

Case Study

LIXIL Corporation

»The introduction of tablets has improved overall efficiency by approximately 30 per cent and the implementation of a tablet-based system has made procedures consistent, which has raised levels of standardization«

Keiji Yamaguchi, Building Process Section Chief, LIXIL Corporation



The customer

LIXIL Corporation provides products from windows, tiles, doors and internal building materials for residential housing, to plumbing related equipment such as kitchens, bathrooms and toilets, as well as commercial facilities or office buildings, public facilities and spaces such as railway stations and transportation infrastructure.

LIXIL Corporation's Ariake Plant is an integrated factory in the area that encompasses the Chugoku, Shikoku, and Kyushu regions. This plant manufactures aluminum sashes for buildings from raw materials.

The challenge

The LIXIL Ariake Plant occupies a vast space that is eight times the size of Tokyo Dome, where more than 800 people work to produce various types of aluminum sash. In the Building Process Section, sash manufacturing processes and inspection processes had been operated using paper documentation.

The manufacturing management system provided instructions on scheduled production five days before the start of manufacturing. This document needed to be copied and distributed to all processes involved in manufacturing, which entailed having to make around 500 copies per line per day. With a total of 15 lines in operation in the factory, the figure amounted to a staggering 7,500 or so copies per day, with two employees assigned to distribute the copies.

Moreover, as manufacturing schedules never remain the same each day, the document needed to be replaced each time a change to these instructions was made. Twenty people from the Building Process Section were involved in making copies, distributing and replacing the documents. The company wanted to digitize the process for increased efficiency, traceability and productivity.

The LIXIL Products Company initially considered laptop PCs but even these would need to be placed in fixed locations when being used, forcing users to go to a specific location to input data. The company therefore turned to portable tablets.

The customer

Country: Japan
Industry: Manufacturing
Founded: 2001
Website: www.lixil.co.jp



The challenge

LIXIL's manufacturing processes relied on paper instructions, creating traceability and productivity issues. On the production line, terminals at fixed locations restricted areas in which data could be entered, causing inefficiency. The necessity of wearing gloves on the production line also presented difficulty in operating the terminals.

The solution

The company selected Fujitsu tablets to enable on-the-spot, real-time processing of information.

The benefit

- Making instructions available in electronic form by using tablets has delivered reliable traceability and improved productivity
- Using portable tablets in place of terminals at fixed locations has enabled data entry at any location in the factory
- By selecting Windows 8 tablets, existing assets can be leveraged to shorten the time required to create suitable configurations
- Using touch pens to operate tablets has also enhanced efficiency

Products and services

- 75 x Fujitsu tablets

"We have been considering adopting Windows 8 tablets as our standard device because this platform allows the use of existing application assets and Microsoft Office," explains Toshiyuki Nobumoto, LIXIL. "We compared several models of Windows 8 tablets and chose Fujitsu tablets, which were by far the most highly evaluated due to their usability, which enables operations using an attached touch pen. Fujitsu tablets were adopted as our standard device in June 2013."

The solution

In August 2013, 75 tablets were introduced in the company's plants nationwide. Under this tablet-based system, the necessary data is obtained from the manufacturing management system the day before production.

On the Building Process Section's assembly line, workers examine raw materials before processing by checking inspection forms on a tablet. If they do not find any problems, the tablet displays instruction drawings that are required for the next process – the manufacturing process. By referencing these drawings, the raw materials are processed and checked using the tablet. The processed materials are then sent to the assembly line.

By introducing tablets and developing an application, the company has also produced an opportunity to use different sources of inputs to further reform its business processes. They also incorporated the know-how of experienced workers into the new system.

The initiative to use electronic documents has only been implemented in some sections of LIXIL Ariake Plant. The Building Process Section aims to eliminate all paper forms on all production lines to reach yet another level of efficiency. The company intends to draw upon the Building Process Section's experiences to computerize documents in the Materials Section and the Housing Section with a view to introducing electronic documents throughout the entire factory.

The benefit

The introduction of tablets has enabled the establishment of a streamlined and standardized system that permits on-the-spot viewing of tablet screens when conducting inspections and other processes, leading to an improvement in product quality.

"The work of copying and distributing paper has now been eliminated, which has streamlined preparation. Previously, we had to provide paper instructions five days prior to the start of manufacturing, but now by computerizing the process we can furnish even supply instructions the day before work begins," says Takashi Suzumi, LIXIL. "As manufacturing plans are mostly finalized by the time instructions are provided, we also eliminated the work involved in replacing paper documents and data that had been accompanied by a change made to the processes. This has enabled us to achieve a new level of traceability, as we can now obtain data from previously unmanageable areas."

"Overall efficiency has improved by approximately 30 per cent through the introduction of tablets," adds Keiji Yamaguchi, Building Process Section Chief, LIXIL. "Paper instructions tend to allow workers to haphazardly take notes in which individual differences in how these are taken have become apparent but the implementation of a tablet-based system has made procedures consistent, which has raised levels of standardization."

Conclusion

Efforts to computerize documents in the Ariake Plant have just started to get underway but the initial results are clear. The introduction of tablets will be incrementally carried out in other sections of the plant, leading to further improvements in productivity, traceability and product quality.

"Fujitsu offers excellent support, and we can rely on them because the Fujitsu engineers who provide support know our company well."

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2014-08-18

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