MCP CASE STUDY – MACHINE ENGINEERING

Alstom Group:
Preactor delivers true responsiveness to Alstom Croatia's turbine blades.

Background:
Alstom Group is a global leader in the world of power generation, rail infrastructure and electrical grid sector. Alstom Power Service provides a complete range of power generation services, support and equipment for demanding customers all over the world. Power Service's extensive network of local facilities, experts and knowledge, stand ready to deliver the responsiveness and value that today's electric power markets demand.

They keep resources for the maintenance, update, and repair of every element of power operations. Alstom Croatia is a member of Alstom Group.

The Problem:
In 2007 the management of the Turbine Blades department at Alstom Croatia, manufacturing mainly as a service workshop with increasing rate of change, came to the conclusion that their ability to respond to the growing needs of their customers was being severely limited by the functionality of their existing planning and scheduling process. Their existing process was built around MS Project. They came to the unavoidable conclusion that they needed a system that was more reliable, smarter and much faster. The primary focus of the new system would be to support due dates negotiations with their customers, providing realistic options while understanding the full impact that emergency orders could have on orders that had already been scheduled.

The Solution:
After researching a number of potential solutions (including demonstrations of several planning tools), Alstom selected Preactor's planning and scheduling software because it has a proven worldwide reputation, it is incredibly flexible and it is very well priced. Another major factor in the decision was Preactor's worldwide business model of the local implementation support.
Alstom selected Lean Scheduling Europe who were able to demonstrate that they understood the critical issues. They were able to prove that they had the experience and the expertise needed to support a number of complex requirements that had already been identified by the Alstom IT department.

Company and product
Alstom Group is a global leader in the world of power generation, rail infrastructure and electrical grid sector.

Key challenges

- Limited functionality of existing planning and scheduling process
- Existing processes was built around MS Project
- Support of due dates negotiations with customers

Key benefits

- Transparency and visibility for all users with different functional areas, on the shop floor and management
- Ability to predict consequences of a change of any kind
- High-level on-time delivery performance

System architecture
ERP: Baan

A demonstration of Preactor and a pilot project were able to clearly show how easily Preactor was able to import and export data and handle the real world planning and scheduling requirement including numerous machines and secondary constraints. The new solution is built using two Preactor P300 FCS systems. One P300 takes care of the mid to long-term planning requirements (up to 3 years out) and the other P300 takes care of the day to day scheduling requirements.

Preactor creates a wealth of data that can be easily accessed. This data is available on demand through built-in schedule analysis and powerful reporting tools. With that critical information from Preactor is available on the shop floor and for other departments such as purchasing and customer service.

Alstom's IT department was able to use the Preactor import-export functionality to quickly and seamlessly move data between Preactor and the Baan ERP system. This greatly simplified the task of tightly synchronizing the two systems while simultaneously reducing overall implementation costs.

The renovated planning process starts with an enquiry addressed to sales department. The calculation is performed in Baan including the creation of virtual production orders. The next step is to send data to the long term planning configuration where a valid due date is determined. If this is accepted by the customer then a production order is created. Long term configuration supports conversion trace from tender to sales order and eventual due date changing. After production documentation is prepared orders are imported to the scheduling system which creates the work-to lists and exports data to the shop floor system and Preactor viewers. Production tracking information is automatically uploaded back into the scheduling system for the next scheduling cycle.

The Results:

The Turbine Blades Department Manager adds that:

'Preactor is SPOT (single point of truth) for manufacturing, all the information is unique, transparent and visible for all users in different functional areas, on the shop floor and for management. Preactor 300 and customization made, as well as swift information flow, improves our ability to predict consequences of a change of any kind. And changes are frequent in service make to order production as is ours. Preactor helps us to keep our high level on-time delivery performance. The benefits brought by the Preactor solution are significant, especially reduction in manpower required for planning analysis and reporting, which is now easy and almost in real time after the plan is released by our planner.'

Alstom Croatia's Business Applications manager noted that:

'With this project, planning and scheduling is consolidated and fully banded with other business processes. Before the process renovation production orders were never inherited from offering process. Preactor manages complex constraints based on data from the Baan RFQ Calculations, Sales and Production modules. Preactor automates most of the work while providing the planners with the ability to fine tune the schedule.' In addition he adds: 'From 2009 on, every logistic action is synchronized with the plan from the Preactor scheduling system. That includes routings, tooling decisions and CNC programming, material purchases, preparation and cutting, documentation and production execution. Preactor Viewers on the shop floor and in the logistics department allow multiple users to access the schedule. That enables and improves all our activities.'

During the implementation and in the first year of usage the Turbine Blades Department faced major changes. Many new products were introduced and a decision was made to add a number of new CNC machines. Within three years production has increased from 25,000 to 100,000 turbine blades per year while maintaining on-time deliveries at 95%. The management team at Alstom Croatia point out that although Preactor wasn't the only influencing factor, it certainly had a major impact.

Key Benefit

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Business Application Manager, Alstom

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