**

The smart solution for your long-term visual inspection needs in varied deployment scenarios



Numerous Drivers for INSPEKTO S70 Deployment

Drive profitability with:

- ✓ Agile visual quality inspection
- ✓ Immediate QA response
- ✓ Wide range of use-cases and deployment scenarios
- ✓ Embedded database for claims verification
- ✓ Flexible production enabler
- ✓ Smart Factory Industry 4.0
- ✓ Easy integration with production control

AMV-AI™ - a novel, autonomous machine vision technology

The best of both worlds:
Human-like flexible cognition coupled with machine repeatability and accuracy

Exceeding Performance

Overcoming Your Inspection Challenges

AMV-AI™ more than just machine vision AI

INSPEKTO S70 delivers an end-to-end AI solution

	AMV-AI™	Other machine vision with AI
AI scope	✓ End to end from image capture through part recgonition and defect detection to real time reporting	✗ Defect inspection only
Image capturing	✓ Dynamically adjusts the electro optics system to acquire the best image	✗ Image acquisition is pre-set and not dynamic
Part recognition	✓ Automatic independent recognition; doesn't require trigerring	✗ External trigger
Inspection	✓ Small amount of OK images. Specific defect sensitivity	✗ Requires many OK & NOK samples for each defect type
Deployment simplicity	✓ No on-site training process, no expert required, requires low amount of data	✗ Complex, expert dependent on-site/cloud AI training, requires rule-based programming for full solution pattern matching
Lifecycle performance control	✓ Autonomous performance optimization by active recommendations engine	✗ Periodical, reactive expert dependent, complex maintenance with re-training

Deliver immediate and agile automated visual inspection overcoming any deployment challenges, with full envelope of optional professional services

Our system is designed with end user independence in mind using a do-it-yourself approach. All these professional services are at your disposal in case you choose to implement them.

Technical support

We offer remote and on-site support to assist with any technical or inspection challenge.

Operational support

Our team can help set-up and implement the system for you, whether you are installing it for the first time or need to set it up for a new use case.

UC specific AI training

The system, powered by AMV-AI™ technology can inspect a very wide variety of applications and use cases. In some complex inspection scenarios that may occur, additional training of the AI engines can improve inspection results dramatically and for these special cases, we are able to build a designated AI model.

Use case verification

Quick, short pre-use verification process will provide you the success indicators you need for your specific use case.

Installation & Training

Installing the system doesn't require machine vision or programming experience and expertise. Still, we offer help and training if you choose to have it on-site.

Profile optimization

Our professional team can help with periodical optimization of the inspection profile, ie. adding and removing samples, enhancing accuracy of regions of interest, etc to ensure optimal performance.

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INSPEKTO
AUTONOMOUS MACHINE VISION

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