

MCP CASE STUDY – WIRE ROPES



Brunton Shaw: Preactor re-wires Brunton Shaw for success in the 21st century

With a product range of 40,000 different wire ropes across a wide range of applications, each requiring a precise manufacturing specification, Brunton Shaw's scheduling capacity can quickly reach breaking point. This is nothing new to Brunton Shaw since it has been involved in the manufacture of steel rope for over 100 years. What is new however, is the ever-decreasing lead-time for orders, and the increasing complexity and variety in the actual manufacturing process. Each type of rope comprises a vast potential combination of



components of different widths, materials and finishes, all needing to be put together according to a specific 'recipe', using certain machines in a specific order. When the traditional scheduling system of paper labels and planning boards became increasingly frayed, Brunton Shaw turned to Preactor International for help. Jean Potts is Production Control Manager at Brunton

Shaw, and has been with the company for the past 32 years. During this time she has seen a number of changes, but as she recalls, nothing like the changes of the past few years with the adoption of a computerised scheduling system.

"Prior to Preactor, everything was written out by hand. There was a master card with the exact manufacturing specification of each type of rope that was manually copied each time an order came in. Works orders were written on pieces of paper and then stuck on a big planning board in our department. This was supposed to be mirrored on a similar board in the actual manufacturing site but as this required manually updating, they soon fell out of order with each other."

The Challenges

Aside from the initial time issues this created there were other much more significant problems with this system, several of which were associated with the rope manufacturing process itself. In its simplest form the first stage of manufacture consists of winding the raw wire onto different size bobbins, if it has not been delivered on such in the first place. A combination of these individual wires is then woven or spun into strands, the number of wires being dependent on the finished article. As a 21 inch bobbin will obviously contain much more wire than a 6 inch bobbin, there is a considerable increase in time using the smaller bobbins due to

Company and product

Brunton Shaw manufacturer of high quality wire ropes for a wide range of applications.

Key challenges

- There was a considerable increase in time using the smaller bobbins due to changeover times.
- Fluctuations in workforce levels due to illness or holidays, delays in raw materials, totally unpredictable customer demand levels and rush jobs.
- Changes may have been required 2 or 3 times a day which weren't reflected in the planning.

Key Benefits

- Much more information available which enables levels of planning control throughout the entire manufacturing process.
- Accurate "work-to" lists, each job can be broken down to any level with actual progress compared to projected progress.

changeover times. Yet as a 21 inch bobbin will only fit on a limited number of machines, this causes major scheduling problems, which are compounded if a machine ever malfunctions mid-run. This further complicated by one of several coatings that may then need to be applied depending on the purpose the wire is to be used for. This makes balancing the right bobbin sizes with the correct lengths of finished product on the right machines is a perpetual challenge. The large number of variables exposed the major failings of the old paper system. Jean Potts again,

“When we used to use the ticket system, the time allocated per job never used to vary because we simply couldn’t keep up to date with the changes. In reality, changes may have been required 2 or 3 times a day which weren’t reflected in our planning so at best we were working to guesstimates.”

Other problem factors included fluctuations in workforce levels due to illness or holidays, delays in raw materials, totally unpredictable customer demand levels and rush jobs. Brunton Shaw had investigated the possibility of a computerised scheduling system as far back as 1995. However, the company was lacking in general IT awareness



that was a distinct hindrance. A product named Wallchart by Kingston Associates was assessed and found lacking. There was also a move among Brunton Shaw’s parent company to move all group companies over to an MRP system but this also did not have any suitable scheduling. Preactor International was then called in to do a demonstration that resulted in an investigation of several other competitors. Jean comments on the reasons that Brunton Shaw decided to go with Preactor.

“The 2 key things which stood out in the Preactor system were the quality and the usability. For me, the interactive Gantt chart was the best aspect – at last I could move a job around the production area and see immediately the impact on the entire manufacturing process.”

The Project

While the decision to go with Preactor was straightforward, customising Preactor to handle the incredibly complex world of rope

manufacture was not. RMS, one of Preactor’s Master Re-sellers, handled the implementation. Don Dyas explains the hurdles that had to be overcome.

“Preactor has been designed to deal with scheduling problems that are often too complicated for people to control in the time frames that business calls for. One of the peculiarities at Brunton Shaw was the requirement to establish the precise formula for each possible rope construction. Sometimes the actual working formula was not precise enough to allow Preactor to deliver the maximum benefits so we had to rework some of these. This resulted in a lot of involved maths with some very long formulae indeed!”

The Preactor solution is also unusual in that it is not linked to an ERP or MRP system. The only external software that it works in conjunction with is an in-house database that contains a number of specific product codes and construction details. Mike Novels, CEO of Preactor commented on the application.

“This is a good example of how complex scheduling can be. Companies want to be able to incorporate their well known, tried and tested, best practises to maximise production and automate the ‘mathematics’, while retaining the ability to try alternatives. The ability to drag and drop operations around while process times are calculated ‘on the fly’ is a key strength of the Preactor advanced scheduling solution and gives the user an immediate visual feedback on the implications for future production. RMS’s work that customised Preactor for this very specialised scheduling solution is a credit to their staff.”

And Preactor has delivered considerable benefits to Brunton Shaw’s planning capabilities. Most notably, there is now much more information available, hence Jean’s comment,

“Preactor’s given me much more work to do.”

This information now enables levels of planning control throughout the entire manufacturing process that simply didn’t exist before hand. In addition to accurate “work-to” lists, each job can be broken down to any level with actual progress compared to projected progress. The interactive Gantt chart with its real-time drag and drop capability allows any number of scenarios to be investigated for sudden changes in the schedule. As Jean says, “you can actually see the difference!” This difference also translates into greatly enhanced customer service by ensuring customer orders are delivered consistently on time. It’s no wonder that while Jean’s workload may have increased, her closing thoughts on Preactor are:

“Its revolutionised us, and brought us into the 21st century.”

Key Benefit

The interactive Gantt chart with its real-time drag and drop capability allows any number of scenarios to be investigated for sudden changes in the schedule)

Key Benefit

Preactor greatly enhanced customer service by ensuring customer orders are delivered consistently on time

“Preactor has been designed to deal with scheduling problems that are often too complicated for people to control in the time frames that business calls for.”

Don Dyas, Brunton Shaw

Daniel Walkiewicz
daniel.walkiewicz@mc-partners.at
 +43 (664) 885 20 982

Canovagasse 7/14
 1010 Wien
 Austria