

## Case Study



Delivery Partner



### Background

Knowsley Art Glass Ltd is a small, family-owned company. They have been trading for over 40 years and have a vast range of expertise within the glass industry, producing a range of bespoke etched, coloured, stained, and leaded glass sheets and panels.

### Challenge

Knowsley Glass Art Ltd is ambitious and wishes to grow the business by expanding the customer base and exploring new markets for increased revenue opportunities. The company also wants to improve the overall efficiency and effectiveness of the team by streamlining processes, updating their office tools and implementing emerging technology to save time and increase productivity.

Several challenges associated with the desired digitalisation of several processes include job workflow, data and information transparency, job costing, invoicing, and the management of future business growth.

Recently, Knowsley Glass Art Ltd invested in a sheet glass toughening oven production line, which meant an additional purchase for a 500KVA generator to power the oven. However, before this new system can be introduced to their processes, the company needs to acquire quality systems or assurances to test the types of glass products that may be taken through this process, which is a legal requirement.

### Solution

The Horizons teams from Liverpool John Moores University (LJMU) worked closely with Knowsley Glass Art Ltd to discuss, analyse and gather information regarding current and proposed operations with graphical flowcharts being created for the following:

- Processes and associated metrics, including monetary value and the magnitude of sales enquiries and orders.
- Standard and bespoke order design process using screen-printed templates.
- Proposed automated online job quotes and ordering system.

Further work was undertaken to determine the exact requirements for introducing an operational in-house Glass Toughening and Heat Treatment Process.

The standards and test procedures were investigated to best deliver toughened glass products and services as a new technological process for the company as the teams were able to identify B2B and B2C markets and new customer opportunities.

The proposed new process was analysed, and determinations were made regarding the extra equipment needed (such as mandatory bend testing) to adhere to the relevant British Standards and to enable parallel production of art glass products and the heat treatment plant for optimised factory capacity and capability to produce a wide variety of bespoke glass products.

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The new Toughened Glass heat treatment facility will also enable Knowsley Glass Art Ltd to take on a new line of business.

The support focused on the testing required for quality, reliability, and traceability, ensuring all met quality assurance requirements and determining the strategies and processes to meet the standards.

The Horizons teams also advised on potential equipment funding options and applications. After careful consideration, the teams achieved a successful funding bid for state-of-the-art CAD technology, upgrading production line equipment to improve factory capacity and capability by automating existing processes.



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## Impact

The assistance provided should enable Knowsley Glass to introduce a new product and service to internal and external customers, namely their new in-house Toughened Glass heat treatment facility. Previously, toughened glass products could not be manufactured in-house and were subcontracted externally. This new capability enables the company to increase its control of the supply chain and processes, streamlining workflows.

Trial runs of the new glass toughening plant are being undertaken, including the mandatory testing procedures of batch samples with the bend-testing equipment procured to ensure quality compliance and assurance.

**“On behalf of our entire team, we extend our heartfelt gratitude to the Horizons team for assisting us in unlocking our true potential. Their expertise in streamlining processes will certainly help us, and the assistance in upgrading our tools and implementing new technology will significantly enhance our efficiency and effectiveness. We are excited about the future and look forward to continuing our work with the Horizons programme.”**