



Luxfer Gas Cylinders



Benefits at a glance

- ▶ *£1 million saved in fixed costs*
- ▶ *On-Time-In-Full (OTIF) risen from low teens to consistently over 90%*
- ▶ *Delivery speed reduced from over nine months to two months or less*
- ▶ *Increased control over work-in-progress, raw materials and stock supplies, and inspection costs*
- ▶ *Reduced costs & lead times, and improved delivery*
- ▶ *Improved NPD processes resulting in £2 million in extra revenue*
- ▶ *Oliver Wight Class A certification for planning and control*

Customer profile

Class A performance raises the pressure at Luxfer Gas Cylinders

Luxfer Gas Cylinders has achieved Class A status in Planning and Control through a remarkable culture change and business transition over the past four years. This, and a massive programme of Lean Manufacturing, Continuous Improvement and other techniques, have dramatically improved on-time deliveries, lead times and productivity.

Imagine the **possibilities**,
realize the **potential**.





Part of the international Luxfer Group, Luxfer Gas Cylinders is the largest manufacturer of aluminium gas cylinders in the world. The company has seven manufacturing plants world-wide, including two in the UK. The plants at Nottingham and Aldridge in the West Midlands employ around 250 staff making around one million cylinders a year for use in fire extinguishers, scuba diving, breathing apparatus, beverage dispensing units, medical and speciality gases.

Four years ago the UK plants had no effective business processes, integrated IT systems, performance measures or management information. A customer survey indicated that while product quality was considered to be excellent, lead times and delivery performance were extremely poor. For example, even after waiting the quoted 9-12 month lead times, customers could still have to wait another month or so before product delivery.

Luxfer CEO Ian McKinnon charged the company's management with turning the business around, improving customer service and initiating fundamental change through an Oliver Wight Class A Planning & Control implementation, which commenced in 1996. Coupled with this was the implementation of an EFACS MRP II system.

Production Manager Tim Jeffery, who led the implementation, comments: "Oliver Wight Associate Andrew Purton guided us through the Oliver Wight business model and ABCD Checklist". The Class A Checklist was developed to ascertain whether companies really improved or just implemented systems. To achieve Class A, companies are assessed against the Checklist which includes key performance indicators to ensure they have not only implemented the processes, but are consistently attaining stringent performance measurements of between 95-100% in key business areas, such as data integrity, schedule adherence and customer service.

"A number of multi-disciplinary task forces were created to re-engineer our business processes and we achieved

a steady and sustained rate of improvement as we got to grips with planning and control. We concentrated on driving up delivery reliability and delivery speed, and over the last three years our On-Time-In-Full (OTIF) indicator has risen from the low teens to consistently over 90%. A lot of work has been done to reduce manufacturing and supplier lead times by managing sales demand better. Delivery speed, which is the elapsed time between placing an order and the cylinders being despatched, has reduced from over nine months to two months or less for some products.”

The company has also achieved cost benefits which have resulted from increased control, particularly of work-in-progress, stocks of raw materials and bought-in supplies, and inspection costs. Around £1 million has been taken out of fixed costs in 2000.

Luxfer has also benefited from putting Sales & Operations Planning (S&OP) processes in place. S&OP is a monthly management process providing the link between a company’s strategic plan and its operational planning. This enables management to monitor the balance between supply and demand (production and sales), the implications of new product introduction, and the financial projections arising, and so improve control and understanding of the full business ramifications. Tim Jeffery comments: “The process encompasses a Demand Review to assess changes in the market followed by a Supply Review to establish how the Supply Chain will respond. There is also a New Product Development Review to monitor the progress and impact of change. The process concludes with an S&OP meeting (Management Review) to review business projections, understand change, rubber stamp decisions taken and give direction to future activities. I don’t know how we ever worked without it because it has become so ingrained in the way we run the business. Operational decisions come straight out of the S&OP meeting for implementation.”

Luxfer gained Class A in Planning and Control last December but the massive cultural change the company experienced went much further. It also carried out extensive Continuous Improvement (CI), Total Quality (TQ) and New Product Development (NPD) programmes. The CI activities incorporated a number of elements, such as Kaisan, Line Balancing and Lean Manufacturing, and was instrumental in setting up flow lines which helped reduce costs, lead times and improve delivery. CI has now developed into the

Luxfer Production System (LPS) which encompasses a host of techniques such as the Seven Wastes Model and the 5Ss - a step-by-step structural approach to workplace organisation. It works similar to the ABCD Checklist by benchmarking against a range of criteria to the LPS requirements.

“A great deal of work has also been done in the People and Teams area of the ABCD Checklist, including annual appraisals and the setting of between 3-6 CI objectives for everybody in the business,” comments Andy Butcher, Operations Director. “Three of these ideas have to be implemented each year by each person and, in manufacturing, they also have to write the specification for a standard operation and train three people in that operation.” Peter Brock, the company’s Personnel Manager, adds: “We have also put a considerable amount of additional effort into our communications process to ensure all of our employees knew exactly what we were doing and why, and what we expected of them in the future. None of it was rocket science but more to do with getting the basics of monthly team briefings, newsletters and so on absolutely right.”

In the area of NPD the company utilises a multi-disciplinary team that meets weekly. New product proposals are brought to the forum and evaluated by the team. “NPD has enabled us to get new, lighter and stronger aluminium alloys to the market much faster,” adds Tim Jeffery. “We have achieved more in one year than the previous seven. Previously, sales people would say we could make something and then find that we couldn’t or, if we could, it would be at a loss. At the very least we would have a dissatisfied customer due to a missed due date. Since we introduced NPD two years ago we have developed £2 million in extra revenue.”

Oliver Wight’s Andrew Purton sums up: “This is a superb achievement with clear demonstration of the extent of training and deployment in CI, Lean Methodology and NPD to drive employee involvement and ownership. The company has truly achieved a cultural transition. Business performance and results have seen significant improvements, but most impressive is the transformation of its people.”



When you talk to Oliver Wight about improving your business, we'll assume you want results, not just better processes - things like increased revenues and margins and greater market share. If you have the ambition, it is possible to make improvements that truly transform the performance of your organization and create more fulfilling roles for the people within it. We believe this can only be delivered by your own people. So, unlike other consultancy firms, we transfer our knowledge to you; knowledge that comes from nearly 50 years of working with some of the world's best-known companies.



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