

Preformtools finds Preactor to be the perfect tool to optimise human skills and machine resources



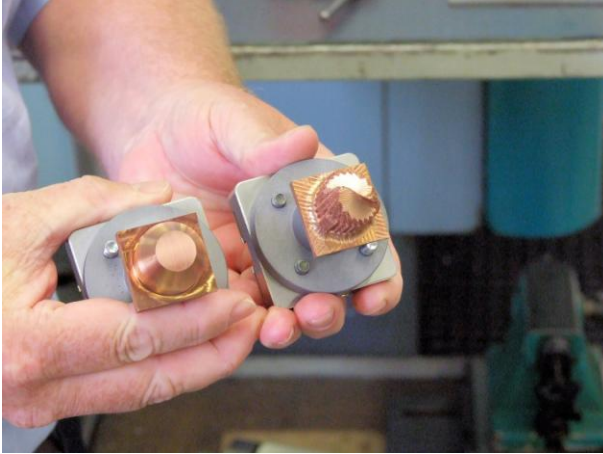
Established in 1975 following the sell off of the Plessey's Tool Room, Preformtools is now widely recognised as a leading solutions provider for companies requiring extremely high quality tools and components in the medical, high pressure fuel and hydraulics sectors. Working down to single micron tolerances, Preformtools is used at all levels of subcontracting work by its customers yet can also provide a fully managed solution including research and development.

Success depends on having the right combination of machine resource and human resource available at the same time which is why Preformtools invested in the award winning Preactor planning and scheduling solution.

While technically a low volume engineering company, being 100% Make to Order means that Preformtools has to deal with anything from single process jobs, 'one-off' design and manufacture projects, as well as batches in excess of 15,000 which may form part of an ongoing order spread over several years. In terms of scale, it may be dealing with product details measurable in tenths of millimetres all the way to single billets half a metre by quarter of a metre. To achieve this, the company has a wide range of specialist machine resources that facilitate up to eight key processes and which require an equally wide ranging degree of skill levels in terms of setup and operation. Furthermore different customers demand different testing regimes from low level batch testing through to full process measurement auditing and final certification.

Accurate, co-ordinated and visible production planning and scheduling is therefore essential to the company, as Production Controller Alan Roden explains. "While the theory of having the right product at the right resource with the right operator is relatively straight forward, achieving this means dealing with a huge amount of highly variable factors, at every stage of the process, beginning with the customer!" He continues, "We may quote a six to eight week lead time at the point of first discussion with a customer yet they may take anything up to four weeks to come back and confirm an order while still expecting the original delivery date quoted!"

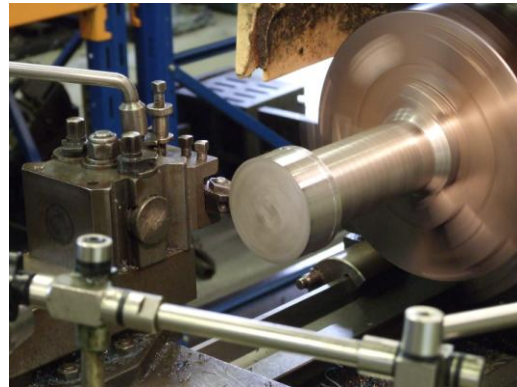




Even leaving aside times that this happens, there are plenty of planning and scheduling challenges that then must be overcome to ensure the customer gets the exacting quality they demand, and when they need it. An innate challenge lies in the fact that many of the jobs Preformtools undertakes are unique, even if variations on similar jobs and as Roden notes, “Planning can’t anticipate problems when you’re dealing with unknowns.”

”Dealing with a range of exotic materials also creates difficulties as the company has to be able to order sufficient quantity of the appropriate material in the required time frame and this may not all arrive in one batch. In terms of machine resources, the specialist nature of the processes Preformtools can carry out can often result in setup times in excess of a day for an operation that may only last ten minutes. Optimisation is therefore highly desirable where possible with some operations such as freeze fitting with liquid nitrogen actually necessitating a certain batch quantity in order to make them economically viable.

According to Roden one of the greatest challenges lies in matching the required level of skill with the process and machine resource. “Take for example the set up of our CNC Grinder which is an extremely skilled operation. While we look to overlap in areas of training and experience, we only have a very small number of people skilled enough for this and such skills in the industry are like gold dust.



Other machine resources require different skill levels depending on the nature of the work being done and often a resource requires one skill level to set up and a different one to operate.” A corollary of this reliance on highly technical human skill levels is that there is a significant variation of time that any set up may take for reasons outside of any individual’s control. As Roden says, “It’s hard to plan time when the task is so dependent on so many factors.”

This therefore makes it essential to know exactly what job is where on the shopfloor and more importantly, how far through any particular process it may be. Being able to do so enables the company to give quick and accurate information to the customer on the progress of an order as well as to react effectively and accurately to any changes in the outworking of the production plan.

Prior to investing in Preactor, the company had relied on a manufacturing IT solution called Paragon (Job Shop) but this continually failed to deliver the required levels of visibility and control. Roden recalls the situation he walked into when he joined the company in June 2006. “Paragon simply could not give us the information needed to generate an accurate schedule – it was immediately obvious to me the system was primarily designed to give some MRP functionality with any planning being an afterthought.” As an example he cites the fact that while able to plan machine resources, there was no capacity to deal with the availability of the appropriately skilled personnel. It certainly couldn’t cope with the routine scenario whereby one person may actually be working on more than one resource and job at the same time.



The situation was so unsatisfactory that Roden began moving his planning onto spreadsheets which actually offered a greater degree of control and flexibility than the system! For four months he looked to find a solution with Paragon but without success. Roden already had experience from a former company of Preactor and was so confident this would solve Preformtools’ challenges he had actually mentioned the benefits of it during his interview process. The positive reputation of Preactor within the industry had also reached Steve Matheron, the company’s Managing Director, so a decision was taken in 2007 to actively investigate how Preactor could help. After attending a Preactor workshop Roden was put in touch with Preactor Reseller Kudos Solutions which worked with Preformtools on the implementation commencing late 2007.

The first stage of the implementation involved Kudos spending time with Preformtools to fully understand the complexity of the company’s planning and scheduling requirements. Given the inherent problems with Paragon, it was decided that a spreadsheet and not Paragon was the best way to actively provide Preactor with the information required. Kudos also developed the all important skills matrix which essentially mapped each process in terms of skill requirements for both setup and operation. This would also form the basis for all future processes that may be required so it was essential to get this right.

After a brief period of parallel running using Preactor and the previous standalone spreadsheet system, Preformtools went fully live with Preactor in January 2008. Though as Roden recalls, it took approximately 6 months for people in the company outside of himself to begin seeing the benefits of the system. “As I used Preactor every day I immediately knew the difference it was making but the reality was that people were so cynical due to the inefficiency of the old system, they would blame Preactor for anything

that went wrong – even when it was abundantly clear it had nothing to do with Preactor.” He continues, “However over this time, Preactor consistently kept delivering reliable and accurate plans which made it possible to identify the true nature of where many of our problems were actually coming from.” Part of the problem in perception also came from people having to adapt to a live and changing schedule where jobs may have changed overnight. This has been largely alleviated by providing the shop floor supervisor with a rolling two day plan which allows him to provide continual updates to the shop floor when changes occur.

While acknowledging the system is still being fine tuned, Roden is pleased with the fact that the company is now very much relying on Preactor to deliver the visibility and control required. “Preactor has given us far greater confidence when talking with our customers to give accurate and realistic delivery dates as well as the means to keep to these.” He continues, “It has also given us the ability to react quickly to when changes occur and to see the impact these have on the other jobs currently on the shop floor as well as those in the plan. With this information in mind, we can then proactively go back and discuss options with our customers, all of which significantly adds to our customer service.”

Preactor is also providing much improved visibility about the actual state of production on any job which allows for important fine tuning when it comes to maximising the company’s human resources. Instead of a highly skilled operative waiting unnecessarily for a process to be completed in order for them to action the next task which requires their skill level, they can be used on a different process during this time. This visibility also ensures that long lead time jobs don’t slip through the net in favour of more urgent, short lead time ones.

Preactor is also delivering substantial time savings as Roden explains. “In the old system, there were some tasks that might literally take me an entire day physically to schedule given the complexity of processes involved; now with Preactor the same task takes fifteen minutes.” This means that much more of Roden’s time can be proactively put into fine tuning the plan and investigating any wider planning areas of difficulty within the company. And when things don’t go to plan, Preactor is used as a management tool to quickly investigate “what if” scenarios where the impact of any one decision can be seen against all orders. “We know which customers and which orders will be more accommodating to potentially having a minor delay and with Preactor we can move the plan around until we get the result both we and our customers desire.”

Looking to the future, Preformtools has already approved an upgrade to a Preactor P400 APS when possible in addition to a real time plant floor viewer which would provide instant, up to date planning information direct to where it’s needed most, on the shopfloor. The last word however belongs to Roden. “We’ve come a long way from where we spent 90% of our time fire fighting to where we now spend 90% of our time on fire prevention. Preactor gives the full visibility of potential problems as well as the solution to these problems.”