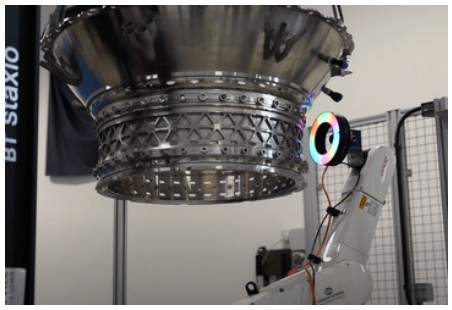
ARTIFICIAL VISION

Reducing costs, standardising defect detection and maintaining between 90-99% of human capacity, but guaranteeing inspection stability over time.

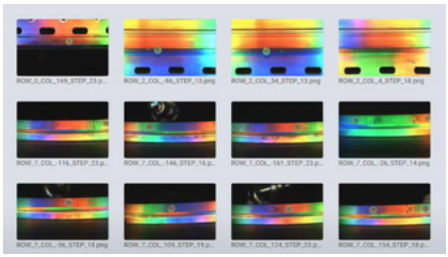
SOLUTION DESCRIPTION

An edge AI machine vision inspection device developed to identify visual defects on manufactured goods, checking correct assembly and preventing the inclusion of faulty pieces in the final product, reducing waste and energy consumption.

Integrates on a GPU-based edge device a powerful image analysis platform with AI techniques for manufacturers that need to ensure quality on their whole production like aerospace mechanical components producers, high precision mechanical producers, steel making plant, injection plastic parts producers, hollow glass producers and any other sector where the quality of product surface need to be checked.



The solution consists of one or more image acquisition and analysis devices on the edge and a suite of cloud services dealing with image classification, image annotation, and final training of AI models.
This solution through the use of edge computation technology allows solving a multitude of applications where real-time is required and therefore cloud or remote computation solutions are not suitable.



They allow a reduction in scrap, reduce waste generation, and can enable process optimization in terms of both energy and processing time.

MAIN BENEFITS

Enables the optimal management of those applications that require hard real-time and are characterized by a sparse defect dataset.

- 100% automatic inspection for inline identification of defects in production, allowing rejection or repairment.
- Cost reduction: reduced need of off-line sampling tests
- Easy integration in plant automation and management systems
- Flexibility and accuracy of AI technology

The ZDZW project has received funding from the European Union's Horizon Europe programme under grant agreement No 101057404.

SUCCESS STORIES

Hollow glass producers:

- Up to 180 containers/minute
- Defects and anomaly identification on glass surfaces

Aero space mechanical parts of large surface:

- Up to 70x70 mm surface area per second
- Defects and anomaly identification on mechanical components

Identification of cracks on concrete in building operations:

- Classification without the need of labeled data
- Automatic segmentation of concrete defects

PRODUCT OWNER

VIDEOSYSTEMS®
Technologies for a new world

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