

Highland Spring: a clear case for the benefits of Preactor APS



Highland Spring is the leading UK produced brand and number one spring water. It is the number two overall brand in the bottled water sector in Britain; number one sparkling water brand and the leading kids' bottled water. Working on a 24x7 basis, at maximum output this equates to up to 90,000 bottles per hour which in 2006 meant that the company bottled around 240 million litres of water.

Every drop of Highland Spring falls on protected land, and was the first bottled water in the UK to have its land certified organic by the soil association. Investment in state of the art production technology and a commitment to the environment ensures that Highland Spring is delivered to the consumer as pure as it can possibly be. When it comes to ensuring an uninterrupted flow of the right product for the right customer, Highland Spring relies on Preactor International.

In order to retain its enviable reputation, Highland Spring has to ensure that the water it collects from a number of springs in the Ochil Hills is of a consistent quality. Yet while the product remains untouched, it can be delivered in a bewildering number of possible configurations. There can be 65 different case configurations which in turn are dependent on the bottle size, shape, colour, and material. To complicate things further, different markets have different labelling requirements which need to be factored in. Promotional campaigns requiring further customisation also have to be taken into consideration.

The actual processes involved from start to finish of the product are in fact relatively simple. The majority of bottles are made from plastic on-site at the company's bottle manufacturing facility which has 4 dedicated production lines. Glass bottles are sourced externally from a dwindling number of suppliers due to consolidation in the glass industry. These are then supplied to the filling/bottling lines which are then labelled and packed accordingly before undergoing a 3 day quarantine process after which they are sent to storage ready for dispatch.

There are however a number of key business challenges involved as Stock Supply Manager Kenny Tannock explains. "Demand for our product can be highly volatile depending on weather and promotional activity. For example, if we have a run of hot weather, demand can spike by 50-60% with little warning. Because we have a 3 day quarantine process, we can't simply produce more water according to demand so we have to keep buffer stocks." This is compounded by the fact that larger customers expect orders to be delivered within 24-48 hours of placing an order. Daniel Muir is Customer Supply and Logistics Manager and explains the problems this causes.

"Big fluctuations in demand cause more than just production difficulties. They also have a big impact on our manufacturing resource at very short notice which can mean using costly agency personnel in addition to our full time employees. They impact on

our material suppliers, and they put immense pressure on our warehousing facilities and distribution partners.”



While drawing water from a number of springs, this still requires careful planning to ensure that unnecessary loading isn't placed on any individual spring which is again sensitive to customer demand. This is inevitably linked to basic storage constraints of the water prior to use and the finished products afterwards. Dealing with the scale and throughput of production that Highland Spring does every day, there is simply not enough space to keep endless supplies of finished product so production needs to be kept running as smoothly as possible. Short term promotions and short production runs with different labelling requirements also need careful consideration, as does batch optimisation of bottle size to minimise time consuming and costly changeovers and setup times.

Prior to investing in Preactor's Advanced Planning and Scheduling (APS) production control software, Highland Spring relied on a combination of complex Excel spreadsheets and manually intensive reports extracted from the company's MAX ERP system. Tannock recalls his typical days' planning activities. "Every morning we'd have a meeting to manually update where production was. We'd then amend everything in the system, fine tune and then update the Master Production Schedule (MPS) held in MAX. We would then have to update the works orders accordingly after which we'd generate a series of reports that we'd print out and manually amend during the day as and when any changes occurred - which would then form the basis of what we'd do the next morning." As Muir remarks, "Production planning used to be a process of continual fire fighting, with Kenny's time being almost completely used just trying to keep everything up to date with little time left to do any longer term or more refined planning or other value-added activity."

Tannock agrees saying that visibility of 'what was actually happening and where' was practically non-existent with planning being by definition entirely reactive to changes in demand or production difficulties. "Because of this it was difficult to establish a real awareness about the impact of any one planning decision on the rest of the plant. We couldn't see the effects of what we were doing until they were actually occurring or had occurred." Add to this version control issues to do with multiple spreadsheets and an inability to have a reliable planning horizon further than a rolling 10 day basis and the problems Highland Spring faced become more than apparent.

It became increasingly obvious that compared to the benefits already being delivered by the company's MAX ERP system, more ought to be able to be done concerning the company's production planning and scheduling capabilities. Organisational changes accelerated this thinking and in 2003 Tannock began looking at a range of systems that would integrate tightly with MAX. In addition any solution would need to have a clear, intuitive planning board, provide company wide visibility whilst also representing strong value for money.

Several companies were quickly identified including Preactor, Agilisys (now Infor SCM) and Simul8, though as Tannock comments, the choice was not difficult. "We soon discovered Preactor was widely used in our industry with both the product and the company having a good reputation." After approaching Preactor for further information, Highland Spring was directed to Preactor Solution Provider RMS Ltd based in Mexborough, South Yorks. Following this a series of site reference visits was organised within the food and drink sector, including Diageo where Tannock was able to see at first hand just how versatile Preactor's production planning and scheduling software really is. "While the feedback was consistently the same in that Preactor was very good, what impressed us the most was the sheer variety of ways that food and drink manufacturers were using the product. This powerfully convinced us of the solutions' flexibility which, when coupled with the support offered by RMS and the experience within Preactor, clearly proved to us that Preactor was a solution we knew we would be able to trust."

Implementation began in January 2004 with Tannock and Muir taking charge of the project with support from RMS. While RMS did all the complex algorithm generation concerning planning and workflow, it was left to Tannock and Muir to begin the process of documenting much of the additional information which was currently held in various spreadsheets or was knowledge that Tannock had acquired during his time in the role. This included essential items such as changeover times, water constraints, product groups, and even localised variances in production line speeds in certain conditions. Tannock again, "Even when we had identified what our key requirements were in terms of how Preactor needed to work, we then had to prioritise these and adapt them if they clashed." An example of this was the need to produce all export products in sync with their UK counterparts while still optimising batches. This necessitated developing a whole series of rules that would allow this to happen, without disrupting wider production concerns.

Highland Spring finally went live with Preactor in April 2005 but this extended implementation timescale was largely due to other projects in progress at the same time within the company and conflicting priorities. Highland Spring knew that when it went live that some ongoing refining of the system would be required as more production data became available. The first noticeable benefit was that it immediately confirmed that with Preactor, there would be no need for an additional production planner to assist Tannock. This was because of the substantial time savings delivered from the outset. Tannock again, "I went from spending the majority of my day simply trying to keep up with generating the plan to being able to have viewed, amended and actioned the plan within an hour. I could then review this at 3pm to ensure that everything was in place for the next shift." In real terms this has saved a minimum of half a day, every day and whereas MRP used to be run twice a week, it can now be run every day with a full Preactor update taking a matter of minutes.

Not only did Preactor save time, it also provided the much needed visibility required by Highland Spring. As Muir says, “Not only did we now have the means to easily view what was happening at any point in the business and across the entire plan, the information itself was much more accurate. This meant that the production people saw benefits right away because they now had planning information they knew they could trust.” A consequence of this has been the ability to trim off areas of stock and buffer excess which the company had previously relied on in order to avoid not being able to make a delivery. A further consequence was that the planning horizon went from a rolling 10 days to 4 weeks and beyond. This again benefited the manufacturing teams because they could see what orders were scheduled for the coming days/shifts which enabled them to feedback further fine tuning information into the planning process.

The increased accuracy of planning also directly contributed to substantial cost saving as a result of substantially reduced agency staff levels. Whereas previously agency staff were routinely required at short notice due to lack of visibility of short term spikes in demand, now with Preactor, these can be much more effectively planned and catered for. “Such is the visibility that we now have the option of redistributing our existing personnel more effectively throughout the business confident we are not storing up problems for ourselves further downstream. Now when we do need agency staff, we know it is because we really do need them.”

Taking all things into account, Highland Spring believes it achieved an ROI (Return on Investment) in under a year. For Tannock, it has freed up the majority of his time which can now be put back into the business in terms of developing long term strategic planning refinements which will only serve to increase the company’s efficiency. The last word belongs to Muir who sums up the value of Preactor as follows. “It has markedly improved the quality of our planning and allowed much better use of our resources.”