

Solution Brief

Intel® AI: In Production

Quality control made easy using cutting-edge AI Technology

Qualitas' EagleEye Inspection System optimizes quality control processes and improves operational efficiency utilizing Intel® Distribution of OpenVINO™ toolkit.

Cost of quality snapshot

15-40%

The estimated average cost of quality for a business¹

24.5%

The expected CAGR of global automated optical inspection market over a forecast period of 2019 to 2026²

At-a-glance

Qualitas enables companies to automate visual processes in manufacturing. Their mission is to enable manufacturing companies and machine builders to realize the full potential of Machine Vision and Artificial Intelligence and use them to exponentially increase their product's competitive and financial value.



Across industries, retaining margins is made challenging by global competition and the cost of production

Manufacturers must meticulously allocate resources to retain margins while adhering to international standards. This calls for dedicated and accurate inspection. Many current inspection processes are manual, which allows greater room for error, increased costs, and higher processing time. Defective products, if delivered, cause serious damage to the company's reputation. It is also necessary to centralize all data from invoices and goods so that the data remains readily accessible, secure, and error-free, which is a monotonous and tiresome task for manual laborers.

To address these challenges, organizations require a solution that delivers:

- **Superior quality control**, leveraging computer vision and deep learning
- **Process automation**, reducing cost and risk of error

Qualitas Technologies empowers operations with a cutting-edge AI platform

Qualitas AI enabled inspection systems are applicable to any industry where quality control is necessary. Their latest offering is Qualitas EagleEye®, which helps improve efficiency in the production line. This system allows manufacturing companies to conduct inspection of parts or components for quality control purposes, achieving 100% accuracy. Using deep learning based AI technology, EagleEye® sets the standard for accuracy monitoring through efficient identification of production line defects.



EagleEye solution diagram

1. [COQ | Cost of Quality | Quality-One](#)
2. [Automated Optical Inspection – Data Bridge Market Research](#)

Qualitas produces a number of additional solutions and systems to automate processes such as surface anomaly inspection, optical character recognition (OCR), and parts counting. These systems utilize machine vision and deep learning to help solve all quality-related problems and meet the customer's expectations. **For OCR, deep learning has been successful in achieving over 98% read rates, with over 97% accuracy in reading errors.**³

Equipped with computer vision hardware and a cutting edge AI platform, Qualitas combines highly accurate inspections with very rapid processing times. Reducing costs normally incurred with manual systems, Qualitas drives operational efficiencies through process automation.



EagleEye Image Acquisition Module

Indian steel producer minimizes defective samples using Qualitas' imaging solution

Leveraging rolling mills for both hot rolling and cold rolling processes, a large Indian steel producer relies on rollers to generate quality steel slabs. A small crack in a roller can result in hundreds of defective samples. Rollers move too quickly and cracks are too small to catch with the human eye.

Applying computer vision and AI, Qualitas has a solution that image captures rollers and the production line in real-time. Even with a line speed of eighteen meters per second, the solution can capture images and identify defects within 10 seconds, **saving the business hundreds of thousands of dollars in defect costs.**

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer to learn more. Cost reduction scenarios described are intended as examples of how a given Intel- based product, in the specified circumstances and configurations, may affect future costs and provide cost savings. Circumstances will vary. Intel does not guarantee any costs or cost reduction. *Other names and brands may be claimed as the property of others. **Any third party information referenced on this document is provided for information only. Intel does not endorse any specific third party product or entity mentioned on this document. Intel, the Intel Logo and other Intel marks are trademarks of Intel Corporation or its subsidiaries in the U.S. and /or other countries. Copyright Intel Corporation. Intel is committed to respecting human rights and avoiding complicity in human rights abuses. [See Intel's Global Human Rights Principles](#). Intel's products and software are intended only to be used in applications that do not cause or contribute to a violation of an internationally recognized human right

3. [Optical Character Recognition- OCR | Vision Inspection Systems](#)

“The future of the Electronics Industry will be characterized by smart factories. These smart factories will be completely autonomous and highly efficient. Machine vision is the foundation of this idea. Together with artificial intelligence (AI) and the internet of things (IOT), it will enable the devices to not only perform repetitive tasks but also make the best judgments themselves.”

– Raghava Kashyapa
Managing Director, Qualitas Technologies

Leveraging the capabilities of Intel® Distribution of OpenVINO™ toolkit

OpenVINO enables Qualitas to significantly boost the performance of their AI solutions. With OpenVINO optimization, the model performance (throughput and latency) increases thereby removing the need for investment in expensive GPUs for deployment. This enables one-step deployment on a variety of edge devices for inferencing. Qualitas also utilizes Intel® DevCloud for the Edge, an Intel Cloud platform that allows users to actively prototype and experiment rapidly with AI workloads on Intel hardware. Narrowing the focus down to a specific Intel edge device, Qualitas creates ideal solutions to meet an array of industry challenges.

Learn more

Intel® AI: In-Production is an ecosystem focused on reducing deployment complexities, promoting partner AI offerings, and increasing collaboration between its partners.

Learn more about Qualitas and Intel® technologies:

- [Home - Qualitas Technologies](#)
- [EagleEye Inspection System](#)
- [Intel Artificial Intelligence](#)
- [Intel® AI: In Production | Overview](#)