

Now Analyzing Individual Tasks Twice as Quickly and Passing on Veteran Savvy More Effectively

Industry Manufacturing

No. of employees See website

Sales revenue See website

Issue

before
introduction

Making improvements was prohibitively time-consuming, with an analysis of a five-minute task taking four hours.



Result

after
introduction

Using OTRS has enabled faster analyses. Improvements to processes can now be made in time to make a real difference.

Company profile

Kubota Corporation

● Website

<https://www.kubota.com/>

<https://www.kubota.co.jp/>

● Major Products Manufactured at Utsunomiya Plant

Rice transplanters



Combine harvesters



Interviewee



Mr. Chihiro Ito

Utsunomiya Plant,
Manufacturing Section II Section

Circumstances and Challenges

In order to make improvements on the factory floor, faster analytics became a pressing need

In addition to producing agricultural machines such as tractors, rice trans planters, and combine harvesters, Kubota Corporation's factory in the city of Utsunomiya, Tochigi Prefecture in Japan, also plays the role of parent factory, providing guidance to the company's facilities in China and Thailand.

"Thanks to strong demand, our sales in the Chinese market were growing. Eventually, however, demand plateaued. At the same time, local manufacturers have also become more competitive. The question of how we can best deliver high quality at the right price has become a crucial one." (Mr.Ito)

So says Chihiro Ito of Kubota's Utsunomiya Plant, Manufacturing Section II Section. In order to achieve this goal, explains Ms. Ito, the company would have to find an approach that could cut the waste out of the process of analyzing the individual elements of its production processes. With the analog method it had been using, in which work at the factory was monitored and timed with a stopwatch and the resulting data was entered into a computer and analyzed, it would take nearly four hours to analyze a task lasting as few as five minutes. This made it prohibitively difficult to improve factory operations in a timely manner. For that reason, personnel at the Utsunomiya Plant began working to make improvements at the point of production by promoting the IT-based use of data, with auto manufacturers as a point of reference.

"We have a mixed line, which is a type of production line on which multiple different products are processed. The main product changes over the course of the year, with rice transplanters at the start of spring and combine harvesters at the start of fall. The processes and the stationing of the workers also change along with that. In order to solve any problems that may arise at that point without losing time, and to produce the results we were looking for, we needed to speed up our analytical process." (Mr.Ito)

Why We Chose OTRS

Appreciation for OTRS's great versatility and ease of use led to the start of a trial period

Kubota's Utsunomiya Plant had run a project to promote the use of data by adopting new information technology from 2013 to 2014. While researching and testing IT solutions that could help it optimize the way it analyzed the individual elements of its production processes, the company discovered the work analytics and task optimization software OTRS at an IT trade show. After examining and comparing several comparable products at the show, Kubota found OTRS to be the one that stood out the most in terms of user-friendliness.

"The workers on our production lines were not especially accustomed to working on computers. Our goal was to make every station able to complete a full sequence of analytical and process-improvement tasks, so we needed a solution that anyone would be able to use intuitively." (Mr.Ito)



Kubota valued OTRS not only for its ease of use, but also for its versatility as a solution that lends itself to such purposes as the drafting of standards documents and the creation of video manuals that document the most experienced workers' tricks of the trade and insights into the work, as well as the analysis of individual tasks. The company obtained a single license and began using OTRS on a trial basis.

The Process of Adopting OTRS

Four licenses used across all of the factory's stations and lines

Trial use of OTRS at the Utsunomiya Plant began, with Thresher Assembly Line 1 serving as the model line. The results were shared with the rest of the factory, and the trial was extended to other stations. In the end, OTRS was very well received, and there were requests from numerous parts of the factory to begin using it as soon as possible. Accordingly, the factory increased its number of licenses to four, and there was a full-scale adoption of OTRS throughout the facility. Today, OTRS is used extensively all over the factory.

"Our section was the first to adopt OTRS, and we brought the managers from every part of the factory together for an information session. Then, when every part of the factory began using it, we had a lot of questions to answer, but that settled down after a few months. The young digital natives were especially quick to learn, and they took the initiative in helping to create an environment in which we can make improvements to how our factory works." (Mr.Ito)

Benefits of Adopting OTRS

OTRS has cut analysis time in half, and is helping to pass on hard-earned tips and insights

The results produced with OTRS on the model line were such that the analyses of five-minute tasks that once took four hours could now be done in half the time: two hours. With the use of OTRS, the time required for the video analyses of a total of 70

minutes of work from the same production line in the 2017 fiscal year was shortened by 28 hours. Speeding up its analytics processes has enabled Kubota to make rapid improvements at the Utsunomiya Plant. The company can now make improvements within the space of a single fiscal year, and prevent issues from being carried over to the following year, leading to greater productivity.



Another challenge the factory faced was that of how to pass on the skills of its retiring veteran workers. The company was digitizing its collection of tips and insights that had been written on paper, and documenting this knowledge on video. However, as Ms. Ito explains, by using OTRS to break work videos down into sections for individual tasks and add instructional commentary, Kubota has made its operations clearer and easier all the way down the line, and had great success in both passing on the knowledge of experienced workers and promoting upskilling.

"In the case of made-to-order products of which we manufacture no more than one or two units in a year, only a limited number of people have experience making them, and there are few opportunities to be on those lines, so it had been extremely difficult to pass on the skills needed to use the actual equipment used to make them. With OTRS, we can create video manuals with detailed explanations of each part of the production process. This allows our people to learn by replaying only the necessary parts of the process, and it has been very effective." (Mr.Ito)

Looking Ahead

Aiming to use even more information by linking systems

In order to continue to raise quality and productivity at the Utsunomiya Plant in the future, Ms. Ito believes that it will be necessary to make optimizations that are impactful both across entire lines and throughout the entire factory. Her plan is to promote the building of a framework that would allow information to be managed centrally, by linking her section's systems with those of the other sections of the factory. The adoption and use of OTRS has spread to other Kubota factories, including the company's manufacturing facility in Hirakata, Osaka Prefecture, and the possibility of the future expansion of this practice to even its overseas facilities has come into view.

"In the Chinese market, as well, we expect that the demand for higher-quality products will only grow in the future. When that time comes, our products will need to distinguish themselves as the top of the class. As OTRS also has Chinese language support, I think that it will prove effective in raising the standard of our factories in China in the future." (Mr.Ito)

Users' Voice

Entering an age in which using information will be critical for both products and production

"At Kubota, we have taken the lead in mass-producing rice transplanters equipped with a GPS auto-steering feature. We also now offer KSAS (Kubota Smart Agri System), a big data solution for the agriculture industry. In agriculture, businesses are going to need to use information with new technologies like this one going forward. When it comes to both the products and services that we offer, and the products that we are going to create, I would like to see us accelerate our use of information and build upon our competitive edge." (Mr.Ito)



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