

# Refrigerator OQC Report Generation

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## Client

Our client is one of the largest Korean multi-industry companies that produces electronics, chemicals, and telecommunications products in over 80 countries. They control a big portion of

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the electronics market worldwide and since 2008, they remain one of the world's top 5 LCD television manufacturers. The company has 128 operations worldwide, employing 83,000 people.

## Problem Faced

Automated OQC Check Sheet/Report Generation which consists of combination of checkpoints checked using:

- Machine Vision: Printing/Component Presence/Absence inspection.
- Barcode Verification: Verify the Barcodes present in Carton Box and Machine and whether it matches the expected barcode.
- Manual (Visual) Inspection - Manual Entry to be made in Software.

The current process was done manually since it was time-consuming, they wanted to minimize the inspection time and that's why they opted for the vision system.

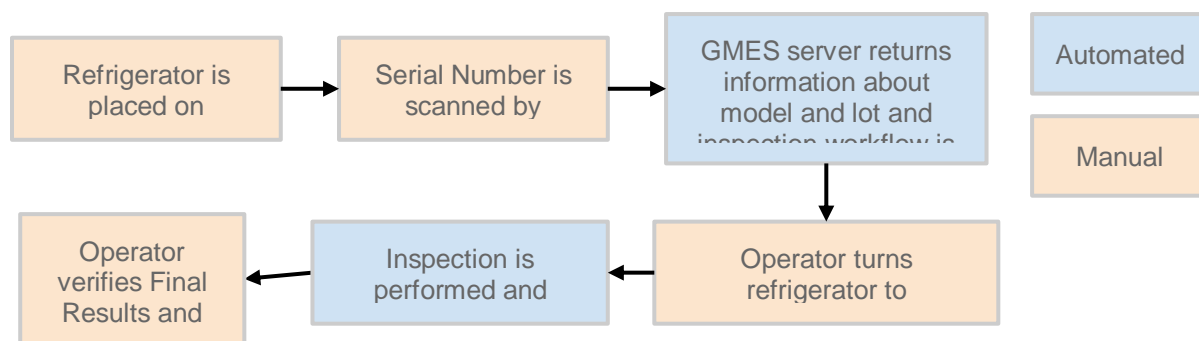
## Technology introduced by Qualitas Technologies

A decorative graphic at the bottom right of the page consisting of several overlapping gray geometric shapes, including a large triangle and a rectangle, creating a modern, abstract design.

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Machine vision technology helps us to inspect the puff leak in the refrigerator. We have used 'AI' software which is rule-based image processing software developed by Teledyne dalsa. Here, we used two 1.3 MP cameras. Industrial PC's with POE cards and DIOs were deployed to reduce the image processing time.

## Process Flow:



## Solution

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- In the assembly line the refrigerator is placed on the turntable and the serial number is scanned by the operator.
  - Upon scanning the serial number, model number and other details are retrieved from the system.
  - Upon receiving necessary details, the operator turns the refrigerator in the appropriate position and inspects the product, based on which the Good or Not Good results are generated.
  - Upon completion of the examination, the operator verifies the final results and saves the report.

## Images

<i>Captured Image</i>	<i>Annotated Image</i>
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## Results

The inspection system was put in place and successfully met the expectations of the customer.

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