

INDUSTRY 4.0 NETWORK SITE VISITS

Longveld



Business overview

Longveld is a world-class manufacturer of primary food processing machinery, systems and equipment and an expert in custom metal fabrication, specialising in food-grade stainless steel. Key market sectors include dairy, food and water and Longveld exports to Australasia. Longveld continuously strives to expand and refine its capability, particularly in engineering and design, technology and systems. Longveld's goal is to enhance global food safety with quality fabrication.

Background

Three years ago Longveld began a process of modernising its quality management system which up to this point had been largely paper-based. Longveld stands by the quality of its work so this was a project of great importance.

The old quality system came with a raft of issues. Paper documents in a manufacturing environment did not last long; in some cases becoming illegible and requiring re-writing. The system was prone to the effects of human error such as lost documents, incorrectly filled out forms and stages or steps in the process being skipped or forgotten.

With the paper-based system the team lacked visibility into how systems and processes were performing and there would often be delays in understanding the current situation due to the time taken for documents to be gathered and collated.

If an issue was found, it was difficult to search for the related document and although they were scanned to PDF and placed

in a specific job folder, the line that pertained to the issue could not be searched for. Additionally, pages were collated in the wrong order, often illegible or missing all together.

It was also at a time where the company was making a shift towards a more standardised and systematic approach to information management, rather than relying on the knowledge of individual subject matter experts.

Over time the investment required to develop custom software was gradually lowering. Less training was required and companies like Microsoft were incorporating low-code or no-code software development platforms into their existing suites, so Longveld began developing its own automated quality management systems.

The solution

Longveld decided to utilise Microsoft Power Apps as the main tool for developing its shop floor applications. The MS Power Apps suite is a low/no code development platform that allows users to quickly create simple apps in-house, using pre-set templates. This set-up makes rapid app development possible without the need for specific software training. Longveld developed three main apps to use in its QA system - Non Conformance Reporting (NCR), Welding Aid, and Quality Inspection apps.

The NCR app allows the user to log information on any faults identified quickly, add photos and capture costs and learnings.

The Welding Aid app helps Longveld staff on the shop floor quickly check welding procedures and individuals'

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qualifications. It provides a simple way to quickly view weld procedures on the spot.

Quality Inspection is an app which enables all workshop staff to have the correct QA forms easily accessible on their mobile device. This means that the correct form can be filled out when required and after completion stored on the cloud in the correct location, all without needing to print out a physical copy. It eliminates many of the data entry errors caused by having to manually write or input job numbers and other descriptors.

There have been a number of significant benefits provided by deploying these apps to the shop floor, including a reduction in time lost filling out paperwork, clear and live visibility of where Work in Progress is sitting and a clear understanding of what issues and problems are occurring to allow rapid and effective problem solving to take place.

Having the data and information available has also allowed Longveld to review the information that is being captured at an aggregated level, and gain insights into longer term trends, eg the direct link between overtime worked and NCR occurrence that could then be clearly discussed with the team and managed as both a safety issue and a quality issue.

Key Learnings/ Take-Aways

- The Microsoft platform, linking Sharepoint with MS Power Apps, is a simple and accessible way to begin digitalising information capture on the shop floor.
- Once digital, the information can be handled in a well organised way, eliminating the need for printing and scanning, automatically saving data against the correct project.
- It is important to keep up to speed with new technologies as well as the lowering barriers to utilising it (eg reduced entry cost / lower training requirements / improved modularity of systems etc).

- Change management can be challenging when introducing new technologies. Clearly define what will deliver tangible benefits compared to sticking with the status quo and start there - allow the team space to let go of the old and embrace the new.
- Leverage the technology that is built into our devices, for example utilising cameras to take photos of quality issues, QR code scanning, GPS location data etc.
- As more information is captured, looking at trends and the associated impacts can reveal some surprising insights into improvements that are available in other areas of the business.

About the site visits & 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?

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