Bridgestone Elastech Co., Ltd

Established: February 2, 1970
Head office address: 4560 Senhama, Kakegawa city, Shizuoka
Capital: 450,000,000 yen
Annual sales: 25,200,000,000 yen (2007 fiscal year)
Number of employees: 644 employees
Business areas: Designing, manufacturing and selling vibration-proofing products and hardware for automobile and other general industries
URL: http://www.bset.co.jp/index.html

The implementation of Asprova improved the efficiency and accuracy of production planning. The next goal is to perform production planning combined with the company's shipping plans.

Bridgestone Elastech Co., Ltd., since its establishment in 1970, has actively played the role of the top manufacturer specialized in vibration-proofing products and the main force company which sales figures amount next to that of Bridgestone tire company in whole Bridgestone group. It mainly manufactures and sells vibration-proofing products for automobile industry, and recently provides its high tech products to other industries, such as architect, OA machine, and railcars industry, as society's needs diversifies. Bridgestone Elastech decided to install Asprova in order to improve the efficiency of production planning. We received insight into the company's background, the reason for selecting Asprova, and the impact of installing Asprova from Mr. Hisao Akahori, who lead the project of installing Asprova, in Production Evolution section of Product technology Division, Mr. Kinunori Hayakawa and Mr. Mitsuo Sagisaka, who are engaged in managing Asprova, in Product Control section of Product Control Division.

The Asprova installation project aimed at the improvement of the site

The manufacturing processes of vibration-proof products include the fabrication process in which rubber is applied so that products are easily cast, the hardware fitting process in which hardware for rubber to be put to is made and adhesive is applied, the vulcanization process in which rubber and hardware are attached in the heated/pressurized casts, the wringer process in which the outer diameter of products are wringered, the coating process in which corrosion-resistant agent is applied, and the assembly process in which parts are assembled. After these processes, the products go to the checking process, wrapping process, and are finally shipped. Since there are many types of machines used and each part requires different working hours, many other varieties of processes in reality. Before installing Asprova, Bridgeston Elastech made production plans about three times a month or once in ten days. The factory sites had to have in-progress products because they needed to have some spare in case new sales orders came between when the old production plan is made and when the new plan is made. Mr. Hisao Akahori, in Production Evolution Section of the Production Technology Division, who was always concerned about this situation, attended a seminar on "Manufacturing renovation" in May 2005 and found the necessity of big improvement of field sites. Mr. Akahori says: "to advance the field site improvement we needed many things. As our research proceeded, we learned about production schedulers which make production plans to improve efficiency, and eventually found Asprova". The project of installing Asprova begun in February 2006.

Re-installing Asprova to only a few processes, and reflecting the experience of installing Asprova in China

At first, the project of installing Asprova was scheduled to end in three months. But the company launched the whole scale project of "survival to win project" and Asprova project was derailed. The survival to win project was to reform all the main operations including purchase and logistics in order to literally survive in the tough circumstances. Business consultants were invited from outside company and Mr. Akahori also joined the logistics related reform project. Under the whole company-scale project, we tried to cover all the processes with Asprova scheduler. Installing Asprova had been already considered very important to achieve the efficiency enhancement. The need of installing Asprova to improve efficiency had been verified for a long time. However, the whole company-scale project didn't proceed as planned because the coverage was too wide. Also, the person in charge of registering master of Asprova became seriously ill and was hospitalized. The structure reform was carried out at the same time and the project of installing Asprova was suspended. In such circumstances, Mr. Hisao Akahori went to a Bridgestone factory in China to give instructions and a lecture of production control. The factory in China produced the same type of vibration-proof products as factories in Japan. But the number of products was smaller so that the master registration was rather easy and installing Asprova in Chinese factory went smoothly. After the experience in China, the project of installing Asprova re-launched at the start of 2008 when the whole company scale "survival to win project" completed its first stage. This time Asprova coverage was decided to narrow down the vulcanization process.

■Clients' Voices

Bridgestone Elastech Co., Ltd.
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Mr. Hisao Akahori

At first we tried to install Asprova to cover all the processes and the project failed. But when we focused on a certain area, we succeeded in improving the efficiency and accuracy of the scheduling. In the future we think of expanding the use of Asprova to other areas as well, and expect reductions in inventories.

■SIer company in charge

Mr. Toshio Kanbe
Section Chief, Sales Division 1
Enterprises Solution Department 2
NEC Nexus Solutions Co. Ltd.,

The vibration-proof products of Bridgestone Elastech include many types and varieties of processes, and that requires a lot of master data. To realize the accurate and efficient scheduling, making use of Asprova was definitely needed. This time installation reached the target, and we will focus using Asprova to reduce inventories in the future.

■Points on which Asprova was highly praised

- The improvement of efficiency in making production plans
- Accuracy enhancement of production plans
- The reduction of in-progress inventories in the future

After its master re-setting being adjusted, Asprova begun full-scale operation

The installation process of Asprova was restarted when Mr. Mitsuyuki Akahori in Product Control section of Product Control division became the person in charge of this installment and started studying Asprova. Mr. Akahori said that he went to Asprova office to participate in a seminar designed especially for beginners and learned step by step. The company-wide project of installing Asprova failed as a result of aiming to making production plans which cover all processes. This time project, however, was decided to focus on the vulcanization process only. "Actually, we have almost three hundred and fifty target machines in the vulcanization process. We should focus on this vulcanization process to be automatically scheduled, and enhance its efficiency and accuracy first, then expand the use of Asprova to other processes. That was what we thought as a realistic idea." In the actual project of installing Asprova, Mr. Akahori had to spend three or four months going through all the registration process of master data, because the person who had been in charge before Mr. Akahori became ill and the project was severely tangled. Although the cut-over turned in May 2008, Asprova, since October 2008 when installed, has run full-scale operation, evaluating the parameters set up and enhancing the accuracy with repeated adjustment.

To reflect the new sales orders, the rate of revising plans increased from three times a month to once a day.

As an effect of installing Asprova, the improvement of scheduling efficiency and the enhancement of accuracy improved. Mr. Hayakawa in Product Control section of Product Control division says: "We used to make production schedule only three times a month and to spend forty eight hours for one scheduling. Now we can run our scheduler everyday and need only twelve hours." With this improvement, Bridgestone Elastechs are able to make production plans more than twenty times in a month. "The previous production plans which were made and updated only three times a month became unable to reflect newest sales plans. Even if new sales orders came in, the new order information was not reflected but saved until the next schedule planning time, resulting in making plans based on old sales order information. Currently, however, the accuracy of production plans improved because we can use daily newest information for plans", Mr. Akahori says. Nonetheless, the effect of the reduction in in-progress inventories has not yet become clear. The reasons include that it has been only one month since the start of Asprova full-scale operation and that external factors, such as production plans of automobile industry, and its ordering party, deeply affect Bridgestone Elastic1s production. Mr. Mitsuo Sagisaka in Product Control section of Product Control Division says, "With the old way of creating production plans we would have had even more inventories. With Asprova, however, we expect to see the effect in the near future."

Aiming at the reduction of inventories by expanding the use of Asprova to all other processes

The number of master in the vulcanization process, which became the target process to be covered by Asprova scheduling, is from 13000 to 14000. The company still checks the production plans made by Asprova, and reflect only the proportion that can be updated into masters. Mr. Hayakawa says, "we do not just keep using Asprova, but add some adjustment to our scheduling environment to make it even more efficient and user-friendly." Mr.Akahori says "we are planning to expand the use of Asprova to the finalizing process as well." For that, Mr. Akahori says, "we have examined the number of standard man-hours of all the processes after the vulcanization process, and will develop master information upon completing the checking. Hopefully, we will produce our products in the finalizing process by the scheduling plan made by Asprova in the second semester of 2009. If making production plans based on shipping plan calculated from sales order information is realized, more inventory reduction can be expected in the future. In reality, make-to-stock production is still required because same-day order placement and delivery are not yet possible. Mr. Akahori says, however, "the project of installing Asprova was launched because we expected a great impact on inventory reduction. Even greater impact is expected in the future when realizing production planning linked directly and in real-time with sales order information."

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