

Réponse Grande Vitesse

Delivering lean manufacturing and planning in implantable medical devices

Eurosilicone, a recently acquired subsidiary of US healthcare company MediCor Ltd, is an internationally acclaimed pioneer in aesthetics and a world leader in Plastic Surgery Technology and Surgical Practice Marketing.

MediCor now has control of an estimated 30% of the world (ex-US) market for breast implants and is the world's number three global breast implant manufacturer. The world market for breast implants is growing at a rate of 20% per annum and MediCor is pursuing a strategy of organic growth in this market. Eurosilicone would have to reliably deliver the increasing volume and service required by MediCor's global customers in order to support this growth strategy. In addition to supporting this organic growth, Eurosilicone would also supply a new direct channel model in a key European market. This direct channel would present new service challenges to the organisation.

To help Eurosilicone support the strategy of their parent company, management consultants, WCI, were engaged in a nine month programme to implement lean manufacturing as well as new, simple and effective planning processes. WCI developed a programme with Eurosilicone to ensure that they continue to be pioneers in the aesthetic industry; focusing on its core business of creating innovative products.

Completed in July 2006, the programme has transformed Eurosilicone from "a small company into a world class manufacturing company" commented Patrick O'Leary, Président Directeur Général, Eurosilicone. This transformation has been evident in capacity improvements of 100%, yield improvements of 40%, reductions in backorders of 66% and reductions in lead time of 20%.

The problems and opportunities faced by Eurosilicone

Following their acquisition, the planning processes within Eurosilicone were ill equipped to deal with the demands of increased volumes in Latin America and the greater service levels required to supply direct customers. Whilst there was no measurement of order fulfilment against request date, it could be seen from the level of back orders that service levels were poor. Anecdotal evidence suggested that customer confidence was suffering.

The cause of poor customer service? A lack of robust planning processes. The operation had evolved from a time when the general manager decided daily what products should be manufactured based on orders received. The daily scheduling did not include any method for adequately determining, or maintaining, appropriate stock levels. There was no proactive mid-term planning, so production took actions to match capacity to demand only when customer service failures showed an imbalance. The replenishment process could not effectively support the need to plan the manufacture and stockholding of upwards of 1500 products for a global network of distributors and direct customers.

Quality reject levels within the manufacturing process were out of control. WCI's experiences at other implant manufacturers enabled the benchmarking of yield data. This exercise suggested that best in class yields for the equivalent process were 50% higher than those being achieved at Eurosilicone. Quality rejects were often caused by foreign matter in the clean room; a project had been implemented to tackle the causes of this. However, further investigation showed that there was no common standard or specification to which inspectors were rejecting the product.

An analysis of manufacturing processes determined that there was a high level of non-value-added activity. For example, use of handwritten records to track batch numbers through the assembly process led to multiple



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reconciliation steps with low levels of data accuracy. This process inefficiency meant that the operator resource required to produce each unit was high. High unit labour costs coupled with poor yields contributed

to high unit manufacturing costs. Inefficient manufacturing was leading to low output which further impacted customer service.

Eurosilicone's Objectives

The challenge facing Eurosilicone was to deliver the increased volume required by MediCor to fuel its planned organic growth of current channels and build a presence in new channels. In order to ensure sustainable growth it was important that increased volume could be delivered profitably when the customer required it.

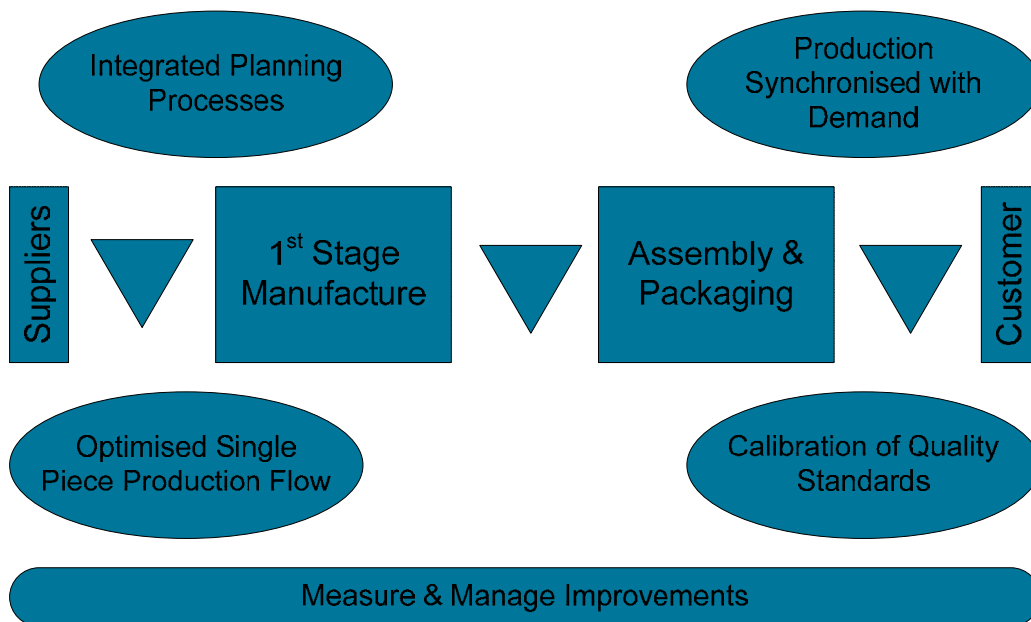
Project Background

Aware of the results that WCI had delivered at another implant manufacturer, the Director of Worldwide Manufacturing Operations at MediCor approached WCI with a view to implement a similar approach to solve some of the problems that he saw at Eurosilicone. In October 2005 WCI began a nine month programme of work with Eurosilicone at their headquarters in Apt en Provence, France.

Initially engaged to undertake a two week 'Stage-One' assessment of the issues at Eurosilicone and propose a plan to resolve the issues and deliver improvements WCI carried out an assessment and implemented quick win improvements; delivering immediate improvement in planning and manufacturing output. On the basis of WCI's proposed plan, and the improvements already delivered in the short 'Stage-One' engagement, Eurosilicone engaged with WCI to deliver the full project.

The Consulting Approach

WCI applied cross-industry best practice to deliver service, cost and stock improvements balanced with compliance. WCI's approach to the project is demonstrated by the model for success below:



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- **Integrated Planning Processes:** A Sales and Operations Planning process was designed and implemented with the Eurosilicone team and the MediCor international area sales managers. Forecasting and capacity management models were built, and processes designed to support them. WCI supported meetings as part of the early Sales and Operations Planning process until client staff had the skills to run the meetings themselves.
- **Production Synchronised with Demand:** An analysis of the average variability and volume of demand for each product and sub-assembly was completed to determine the optimal replenishment technique for each. A simple electronic kanban planning system was built in Microsoft Access and linked with the company Sage sales order processing system to set stock levels and manage the daily replenishment process.
- **Optimised Single Piece Production Flow:** A complete redesign of the manufacturing process was undertaken making use of lean manufacturing principles. The redesign focused on the elimination of non-value-added activity and the optimisation of process flow. A production and quality controlled system was designed and specified to make use of bar-coded production order cards linking directly with the Access planning and Sage sales order processing systems, avoiding the requirement for error prone handwritten data capture.
- **Calibration of Quality Standards:** Simple visual quality standards were established based on an understanding of customer expectations. Operators and inspectors were trained in new standards.
- **Measure and Manage Improvements:** A culture of measuring and monitoring performance was developed across the business. Simple daily production volume data was monitored in real time on the shop floor. A suite of production and performance indicators were derived based on the strategic needs of the business. Collection methods, automated where possible, were developed to require minimal effort. Data was presented in a form that made performance visible to people at all levels of the business.

Actions

WCI's approach to engaging with the client to deliver the project focused on facilitation, subject matter expertise, project management, coaching, and the delivery of work products.

- **Facilitation:** Working with Eurosilicone staff and other support partners facilitating workshops, group meetings and one-to-one meetings to develop solutions in-line with the model for success.
- **Subject Matter Expertise:** Providing particular content expertise in relation to planning and control, lean manufacturing and performance management.
- **Project Management:** Helping Eurosilicone's project work-stream leads to develop detailed activity and milestone plans. Consultants also supported the management of progress against the plan using regular review and steering group sessions.
- **Coaching:** Over an extended period, WCI worked closely with staff to improve their skills in planning and manufacturing optimisation.



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- **Delivery of Work Products:** WCI took responsibility for building the planning systems and performance reporting spreadsheets and for developing the user requirements specification of the production control system.

Involvement

WCI provided a team of consultants to support the project engagement. A Managing Consultant took responsibility for the programme management and for driving the manufacturing elements of the project. A Senior Consultant took responsibility for the planning elements. The consultants were involved for two to four days per week for the duration of the project.

Success factors and challenges

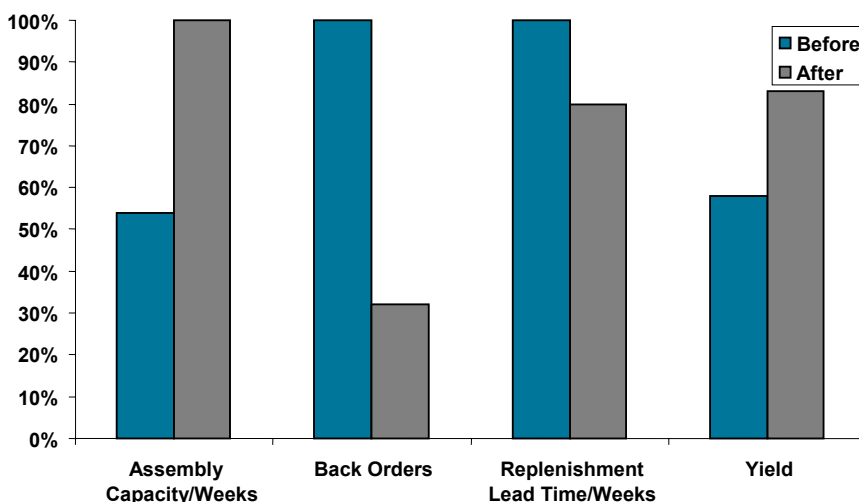
The project set itself a challenge from the onset; profitably delivering increased production output to customer requirement. The benefits listed below demonstrate that this objective was achieved.

Benefits

The project delivered a number of quantifiable benefits to the client:

- **Daily Production Volume: 100% increase**
- **Volume of Back Orders: 66% reduction**
- **Lead Time: 20% reduction**
- **Production Yield: 40% increase**

The benefit of the increased capacity is strategically important to the objectives of the MediCor parent company and is included in the corporate investor information profile.



The project also delivered a number of softer benefits to the organisation:



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- **Knowledge transfer:** WCI arrived at a time when Eurosilicone was recruiting and developing skills with a particular focus on the engineering team. WCI consultants were able to transfer some of their experience to Eurosilicone staff, building a strong foundation for future developments.
- **Performance culture:** The use of performance metrics was of key importance to delivery of the quantifiable benefits previously discussed.
- **Planning focus:** Developing a Sales and Operations Planning structure, around which the team could plan the business, helped to shift the culture from reacting to adverse events to one that proactively anticipated future issues and managed around them.

Lessons Learnt

A fundamental lesson delivered by this project was the value of learning from real and relevant business experience. Using the new Sales and Operations Planning process the organisation had been building stocks to cover an anticipated future production constraint. In the event the sales demand did not materialise as forecast, the stock levels were excessive, leaving the organisation in a difficult cash flow position. Learning the hard way taught the organisation a valuable lesson about the importance of accurately predicting demand, which no amount of consulting advice would have achieved. It was useful to learn this lesson in a safe environment whilst the consultants were still engaged on the project and could coach client staff to learn the appropriate lessons.

The Eurosilicone/WCI Consulting Ltd Relationship

From the outset the relationship was not one of 'them' and 'us', but rather a collaborative partnership with a shared goal. The WCI team adopted an interim management role within the Eurosilicone organisation, bringing with them a fresh viewpoint, focus and pace but, perhaps most importantly, not a prescribed solution.

WCI consultants worked alongside key stakeholders across the business; conducting interviews, workshops, face-to-face meetings and additional coaching, all of which aided the building of a bespoke programme that incorporated Eurosilicone's familiarity of the business and their needs, together with WCI's knowledge and experience.

The result? A transformed business following a successful project that delivered not only sustainable results but a well founded client/consultant relationship that is set to further develop.

In addition, strong relationships were also built with the MediCor parent company. In late 2006 WCI was engaged to undertake a similar project at a sister company of Eurosilicone.

WCI Senior Consultant, Sam Wardill, remarked; "working with Eurosilicone was one of the most rewarding assignments that we had ever undertaken. Throughout the project I really felt that we were delivering something that made a real difference to the business."

Patrick O'Leary, Président Directeur Général at Eurosilicone commented; "WCI has helped us transform a small company into a world class manufacturing company. Every facet of manufacturing has improved from yield, price per unit, work flow, response time, headcount, efficiency of operations and in a manner that is



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scaleable for a seasonal variance in demand and for the future. We have built a strong relationship with WCI and will continue to keep WCI as an ongoing consultant in our operations for the foreseeable future.”



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