HAMMER-IMS

EDGE-VISION-4.0-CURTAIN

5 types of surface inspection with camera technology

- Anomaly detection & classification
- Material sorting
- Dimensional measurements
- Process monitoring & feedback
- Thermal imaging

Innovative camera technology for maximum precision and flexibility

Edge-Vision-4.0-CURTAIN is a high-resolution camera inspection system that ensures reliable quality control across industrial production lines. Housed in a rugged steel CURTAIN frame, it is engineered for long-lasting performance in both continuous and batch processing environments.

The system captures and analyzes detailed images of products and materials, allowing for fast and accurate detection and classification of surface defects. Its enclosed design blocks out external light interference, delivering consistent and precise inspection results even under challenging conditions.

With high-resolution imaging, adaptable configurations, and robust operation, Edge-Vision-4.0-CURTAIN is a powerful solution for manufacturers aiming to boost accuracy, efficiency, and process stability.

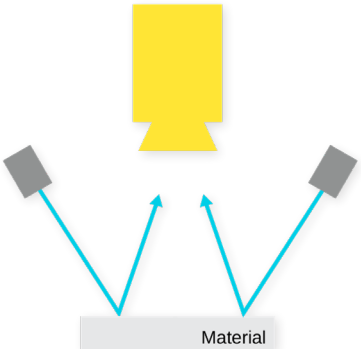
Types of lighting setup

Choosing the right lighting technique can improve defect detection, reduce false alarms, and ensure your inspection system delivers consistent, reliable results. The Edge-Vision-4.0-CURTAIN supports multiple lighting techniques, allowing you to optimize inspection results for a wide variety of applications:

1

Bright-field

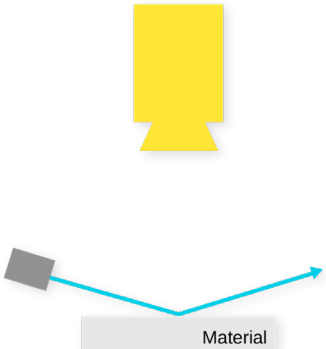
Bright-field lighting illuminates the object directly from above or the front, creating strong contrast on surface features and textures.



2

Dark-field

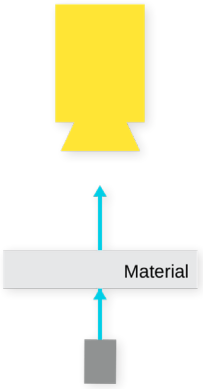
Dark-field lighting uses angled or side illumination, causing defects like scratches or bumps to scatter light differently than smooth surfaces.



3

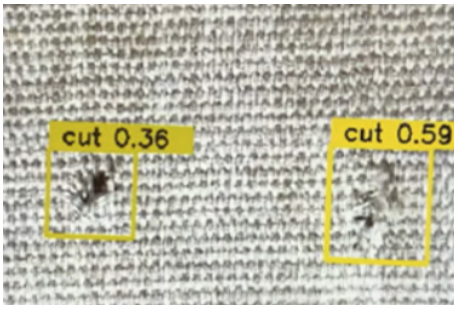
Transmission

Transmission lighting illuminates the object from behind, allowing light to pass through transparent or semi-transparent materials.



What Edge-Vision-4.0-CURTAIN can inspect

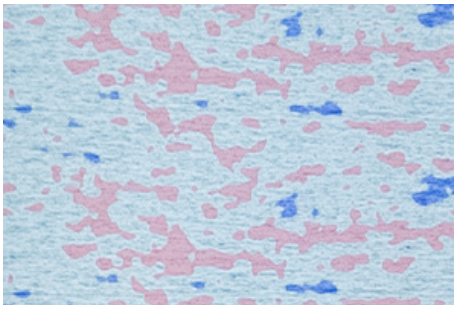
The Edge-Vision-4.0-CURTAIN offers a wide range of inspection capabilities designed to meet the demands of modern industrial environments. Its advanced imaging and analysis technologies allow for precise monitoring and control across various applications:



Anomaly detection and classification

Quickly identify defects and classify them for quality control and process optimization.

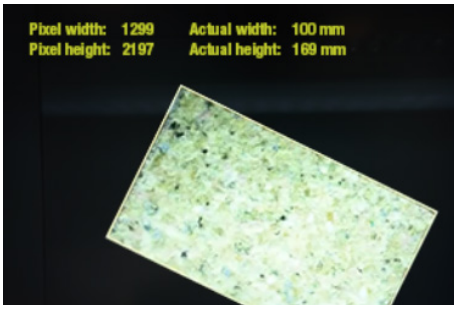
- **Classic machine vision**
- **Artificial Intelligence (AI)**



Process monitoring & feedback

Real-time monitoring of critical process parameters to maintain optimal production conditions, including:

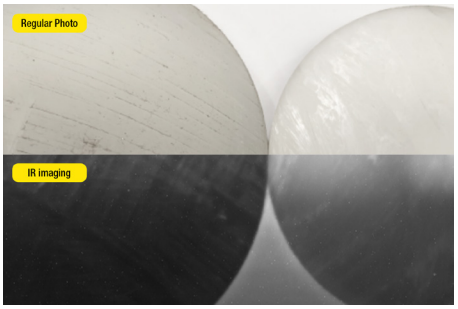
- **Homogeneity analysis**
- **Uniformity index calculation**



Dimensional measurements

Accurate size and shape measurements for precise quality assurance.

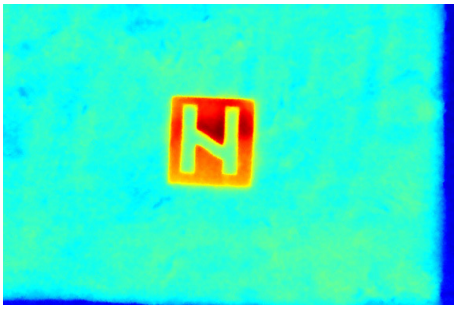
- **Profile measurements**
- **Dimentional measurements**



Material sorting using SWIR

Short-Wave Infrared (SWIR) imaging for precise material identification and sorting. Extract valuable material information:

- **IR reflectance**
- **Composition**
- **Surface condition**



Thermal imaging using FLIR

For fault detection, quality assurance, safety and energy management.

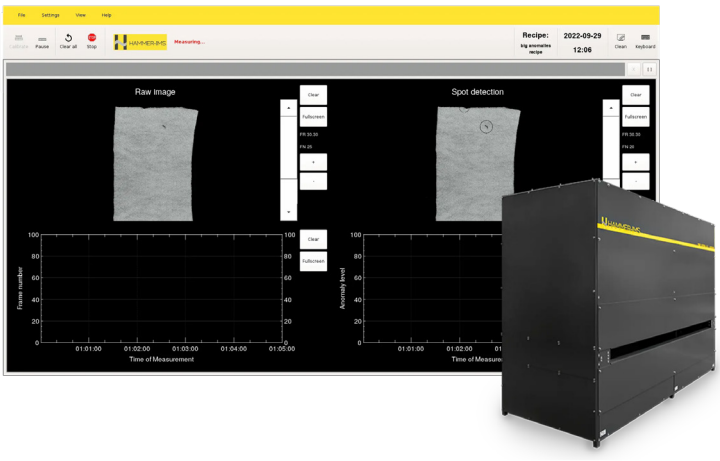
- **Overheating components**
- **Energy losses**
- **Fire risks**

Connectivity 3.0

Integrated quality control software: Connectivity 3.0

Edge-Vision-4.0-CURTAIN uses Connectivity 3.0, a unified quality control platform that combines multiple inspection tools in one system. It offers real-time product quality monitoring, automatic acceptance or rejection of defective items, and dimensional tracking for batch-processed products.

The software features an easy-to-use interface controlled via panel PC, ensuring quick setup and smooth operation. Optionally, the system can integrate with a stack light providing quick feedback to operators.

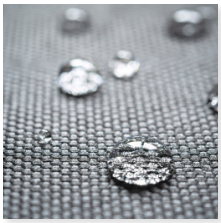


AI-powered inspection

Connectivity 3.0 also includes AI capabilities. Using customer-labeled image datasets, it builds a neural network offline for in-line defect detection. This enables continuous, accurate tracing of defects and foreign objects on textiles, plastics, and battery films, improving inspection reliability and efficiency.

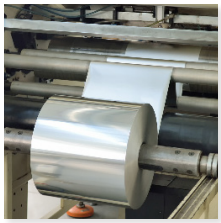
Industries that benefit from surface inspection

Nonwovens



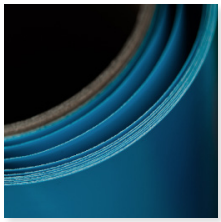
Coated and non-coated textiles

Plastic sheet extrusion



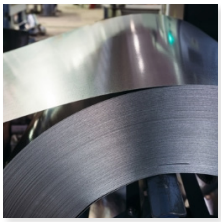
Battery film

Wall coverings



Plastic cast film

Glass and mineral wool/ Insualtion boards



Steel

Abrasives

Synthetic foams

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