



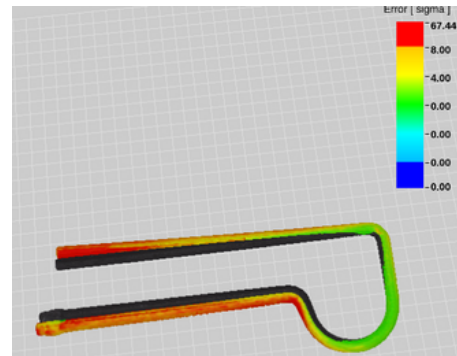
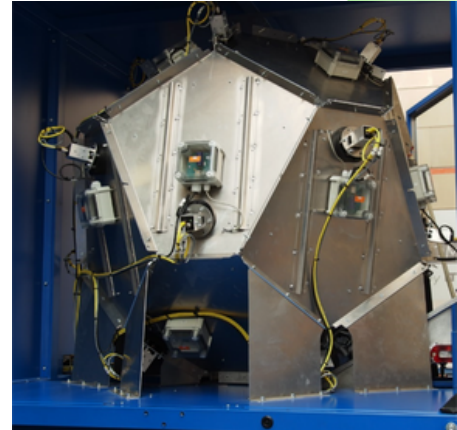
VOLUMETRIC INSPECTOR

Analyzes 120 parts per minute, detects 95% of defects, classifies parts by model, and rejects unknown components

SOLUTION DESCRIPTION

This solution employs diverse quality analysis techniques to **assess products against expected 3D shapes, identifying deviations and potential defects that could impact final product quality.** Utilizing AI tools, the system learns the anticipated shape and geometric tolerance measurements.

This solution, developed to work in the production line, not only scrutinizes and confirms dimensions but also **identifies geometric flaws such as tears and dents.** Employing an in-line camera-based inspection approach, it **prevents defective pieces from being integrated into the final product.** This proactive measure significantly reduces waste and minimizes energy consumption during production.



MAIN BENEFITS

- ▶ Captures images in real time without requiring reconfiguration
- ▶ Measures and detect trends error before they appear
- ▶ Cost reduction: no down-time and no maintenance
- ▶ The inspection system is not subject to human error
- ▶ Part classification, avoiding product specific solutions



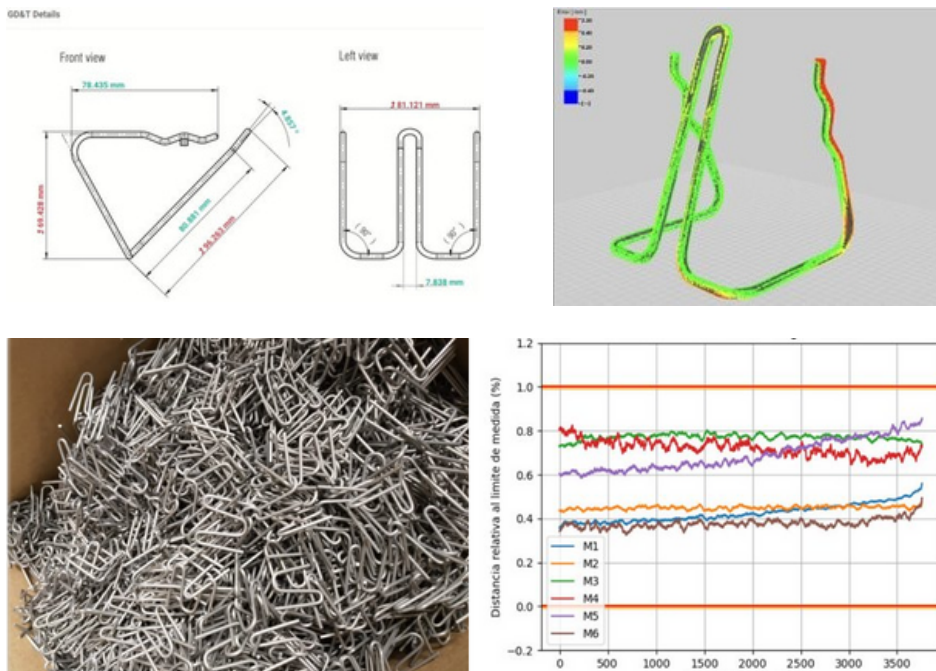
SUCCESS STORIES

Manufacturers in the **automotive sector** encountered several challenges:

- The standard process involved sampling only 20% of production.
- They relied on manual processes for assessing complex measurements, impacting precision and accuracy assurance.
- Measure deviation issues arose due to miscalibration of manufacturing machines.

The Volumetric Inspection Solution effectively tackles these challenges by achieving the following objectives:

- Implementing an **inline process for inspecting the entire production**, eliminating the need for sampling.
- **Predicting measure deviation** problems by analyzing trending KPIs.



PRODUCT OWNERS:



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