

The DESION Company

DESION offers AI-based quality control systems for complex surfaces such as textiles. Our technology allows camera-based automation of quality assurance and sorting processes. Especially when the surfaces of the objects to be detected change highly dynamically. By evaluating images and image sequences our systems reliably detect materials, categories, defects and quality deviations. This results in a very fast and consistently high quality control. Our products are designed for immediate integration into your production and manufacturing processes and are designed according to the requirements of Industry 4.0 automation systems. We are specialized in camera-based, artificial intelligence detection of features such as: different material texture, cracks, holes or contamination. These are classified by our systems even at high speed to ensure maximum efficiency. DESION was founded in 2020 as a spin-off of Fraunhofer IGD based in Darmstadt.

Our Service

The DESION Inspection Systems reliably and precisely recognize properties of complex objects and different materials in your production. We develop custom systems for your specific use case following industrial standards.

Seperation

Detection

Sorting

On request we master the whole process within our network.

DESION GMBH

CAMERA BASED INSPECTION SYSTEMS
FOR COMPLEX OBJECTS

Our portfolio includes:

- Adaptation of our products to your production
- Consulting and feasibility studies
- Custom software and hardware development

CONTACT

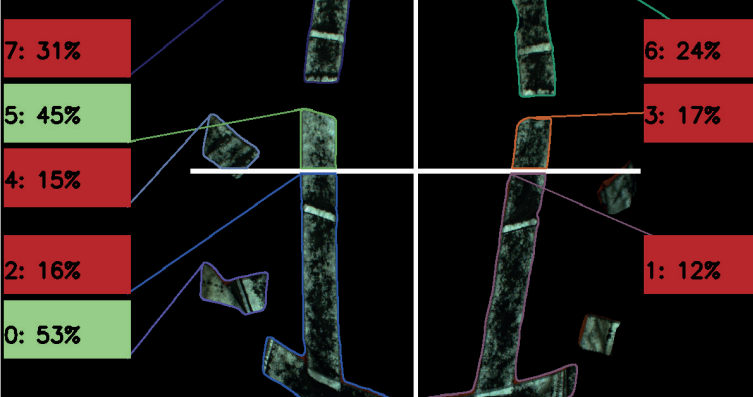
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DESION NPS

NORM PROOF SYSTEM





Amount of reflection per stripe segment

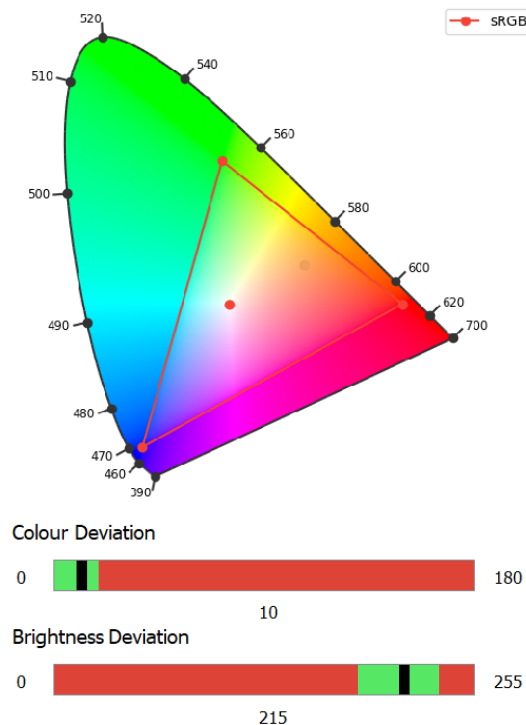
The DESION Standard Testing System

In road construction, waste disposal or surveying a site - anyone working in public areas wears brightly colored high-visibility clothing. Bright colors and reflective stripes ensure good visibility by day and night, thus increasing safety. But the protective function of jackets and pants can gradually be impaired by dirt, mechanical stress and washing the garments. The DESION Norm Proof System automates the process of necessary quality control of high-visibility clothing after washing, based on the electronic processing of images and machine learning.

What Does our Technology Accomplish?

Employers and textile service providers are liable for legally compliant compliance with the EN ISO 20471 standard for high-visibility warning clothing. We have developed an automatic system for quick and reliable quality inspection of high-visibility clothing. Through DESION NPS the recognition of deviations in color and reflection is automated and carried out in consistently high quality. Cameras determine the amount of light reflected by the protective stripes and Computer Vision determines their efficiency.

Detection Results



Precise defective reflex stripes segmentation



Integrated Optical Quality Control

Garments, after washing and finishing on individual hangers, pass by our lamp with an integrated camera, where photos are taken of the front and back. Our software analyzes these photos in real time and transmits the results to the control software, which then sends the garments to selected stations in the quality control process. The results of each inspection are stored in the system and build a valuable collection of data. This database enables the customer to perform further analysis and optimization not only of the system itself but also the internal processes.

What Can it Detect?

Following characteristics can be detected by our system:

- Color deviation
- Reflective strips (including strip type & damages)
- Material types (e.g. different fibers, weaving)
- Clothing types
- Holes
- Different kind of stains
- Brightness deviation

What Can it Be applied for?

In addition to the washing textile industry, other industries can also benefit from our technology. NPS can be seamlessly embedded in existing systems and processes for advanced visual quality assurance.