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# Nippon Lens Case Study

A journey from conventional processing to digital lens manufacturing.

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## About Nippon Lens

### Company size:

Medium, 50 Employees

### Location:

Kishiwada, Osaka, Japan

Nippon Lens was established in 1935 and was one of the first lens factories in Kishiwada, Osaka, Japan. Nippon Lens manufactures plastic and glass lenses, performing all processes, from polishing to coating in-house. Its products include single vision, progressive, multi-focal, polarized and photochromic lenses, and glass lens mold. The company runs 500 jobs a day, following rigorous quality control processes. Nippon Lens is part of the Optical Color Association and the Japan Society of Medical Optics and Equipment Manufacturers.



## Overview

Nippon Lens Industrial Company Limited was looking for a Lab Management System (LMS) to work with its newly acquired freeform equipment in 2019. The Japanese company researched Lab Management Systems in the market and discovered that Innovations met their requirements, due to its flexible modular functionality and a support team based in Asia. In February 2020, Nippon Lens purchased Innovations' Freeform Lens Module and IOT Lens Design Integration. Innovations went live in August 2020, following six months of remote training and installation.

### From Conventional to Freeform Lab

Manufacturing freeform lenses is more complex than conventional lens production. Consequently, transforming a traditional optical lab into a freeform lab certainly does not happen at the click of a button. However, it can be successfully managed and delivered with a committed team.

After learning all of the freeform processes from scratch, Mr. Ting Zhang shares what he has discovered on this journey: "Firstly, you must know everything about your company's operations, all your production numbers, your lens materials, your business partners, and your customers. Secondly, I believe that frequent communication, either remotely or, if possible, face to face, is key."



## Pain Points

Nippon Lens has been working with Ocuco since 2018, using Innovations on its edging capacity only. The company's acquisition of a freeform line from Satisloh posed a considerable challenge to its team: adapting to an entirely new production line, transitioning from edging only to digital lens manufacturing or freeform and upgrading their LMS as well as learning how to configure and use it to make the most out of the new machines. According to Mr. Ting Zhang, Supply Chain Operations Director at Nippon Lens, the lab was looking for a robust LMS, which would allow both simple and very complex calculations and be flexible enough to adapt to all the nuances of the Japanese market.

The transition from an edging lab to a digital lens manufacturing lab involves a series of alterations to ensure an optimal manufacturing process. "It is not a simple plug-and-play. Many setups are required when a lab goes from edging only to freeform, especially on the IT side. With freeform, several parameters and controls are added. For example, to briefly cite surfacing, we need to control the correct power, the field of vision within the lens and the right thickness to provide a lens according to a specific prescription. There are several variables involved, and it can get extremely complicated. That is why the LMS is vital: to manage all processes and the parameters," explains Bryan Haviland, Ocuco's Implementation Manager.

## Decision Process

Ocuco was already the LMS provider for Nippon Lens when the Japanese company acquired the freeform equipment. Even though they were happy with Innovations, the company researched the Japanese and the international markets to learn more about other lab management systems. Mr. Zhang explains that the company felt limited with both the national and the LMS options overseas.

After comparing Ocuco with other LMS providers, Nippon Lens concluded that Innovations was the best option in the market. "We have carried out a thorough comparative analysis before deciding which LMS we would purchase to manage our freeform line. Nippon Lens has chosen Ocuco firstly because it has a technical service center in Asia. Secondly, Innovations offers integrated functionality, not only for the production modules. In the future, should we want to expand the use of Innovations beyond manufacturing, we would use the same application instead of adding a new one," explains Mr. Zhang.

The support received during the decision stage was a significant factor for Nippon Lens choosing Innovations. Jason Wei, Tech Support Associate at Ocuco's Lab Division

based in Asia, was available to clarify any questions Nippon Lens had promptly.

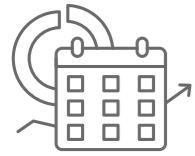
In addition to that, Mr. Zhang reveals that meeting Innovations specialists based in the USA, such as Bryan Haviland, Implementation Manager' and Greg Walach, Head of Technical Support Services for Indizen Optical Technologies IOT at Ocuco's Lab Division, contributed to his learning about Ocuco's LMS and ultimately, his final decision to work with Innovations.

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"After talking to them, I got to know more about Innovations. It is robust enough to accommodate all our needs and incorporates the customization we require. I never had any concern about the setups for Innovations. I knew there could be some challenges throughout the project, but I knew that I could trust Ocuco to solve any issue," recalls Mr. Zhang.

## Installation

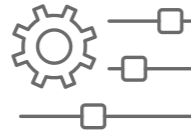
Ocuco's team completed the Innovations installation and configuration for Nippon Lens without disrupting ongoing production. Due to COVID-19, all processes assessments, install and “go-live day” were done remotely.



### Requirement Collection and Planning

In December 2019, a kick-off meeting with key stakeholders from Nippon Lens and Ocuco's Lab Division aligned expectations for the project. To overcome the travel restrictions imposed by the pandemic, Ocuco's product specialists would join Nippon Lens specialists on weekly or biweekly online meetings to access the needs and evaluate the project's progress.

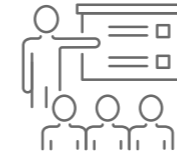
"The good thing is that even before the pandemic, Ocuco already had certain tools to allow remote working. We used TeamViewer and GoToMeeting a lot. Of course, if something urgent came up, we would call each other," highlights Mr. Zhang. Ocuco's project management tool tracked the implementation progress from both sides.



### Configuration and Build

Bryan Haviland, Implementation Manager, describes working with the Nippon Lens team: “it was easy because of their attention to detail and commitment to learning and meeting deadlines”. The Nippon Lens project involved some complex tasks such as clearing and resetting their lens data, installing freeform designs, setting up IOT designs, developing an integration to provide thickness at all points in the lens, among other details. Mr. Zhang notes that the time difference during this project phase was never an issue. Teams in Japan, China, Europe and the USA worked efficiently.

According to the Nippon Lens Supply Chain Operations Director, everything worked smoothly for the software development part. Although the COVID-19 pandemic added supply-chain complications, through constant communication, the Ocuco and Nippon Lens teams managed to keep the delivery on track despite the changing landscape.



### Training

Jason Wei, Tech Support Associate at Ocuco's Lab Division in Asia, led two or three training sessions per week with Mr. Zhang. This preparation would allow the Nippon Lens Supply Chain Operations Director to learn as much as possible about Innovations and to share the knowledge with his team. "At the time, I had limited knowledge about the optical industry. In training, all the technicians from Ocuco were very knowledgeable. They instructed me through TeamViewer, with clear and useful explanations," states Mr. Zhang.

Bryan Haviland highlights that the Ocuco Lab Division team is always empathetic with customers during training. "We take the time to educate and revise settings with the customers to ensure they are satisfied and that they genuinely know about the LMS they are going to use daily," details Ocuco's Lab Division Implementation Manager.



### Deployment

In August 2020, Nippon Lens began using Innovations to produce freeform lenses. After initially employing the Freeform Module, Mr. Zhang noticed that more parameters would need to be implemented to integrate all the customized information on a single ticket.

"We still have small issues, but it is a natural learning process. We learn something new, and we encounter some new problems. Currently, almost 99% of all issues found in the initial phase have been solved," analyzes Mr. Zhang. From August 2020 until February 2021, Nippon Lens worked with IOT, Satisloh and Ocuco to integrate all the systems and processes, allowing for a seamless production.



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# Results

Since Innovations went live in August 2020, Nippon Lens has benefited from:



## Production Increase

Nippon Lens production has increased daily since the introduction of IOT lens designs in February 2021. Currently, Nippon Lens' daily production splits between 80% freeform and 20% conventional, with an output of 400 freeform lens jobs a day. "Even with the present increase on freeform orders, we are still not using the machines to their full capacity. The plan is to increase that freeform number from 80% to 90% in the next three to six months," details Mr. Zhang.



## Automation and Efficiency Boost

Innovations automates production. Unlike the conventional lens design, freeform streamlined the Nippon Lens operation. According to Mr. Zhang, "once the data is calculated, almost everything is automatic. The lab technicians feel confident about the calculations and the correlation between the carried computation and the machines' actual results. Everybody feels efficient."



## Flexibility

Innovations is configured to meet Japan's complex process requirements of optical freeform lens production. "There are loads of features. I think the flexibility of the LMS is incredible. If I want to add something, I can find the functionality to support it in Innovations", reveals Nippon Lens Supply Chain Operations Director. Currently, all Innovations features and modules Nippon Lens is using are essential for operation, reports Mr. Zhang. The Japanese lab does not have the Workflow Monitor module yet but considers it a potential component for their next LMS addition.



## Excellence in Support

JIRA, Ocuco's support management tool, allows simple communication and monitoring of logged tickets. Support responds and resolves queries within 24 hours or less. JIRA also works as a channel for general questions to Innovations' specialists. "I am so grateful to have worked with Bryan, Jason, Greg, Russ and many other Ocuco professionals. With the strong technical mastery and commitment of the Ocuco team, we could overcome many challenges over this journey. I look forward to working on another project with the Ocuco team soon!" says Mr. Zhang.



## Quality Increase

Enabling Innovations' Freeform Module reduced flaws rates on their lenses dramatically. About 20% of the product would present some flaws when using only conventional lens manufacturing. With Innovations Freeform Module, the defect rate dropped 65%, representing only 7% of Nippon's production results.

According to Mr. Zhang, Innovations functionality results in 93% flawless product and saves raw material. In addition, only four lab technicians are required to operate the freeform production, as opposed to eight workers needed on the traditional operating lines.

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