Engineer to Order and Remote Working - Case Study

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Our client is a world-leading manufacturer and supplier of solutions in industrial process instrumentation. Specialising in industrial process measurement. They possess an enormous amount of application knowledge in various industries (chemical, marine, power generation, metal, mining, and more) that is integrated into their products, solutions and services. They provide a 360-degree service from the first consultancy to the commissioning, this allows for smooth and continuous operation in the field.

Following a significant increase in sales, there was increased pressure on Operations to deliver on customer promises. Operations were struggling to meet the demand in this Engineer-To-Order environment. The lead time of the engineering department was increasing and putting pressure on operations to deliver in shorter, and potentially, unachievable lead times.

Their on-time delivery of projects was 68%, far below their ambitious target of 95%. Internal lead-times were extending with numerous delays along the way which resulted in production failing to hit due dates. Delays were occurring at various points, but the principal hold up was the engineers detailing the modifications required. Design was consistently held up by interruptions from clients, purchasing, admin, quality check and the factory which resulted in design resources constantly having to switch tasks. Handovers missed information meaning valuable time was lost chasing it. Project Engineers were working on too many projects at once and priorities were always changing; departments were not being synchronised. The organisation were looking to not only maintain their market position but to further grow. To do this improving their deteriorating Due Date Performance was vital. Previously they had added more capacity, but despite this, they still hadn't got to where they wanted to be. They realised they needed to address the way they were working as well as the number of resources they had.

Significant change was required if they wanted to achieve their desired objectives. Goldratt UK agreed to partner to address the immediate problems and embed a system which promoted a new 'focus and finish' mindset. The ability to 'focus and finish' allows for the faster delivery of projects by limiting the number of tasks resources are working on and reducing interruptions. Adopting this approach will skyrocket output whilst crashing lead-times. The scope of the work included the following:

- Managing the release of projects to the project engineers.
- A significant reduction in multi-tasking especially protecting the project engineers (Constraint resource) from interruptions.
- Identification of full-kit points and managing them.
- Creation of a clear, single priority system.
- Visual management system (onsite and remote)
- Increasing synchronisation with customers and across key departments.

A full kit of information from customers to allow Project Engineers to complete their designs had historically been difficult to come by. A request form was designed to ensure that all the necessary information was obtained from the customer at the outset of the project. The team felt this was a good idea, but they would receive significant pushback form their customers. In execution they have found that the customers like to have a template to fill, as this reduces the



need for further information during the project. Full kit at the start of the project is now better than it has ever been.

Over the course of the three month implementation Engineering capacity had increased – the output of the department increased by 25% during the Rapid Install Week. Overall project lead-times halved, going from 4-8 weeks down to 2-4 weeks. The 'focus and finish' mindset was embraced which saw a significant reduction in multi-tasking and interruptions. 100% full-kit release was achieved meaning that there was no missing information during handovers.

These actions allowed project engineers to focus more of their time on the customer needs and ultimately reduced the lead time.

This all meant there was less pressure from customers chasing late orders. There was a clearly understood single priority system in place across the department and all resources. In addition, a digital visual management system was introduced which gave clarity on where an order was sitting and what was required to progress it. Now there is an understanding of where management attention and improvement effort is needed.

These improvements to the business were immediately visible and beneficial to everybody working in the team. During the course of the project, the COVID-19 outbreak occurred forcing the company to move its co-located team to home working. An unexpected benefit of the processes deployed was the seamless transition of office to home working, with no loss of capacity. If anything, people working from home were subject to fewer interruptions and were potentially able to deliver more than working from the office. The danger with home working is people not working on the right things at the right time. The simple visual system deployed, choked the release of tasks, so it was clear for all where priorities lay. The amount of management effort required to keep everybody on track, has been no more than when the project engineers were working in the office.

There has been an intangible feeling of being 'in control' even with a workforce working from home.



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