

BeingManagement
Case Study Report Series

Achieving 97% Due Date Performance in mold design and production

Morioka Seiko Instruments Inc.

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About Morioka Seiko Instruments

Morioka Seiko Instruments Inc. is a watch manufacturing base for Seiko Instruments Inc. (SII) Group. They are widely known for their high-grade mechanical watches, with Shizuku-ishi Watch Studio providing the world's highest accuracy. They have the most advanced manufacturing lines for quartz watch movements and are the only the site in Japan that allows for fully-integrated production of high-grade watches.

Their watches are products which require micron level accuracy and are a complex collection of metallic parts and plastic parts (screws, pins and gears). The products are built at high speed and in large quantities on a manufacturing line.

The Mold Engineering department is responsible for manufacturing the injection molds and press molds used for production of the watches, and is responsible for repairing the molds. Continuous supply of high quality molds, delivered on time is required to keep the lines producing.



Press forming of precision metal parts



MACS: Movement Assembly Computer Controlled System

Challenge

In 2013, the company was looking for a production management method suitable for Mold Engineering development. Since each mold was one of a kind, it was difficult for the department to manage both molds and watch products at the same time. For over 10 years, they had been asked to produce the molds faster for the production lines, but it was hard to realize.

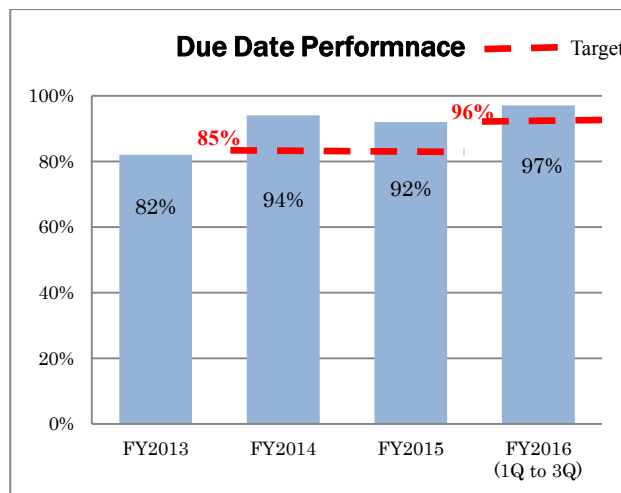
The following was the situation in the Mold Engineering department at the time:

1. They wanted to produce orders according to the plan, but there were many other business demands and emergencies, and the plan was often not realized.
2. When planning orders in such conditions, safety margins had to be incorporated in various areas, and lead times became longer.
3. Since lead times were long, the number of orders in process grew large.
4. As the number of orders in production grew, they had to juggle orders, resulting in the work load

increasing even more.

5. As a result, the throughput of the department decreased significantly.
6. Turmoil occurring in the upstream processes was amplified in the downstream processes.
7. This created the necessity of outsourcing and its associated costs. Therefore, the turmoil was compounding.

Mr. Sakumi, a manager in the Mold Engineering department, read the best-selling book, "THE GOAL", and had intuition that TOC (the Theory of Constraints) seemed to be applicable to his department. Therefore he contacted Being Co., Ltd.



Implementation Service

1. Investigation into mold engineering
2. Implementation of TOC
3. Installation and training for BeingManagement

Result

The figure below shows how annual due date performance has increased in the Mold Engineering department. After the introduction of BeingManagement in FY 2014, the rate exceeded the internal target rate each year, and has now reached 97%. In addition, production lead time had been shortened significantly.

Voice of Customer

Mr. Sakumi said “Molds are constantly being improved. Molding machine and press technology also progressing rapidly. This means each mold is unique. Moreover, design and production of the molds depends on people, and design change is routine. It is normal for things to not go as planned.

However, the business in our world changed with the awareness that mold design and production is a project. This made it clear what we should do. Now we can execute our vision. THE GOAL gave us the opportunity, and BeingManagement led us to our success.”



Mr. Sakumi (center) and Mold Engineering dept. members

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