PILKINGTON DATA SHEET VZ10

V-VIZ HAVE THE VISION

PILKINGTON GLASS APPLICATION STORY

Requirement

The customer manufactures windscreens for a number of different car models. Their end user customers require that each windscreen have a coloured label applied. The label contains customised information for ease of identification line side. To meet this requirement they kept in stock pre-printed labels per product type and manufacturer which was costly to manage. Historically all labels have been applied manually. Instances of wrong label or no label have happened resulting in there being complaints of mixed pallets. Additionally the lack of traceability in general was no longer acceptable.

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Solution

V-viz designed and deployed a complete Traceability System. The system, using a machine vision camera, automatically recognises the type of windscreen and then prints a label with the corresponding information which is downloaded from the production database.

Each windscreen is mounted on a platten which are generic regardless of windscreen type. The plattens are automatically transported through the various stages of manufacture on an indexing conveyor. The windscreen is motionless for 8 -12 seconds between each index. At the inspection station a machine vision smart camera and backlight are mounted either side of the windscreen. When the platten stops between the camera and light, the PLC sends a digital signal to trigger the camera to acquire an image. The smart camera processes this image and uses Optical Character Recognition software to read the characters that are marked. The OCR algorithm relies on a pre-trained character set to enable it to identify human readable characters correctly. The character set was created at commissioning time and fine tuned over the first three days of production. The type and variant of windscreen that can be presented is numerous. The field of view of the camera, software algorithms and font set were selected and designed to ensure that no operator intervention or change over is required between windscreen type.

The camera passes the 'read' string to a SCADA system along with a digital 'cycle finish' signal. The SCADA system interrogates a production database and retrieves from it the fixed information relevant to the identified windscreen variant. This information is then downloaded to a print and apply unit.

The print and apply unit prints the fixed and variable data on to the label – all fields are marked in human readable text, and duplicated in 1D barcode or 2D Data Matrix codes. The applicator then extends, removes the backing from the label and accurately applies it to the windscreen without the need for any clamping. Once the actuator retracts the windscreen is free to index to the next position and the cycle continues.

A large area digital display mounted above the line displays the variant of windscreen which has been identified at the inspection station and at the two next index positions allowing the operators to quickly visualise and see the product variant that is arriving at the end of the line. The display is controlled via Ethernet by the SCADA system.

The BENEFITS to Pilkington were immediate:

- **Increased efficiency**
- **Improved Process Reliability**
- **In-line Traceability**
- **Eradication of mixed pallets**
- **Reduced operation costs**
- **Enhanced flexibility**
- **Customer satisfaction**

For any further product information or application details please contact: +44 (0)870 242 2515 www.v-viz.com

About V-viz Ltd

V-viz was established in 2004 as an independent machine vision solution provider and has been successfully supplying and deploying inline machine vision inspection solutions to leading global manufacturing companies ever since. Recognising the value added expertise and experience in machine vision V-viz brings the Company was audited and certified as a Siemens AG "Specialist Machine Vision Solution Partner" in 2008. We are the appointed and exclusive Technology Partner for both Festo GB and Datasensor UK for all machine vision applications.

Providing inline high speed machine vision applications requires a specialist with experience built up over many years and with core competencies in camera technologies, complex illumination techniques, inspection tools and platforms, software, communications, controls and integration.

V-viz prides itself as a proven competent and reliable supplier of integrated machine vision inspection systems and has a rapidly expanding global customer base across Automotive, Food & Beverage, Consumer Goods, Medical Device, Pharmaceutical and Primary Metals.

Making a significant and successful investment in automated inspection requires selecting a vendor whose proven expertise and understanding of applying the technology into a manufacturing environment ensures the success and long term reliability of the solution. By contracting V-viz customers ensure that their investment is adopted successfully, effectively and to the highest possible standards of on-going support.