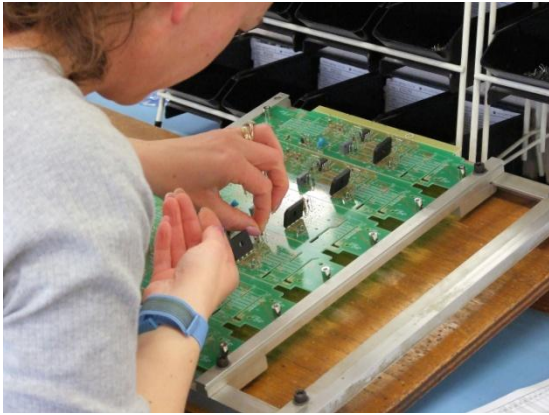


Mode Lighting uses Preactor to put its Competitors in its Shadow



Mode Lighting, part of the TCL group, specialises in the design and manufacture of electronic control systems for the lighting industry. Products include residential and commercial dimming systems, electronic transformers, cold cathode converters, LED lighting solutions and DMX controllers. The £8.5m turnover company has grown from a two man partnership in 1970 to a 120 strong team with offices and manufacturing facilities in the UK and associated companies in the Far East.

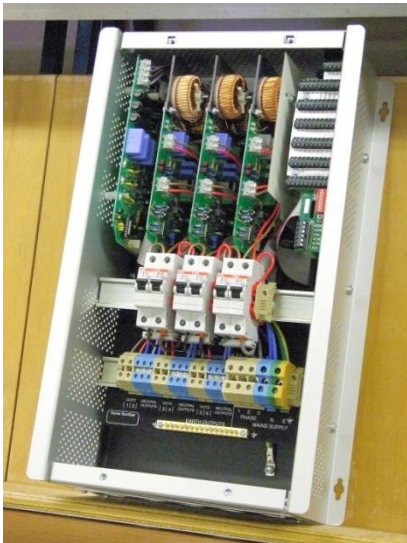
Mode also offers a design and manufacturing service for a select group of customers. With an 80/20 split between the manufacture of Mode product and subcontract product, the company prides itself on its quality, service and design capabilities. When it became clear that its existing planning and scheduling capabilities kept the company in the dark, it turned to Preactor to provide its much needed visibility.

Part of Mode Lighting's success rests on its ability to manufacture high mix, low volume products in the UK whilst managing the high volume Far East supply chain. It has a product range including variants of over 400, most of which is available ex-stock on a next day basis. Custom Mode products or subcontract products take up to 3 weeks and batch quantities can vary between 20 and 2000. Orders are managed by the Sales Department; if the items are stocked they are handled and despatched directly from the warehouse. Orders for the manufacture of product are passed to the planning department on a daily basis where they are entered onto the company's Fourth Shift Enterprise Resource Planning (ERP) system, which determines which components, if any, need to be purchased. When all source components are available, a pick-list is generated and the order is then passed to the stores department which fulfils the pick-list and sends it for final preparation prior to production.

Production may start in one of many locations depending on the product and technology used. It might start on the Wave solder line, the Surface Mount line, the Chassis Assembly line or any one of a number of product lines, before being routed to its next operation and subsequently inspection, test and packing. All of which sounds relatively simple although as General Manager Ian Hodgson explains, the reality is anything but! "Whereas many manufacturers would claim that their greatest asset is their people, we believe this in a very literal way." He continues, "Our success relies very much on the dedication, accuracy and skill of our people due to the labour intensive nature of much of our production. Our high product mix and range of batch quantities means investment in automation has to be selectively targeted. Any machine resource is very much an aid to our people not the other way around. Successful planning means planning manufacturing to be efficient, but with realistic targets".



This again might sound relatively simple but different products require different skill sets at different stages and Mode Lighting's personnel have a diverse multiplicity of skillsets. This allows the company to be highly flexible in its use of human resource but also presents a key planning challenge, especially when taking the company's flexible working patterns into consideration. Hodgson again, "We have many long serving people in the company and people's work arrangements change. Some may only need to work mornings, others afternoons while others may only be able to work 3 days a week. We have younger workers who need time at college – all of which affects the complexity of the production plan. Prior to Preactor this type of working arrangement was a problem, now we find it makes no difference to our plan and delivers benefits."



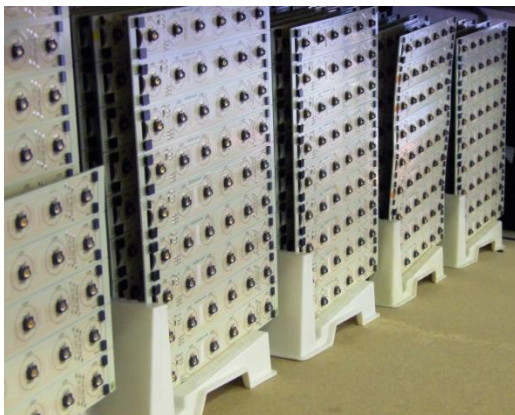
In addition to this, there are a large number of potential permutations involved in a wide range of products. Depending on the specific customer requirements it might be more appropriate to source components in differing degrees of assembly which has a direct impact on product routing information. As the majority of this information historically tended to be primarily located in the brain of Planning Manager Craig Hastings, this put a huge amount of pressure on Craig and the planning team. Given that Hastings relied exclusively on a series of manually completed Excel Spreadsheets to generate the company's monthly production plan, it is not a surprise that much of this information Hastings describes as "educated guesswork."

Consequently the whole company suffered from what Hastings describes as a complete lack of visibility about what was happening, when, and where. "Sales had to fight hard to get answers to questions, production didn't know anything other than what they were working on, and planning had an approximation which grew increasingly inaccurate as the month progressed. If anyone wanted a definite answer, it involved lots of phone calls, lots of heated conversations and literally lots of running around." The general distrust in the plan had the knock-on effect of planning often being subject to the age-old rule of 'He who shouts loudest'. As Hastings continues, "this didn't take into account that the one shouting loudest didn't recognise or see the impact that this would have on existing orders." And as Hodgson adds, "the reality is no-one actually knew the impact of the changes to the plan and decisions could be made that were less than optimal."

This lack of visibility had a direct bearing on manufacturing's ability to keep to its customer delivery dates and higher than necessary stocks were used to buffer poor performance. Hodgson again, "Larger batches of product with the inevitable longer lead-times were being used, as in theory they were easier to control. We might have a batch open for 3 months which would keep getting bumped in terms of priority which meant there was a lot of Work in Progress around the factory. In addition to the cost implications, it wasn't a very flexible way of working." While noting that the means didn't even exist to monitor 'On Time and In Full' delivery statistics, Hastings guesses it was as low as 50%.



Because the production plan was widely known to be inaccurate, this caused tensions between different departments in the company. Hastings honestly admits to having arguments with the sales department on a daily basis which despite all efforts to the contrary, inevitably spilled over into production meetings. When requests were made of the purchasing department, the purchasing department would often either amend these as they saw fit or point out to the planning department that they already had those parts and have not used them. Despite long meetings each week with the Charge Hands to keep on top of the planning difficulties, it was increasingly clear that Mode Lighting needed to completely rethink its planning and scheduling approach.



The company had already begun looking at computerised planning and scheduling systems, but the experience had been less than positive as Hodgson notes. "Mode had met with several companies who said they could do what was needed. Work had been done to look at various ERP solutions, but an ERP solution could cost £80K or more and might not provide the graphic planning representation wanted by planning. It would require a major change to some, if not all the ways of working in the business and implementation time

would be lengthy." Hastings added "That was too much so we kept on trying to make do with what we had." He continues, "What we needed was some real momentum to get a decision made" and this arrived with Ian Hodgson in January 2008 who was tasked with making the plant work as it should, which in turn meant getting on top of the planning and scheduling difficulties.

Mode Lighting had already been approached by Preactor reseller Adrian Birt of Planning Board but it took Hodgson's arrival to arrange for a demonstration of the Preactor system. Mode also arranged for a demo from Orchestra and sent both companies away with a limited amount of live system data with a view to seeing how each company handled the real world challenges Mode faced. Hodgson describes what happened then. "Adrian was back in a matter of days with a working proof of concept and this combined with Preactor's large

number of reference sites convinced us that Preactor was the way ahead. The system seemed ready to go and was easily configurable for our type of manufacturing environment.”

Following a decision to invest in Preactor in February 2008, Hastings spent a month working with the planning team distilling all his unique planning and routing information into a comprehensive spreadsheet. Every stage was carefully checked with often quite varying results emerging between perceived process times and actual process times.

Hastings again, “Much of our potentiality to optimise our human resources rests on the accuracy of the data we use concerning how long every action takes. Because we schedule by human resource, this meant accurately measuring how long each person takes on every task and basing routing times from this.”

A key aspect here was programming in the fifteen different calendar permutations that covered every worker in the company and adding this to the other planning information. Mode worked closely with Planning Board to develop a number of custom areas of functionality within its Preactor P200 system, most notably a measure of Staff Utilisation and On Time Delivery through each area. In terms of information flow, Sales Orders would now come across from the Sales department and be entered both into Preactor and Fourth Shift during the trial run period which began in May with the system successfully going live in July 08.

When asked how the new system worked in comparison to the old spreadsheet based method Hastings simply replies, “Beautiful.” He goes on to elaborate, “Right from the word go, Sales could see when product was planned to go to stock. It might have taken them several months to believe what the system was telling them but since they have been working with it they are getting product when they want it. The system quickly highlights when we can’t make an order when Sales would like it. We can re-plan or renegotiate new dates with Sales. We can bump lesser priority orders and quickly see the effects on the plan.”

Hodgson comments that this had a profound transformational effect on the company. “It has brought stability and realism to our planning. Previously, Sales had by and large driven the Planning Department on a priority basis. In some case this lead to inefficient use of staff and high levels of WIP. Now planning can add real value by determining what gets made when and importantly in the most efficient manner. Now when a product is wanted the planner can say with 100% certainty if it is achievable, understand the impact and prove it.”

The same impact was felt in the relations with the Purchasing Department. Stabilising the demand on the factory has lead to a stabilising of demand on the purchasing team. In fact, Hodgson is adamant that Preactor has had an integrating and stabilising effect on the company as a whole. “Because each area now has access to accurate, up to the minute data, there is much more appreciation of what any other areas in the company are doing. The impact of a decision can be immediately seen and there is much greater communication within the company as a result.” He added “in these difficult times of varying demand it is hard to imagine how we could have managed as well as we have without Preactor. It would have been easy to have made a wrong decision.”

The new found visibility has also helped increase staff utilisation levels from a guestimate of 60% to now over 82% which in turn as meant that the company has been able to cope with increases and decreases in demand. The company's flexibility has also been assisted by being able to handle much smaller batch sizes which in turn have helped reduce stock levels and WIP. The new found confidence in its planning capabilities has helped the manufacturing to take back in-house areas of work that previously it had no alternative but to outsource. Hastings says "manufacturing as a whole has regained a real sense of credibility and this has been recognised by the company as a whole."

Of course the ultimate beneficiary of this has been the customer. Hodgson is rightfully proud that On Time and In Full delivery dates are now 85% and plans are in place to drive this further. And there's more to come with Hodgson describing the relatively recent implementation as just, "an excellent start." The company's in-house IT department has recently completed an automated link between Preactor and Fourth Shift which will further improve planning efficiencies and Mode Lighting plans to extend the realm of Preactor to include its fabrication operations. It is also considering upgrading to a more powerful Preactor system to take into consideration secondary production constraints and stock forecasting.

Hastings repeats his earlier comment of 'beautiful' when summing up the impact of Preactor on the planning department and the entire company. "Preactor has given us visibility and helped us gain trust and credibility." With a similar appreciation, Hodgson concludes by saying "Preactor has enabled the business to be more integrated and we can confidently make promises and meet them. We pride ourselves on our ability to keep our promises."