Mitsui Engineering & Ship Building Co Ltd

Company Name: Mitsui Ship Building Co., Ltd.
Head Office: Tokyo, 1-3-16 Nihonbashi Chuo-ku
Founded: July 31, 1937
Capital: 44 billion yen
Sales: 393 billion yen (2008)
Number of employees: 4,335 (March 31, 2008)
Business: Ship/sailing, power engines, machinery and equipment engines, logistics systems, social infrastructure
URL:http://www.mes.co.jp/index.html

Achieved “visualization” of short, medium and long term plan integration by implementing Asprova

For Mitsui Shipbuilding Group, as the name indicates, the main sector is shipping departments, but also includes industries such as railway construction, machinery, equipment – a much wider business scope than other heavy industries. Tamano machinery/systems plant is mainly using blast furnaces to produce wind turbines. Headed by BRICs, emerging countries brought increasing orders, then the subprime crisis caused reduction in orders – demand is influenced a lot by the world economic situation. In this case, to keep large equipment running effectively (short-term plan) and prevent missing opportunities (medium and long term plan), Mitsui decided to implement Asprova.

Regarding the implementation background and future plans, we interviewed Mr. Yomoto, Mr. Nakajima, and Mr. Shimogaki of the production planning department, Tamano Systems Division.

Through Asprova, not only successful short-term planning but also mid and long-term planning

Mitsui Ship Building mainly use blast furnaces to produce wind machines, and this large-scale equipment must not be stopped even for an hour. In order to keep equipment running, the production plan needed to be made by professional planners, and this was only possible for up to 1-2 months ahead. For 3 months ahead and later, the schedule was considered simply as a workload rather than a detailed plan. Often they could not tell whether an order could be met on time until the delivery date was quite close. Sometimes they had to arrange outsourcing or rely on the intuition of experienced planners regarding deadlines. To solve such problems and carry forward planning experience, they decided to systemize.

Expanding Asprova use from neighboring department (Diesel Manufacturing)

The plant also has a department producing diesel engines, where production lines are implementing Asprova. After confirming scheduling speed, accuracy, and usability, they believed Asprova could also be used successfully in the wind turbine production line. The production plan made by Asprova covers 2 years. There are about 5000 orders, 6-7 target processes, and upwards of 30,000 operations. They make a plan once a week, each time taking nearly 5 minutes, without any frustration. In addition, since the data is systemized, there is no chance of leaving a process out or having other human-related errors creep into the schedule, making it very dependable.

■Asprova users

Mitsui Shipbuilding Co., Ltd
Machinery / Systems plant
Planning department
(from left) Mr. Shimogaki,
Mr. Nakajima,
Mr. Yomoto

■Asprova partner

NTT DATA CCS
Business Solution department
Okayama System Center
Mr. Sugimoto

Utilizing IT tools to standardize human technology

Generally one main purpose of implementing IT software, including production scheduling software, is to achieve standardization and automation. To maintain high efficiencies large equipment must not be idle, but it' s not easy to keep thousands of jobs integrated and processing, while these machines keep on running, even by flexible hand-made scheduling. Automating the practice completely is unlikely even using competent IT tools, so from the start they were prepared to make a certain amount of manual adjustments to the schedule. Main requirements fulfilled by Asprova are preventing process omissions and showing warnings for situations where time constraints would be breached. By utilizing these functions, several months or even years of production plan could be made with accuracy. Then by subsequent manual adjustment, the expertise of veteran planners could also be made use of while keeping the standardization intact.

Other departments such as the Diesel Manufacturing department had taken the lead using Asprova, so some technical staff knew Asprova features and functions already. This meant that most of the implementation problems were solved by Mitsui staff themselves internally, under the support of Asprova partner NTT DATA CCS. Formal operation was started in just 3-4 months.

Achieved overall optimization through short･medium･long term planning

Mitsui uses Asprova to make plans for 2 years. Detailed planning is done for the nearest 3 months, to keep equipment running non-stop.

The 4 month to 1 year plan is mainly used to adjust delivery dates, where high accuracy is required, and is scheduled with finite capacity. Planning for 1 year and later is just to understand the upcoming workload, so it is scheduled with infinite capacity . Instead of making production plans using Excel for each period separately as before, now they make integrated 3 stage plans in short, medium and long terms with the same Asprova data, aiming for an optimal picture of the overall schedule.

Issues and future view

Each order has different specifications and needs to be designed separately. Mitsui will improve their master data settings by utilizing Asprova features such as switching processes automatically (parametric BOM) in the future, and standardize process information, minimize procedures and improve efficiency. Initially reduction of inventory was not a goal, but they are looking forward to improving cash flow by JIT material supply, improving project progress, and shortening lead times.
(Interview date: 2010/4/22)

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