STAKE GLASS

CASE STUDY
Network Site Visit

POWERED BY

CallaghanInnovation
New Zealand's Innovation Agency

PROGRAMME PARTNERS

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INDUSTRY 4.0 Network

Enhancing Manufacturing Quality and Productivity with a 'Foil' Proof Solution!

Profile

Stake Glass is an independent, locally owned and operated glass supplier in Christchurch. They provide clients with the highest quality, innovative glass solutions for commercial and residential applications. Having grown rapidly over the 7 years since its inception Stake Glass has brought in cutting-edge processes to maintain its competitive advantage.

Background

The business of supplying glass in NZ revolves around the efficient purchasing of glass from overseas sources, and the safe, efficient, and expedient turn around of orders. Almost every window is a different size and can be specified from a different combination of materials in different configurations leading to a staggering number of potential products. The market is tough, with cost and lead time being critical factors for the success of the business.The impact of getting an order incorrect on such tight turn around times is the difference between success and failure.

Solution

In order to accurately communicate the requirements of the business to meet the tight timelines of delivery, Stake have invested in the integration of their production software. This allows fast accurate information flow through the business minimising the need for human input.

One example of this is the integration of the auto loader. The auto loader is a robot which stores and retrieves sheets of glass from their store and loads them onto the cutting tables, based on the production plan submitted by the planner. This ensures that the right material is selected for the job and that traceability is maintained throughout the production cycle, eliminating human error in the selection of the right material.

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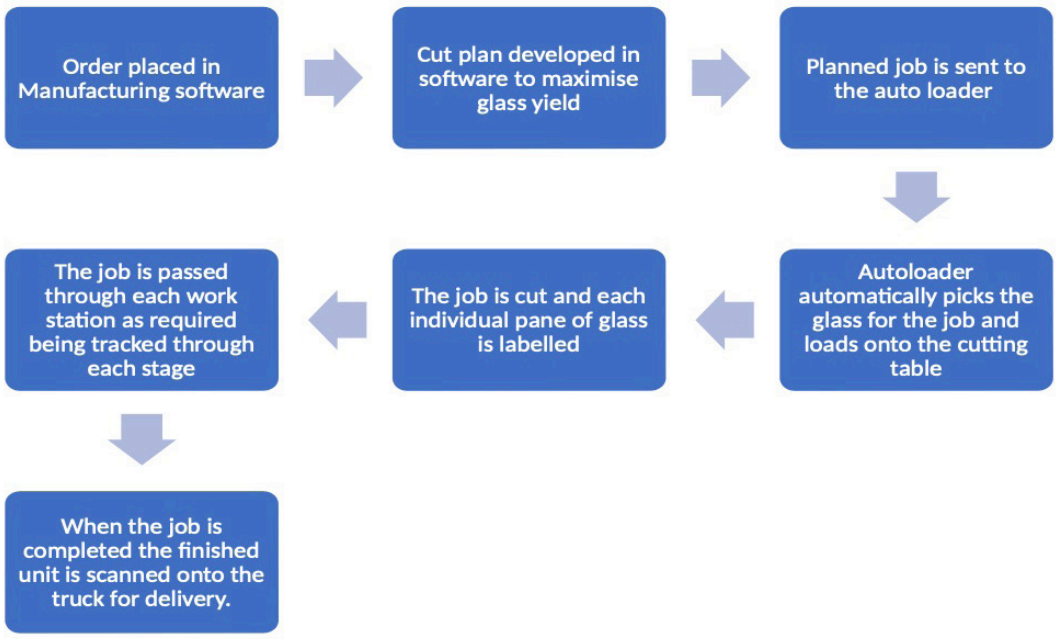

As each pane is labelled, its location in the factory can be traced at any time and the team can see how far through processing it has progressed. This gives the team a dynamic real time view of the products in their plant allowing for faster, more accurate data-driven decisions.

The barcoding allows for the products to be routed through different production processes as required, to be brought together for the completed order at the same time, ensuring the delivery is completed on time and in full. This means the glass is processed through the right production steps in the right order reducing the amount of rework required, and the amount of paperwork generated in the plant.

As we all know, glass breaks easily, and this does occur from time to time in the plant. With the individual barcoding the team can quickly and easily identify the broken pane and reschedule its manufacture to ensure it meets the rest of the assembly for delivery on their tight timelines.

Next steps

The next integration steps for Stake will be the connection and integration of their manufacturing assets into the software which will allow the scanning in and out of the process to be automated, further reducing the lag between processing and visibility in the MES software.

The team are also looking to harness the power of IIOT, or the Industrial Internet of Things, which is one of the core Industry 4.0 technologies.

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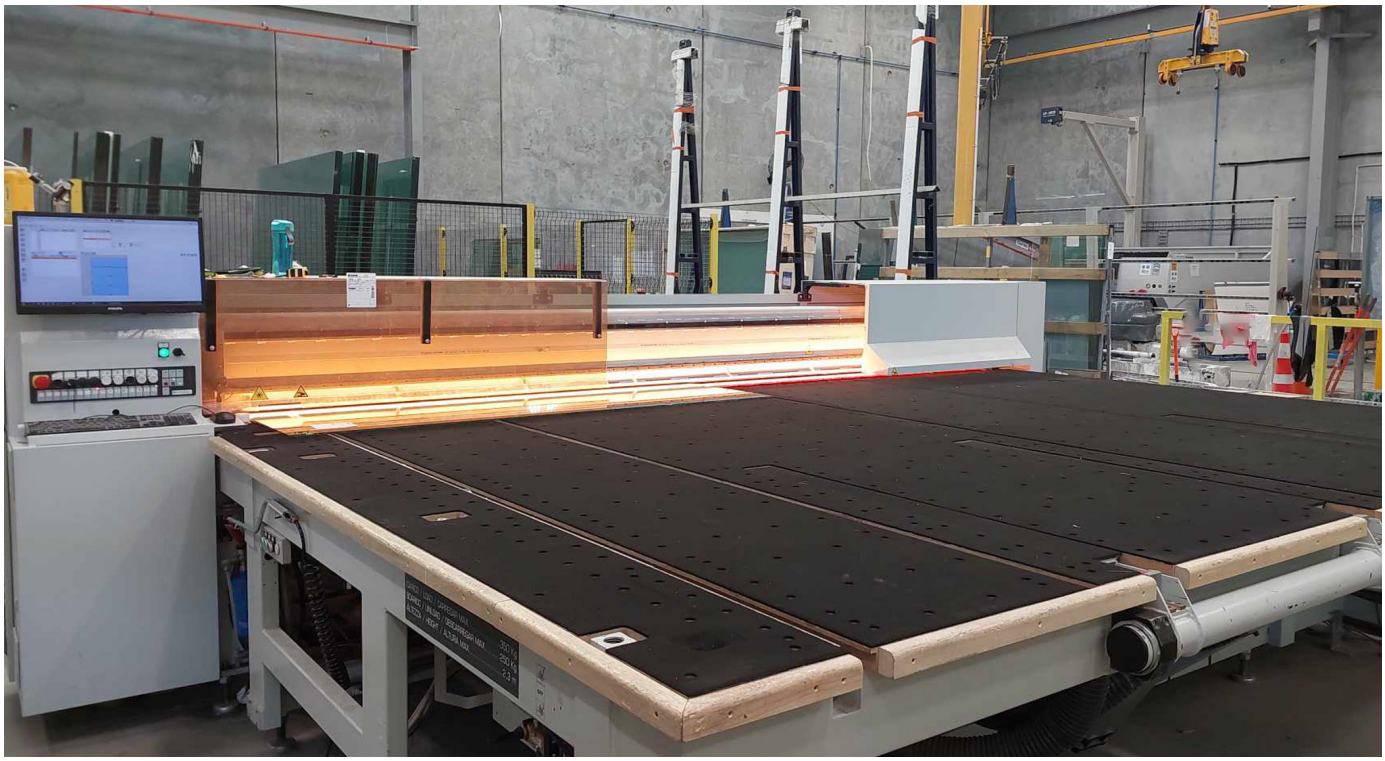
The IIOT devices will add "smarts" to older legacy equipment with limited communication capabilities, allowing them to capture data and report it into the cloud where it can be used to dashboard equipment performance and empower the management team to optimise their processes with real time data.

Previously this was impossible with operator dependent processes, however with IIOT devices this data can now be generated from any manual corded tool.



About the site visits and Industry 4.0

The purpose of the Demonstration Network is to drive uptake of Industry 4.0 technologies among New Zealand manufacturers with the aim of increasing their productivity and global competitiveness. The Network of Site Visits (NSV) are part of the Industry 4.0 Demonstration Network, which also includes a mobile showcase and smart factory showing cutting-edge Industry 4.0 technologies in action. The NSV takes selected companies through a fully-funded assessment process to help them accelerate their own journey towards Industry 4.0, and sees them share their knowledge with other manufacturers.

Further questions?

To find out more please contact

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