

Article : Lean Logistics

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Yuasa Battery (Europe) Ltd supplies and manufactures batteries for customers that include one of the largest automotive suppliers in the United Kingdom and major industrial manufacturing firms throughout Europe. Yuasa implemented Microsoft Dynamics AX business management software, with the help of Microsoft Gold Certified Partner eBECS, to convert to a lean logistics strategy.

Like many companies, Yuasa made the leap to lean logistics when the complexity of our business needs became too much for our old system. We sell and manufacture automotive and valve-regulated lead acid batteries for a network of distributors and manufacturers across Europe. Working with delicate and degradable products which are subject to enormous fluctuations in customer demand presents specific supply chain challenges. This is further complicated by working with multiple suppliers. As our original ERP system didn't have the flexibility and automation required to support a complex and variable supply chain, we made the decision to implement a lean logistics strategy and system to optimise efficiency.

Our resource planning solution constantly has to address a delicate balance of supply and demand. The lead time for batteries can be up to six months and as the company aims to keep two months of sales forecast in stock we are continually planning for up to eight months ahead. This can be difficult, especially as demand for automotive stock is seasonal. Predicting when or how severe a winter season will be is to say the least difficult, it is however essential that we have a MRP system that is able to react to avoid us holding excess stock that is degrading & may require recharging with associated costs, or even worse having stock outs.

In our situation of protracted lead times an accurate forecast is the key factor but as forecasts are by their very nature 'best guesses' we constantly need to monitor stock situations and changes in sales trends. Even the best plans cannot always be perfect, during the recent cold snap we have seen demand for some products quadruple against forecast, but with the benefit of accurate system information we have been able to minimize the effect to our customers.

In recent years, Yuasa moved towards a sales and distribution model, sourcing many batteries from its sister factories in China, Taiwan and Indonesia. The European business was effectively split into two entities - sales company's and a supply chain company. The sales company's decide what they need to buy by running Manufacturing Resource Planning (MRP), and this demand is placed on the supply chain company, who then decide where to buy from. Making this decision via the fastest and most economical route was a difficulty we continually found ourselves facing.

Previous purchasing managers had taken the view that system-driven MRP would not work in a complex environment like ours. There were simply too many variables involved. However, through hard work, some extensive system changes and the buy-in of all the departments involved, we have proved that it can. Before the Dynamics AX system was

implemented, our MRP process was run from spreadsheets which generated figures for upcoming purchase requirements, which were then converted into purchase orders. The orders were manually input into the sales company's ERP system, then printed out and manually typed again into the supply chain company's ERP system. Needless to say, this process involved a lot of duplicate effort, was extremely time-consuming and unavoidably vulnerable to user error.

Working with a new lean supply chain model, we have now consolidated the entire process into one simple system. Running MRP in Dynamics AX generates a list of planned purchase and works orders, and even suggests alternative routes where batteries could be reworked from existing excess stock. When orders are confirmed, a purchase order is created for the sales company and a corresponding sales order created for the supply chain company. These are linked, so if the requested delivery date changes on the sales side, the supply chain side is updated automatically. This has saved us considerable amounts of time, not to mention a considerable amount of paper!

Simple changes to the purchase order process can have a significant impact on your lean strategy. For instance, with Dynamics AX, where it's possible to amend all screen forms and tables with relative ease, adding a couple of extra fields to the purchase order line shows us when the goods will arrive at the port, as well as when they will arrive at site. We have also added an extra field for the container number and the new warehouse location status option, 'INTRANSIT', which shows when the products are on a ship or lorry. So our customer services team can now see what is in stock, and what's due to arrive with us and when, even identifying the container number the goods are in.

Implementing a lean approach to logistics need not be a complicated task. You will find that much of the information is there already. It's a matter of extracting it from its various sources within your structure, be it from people's heads or from various spreadsheets, and onto a centralized system, where all involved have visibility of incoming and outgoing stock and can plan for the forthcoming months ahead. Adopting and adapting the Dynamics AX system, with the help of eBECS, has enabled our company to maintain high availability of stock without costly overstocking. Adopting a lean solution ensured that, in a year in which many of our colleagues in the automotive and electrical component industry have struggled, we had a profitable 2008, and are looking forward to a profitable 2009.

Lean tips:

- Set up. Ensure your system set up delivers the output that you expect, Dynamics Ax does not know what you want unless you tell it!
- Housekeeping. Garbage in = garbage out. Keep on top of all your system transactions, only accurate information will enable you to make informed business decisions.
- **Get on top of your forecasts.** Keep nagging customers for details of what they want to buy and when; keep nagging suppliers for details of capacity. Monitor your forecast vs. actual report regularly and adjust the forecast figures if necessary.
- **Get your shipper's bill of laden onto the system.** If an item is low on stock the customer appreciates that you know exactly when it will be replenished.
- **MRP isn't something to be run just once a month.** Check individual items or groups of items on a weekly or even daily basis.

- **Group your products.** The system will recommend suitable alternatives if one item is out of stock.
- **Get the system security right.** If a customer service user accidentally books in or invoices a purchase order, the whole planning routine could be knocked out!