DRIVING CONTINUOUS SUPPLY CHAIN IMPROVEMENT AND SAVINGS

How Waer solutions are supporting sustainable cost reductions and continuous improvement in the supply chains of two very large aerospace companies.
Driving Continuous Supply Chain Improvement and Savings Using Waer Solutions

Introduction

In the 40 or so years since the Toyota Production System first introduced the principle of sustainable elimination of waste in business, supply chains have never been under greater strain to remain cost effective. The current lean period, exacerbated by the sheer speed and severity of recent economic decline, calls for a renewed focus on lean thinking.

The route to competitive advantage lies in the sustainable realignment of infrastructure, people, processes and technology. The challenge is to do this in a way that benefits the entire supply chain, where cost savings in one area do not simply result in an equivalent additional cost somewhere else, where managers and employees buy in to a supply chain model and continuously seek to improve it, and where performance measures are applied to the whole supply chain, rather than just to specific activities within it.

The following examples illustrate how Waer solutions are supporting sustainable cost reductions and continuous improvement in the supply chains of two very large aerospace companies. The examples are described under six key actions that are universally relevant:

Make people, not programs, responsible for cost control

The vendor-managed inventory (VMI) process at Airbus is supported by a small core team who are dedicated to ensuring that the significant benefits and savings of the original project continue to be generated. Using the WaerLinx application, the core team need only to manage the exceptions that occasionally occur in the sequence of material pull and flow. This allows them greater freedom to fulfil their primary purpose of continuous improvement. The Team has yearly incentive goals for sustainable reductions in the cost of inventory and these goals are closely aligned with the overriding Airbus strategy.
Supplier Performance Measurement

A recent example of how WaerLinx has been used by the core team to control and reduce inventory cost is in the close measurement of each supplier’s ability to deliver on their contract commitments. Each supplier is required to keep the inventory of each part they supply within a predefined minimum and maximum range. WaerLinx is used to help measure each supplier’s compliance to this range over fixed periods of time. Airbus’ confidence in its suppliers’ ability to maintain stocks at the correct level has allowed them to eliminate buffers of inventory that had previously been held on a ‘just in case’ basis.

Wing Set Costing

Wing set costing is a further example of how Airbus is using WaerLinx to take responsibility for cost control. Each aircraft wing built by Airbus has literally tens of thousands of fasteners fitted to it at various stages in the build cycle. WaerLinx forms the ‘backbone’ in the process of accounting for the cost of material that is issued at each work centre, by providing the base data on which cost models are built. The Airbus team measures the actual cost of issued material against predefined cost targets and WaerLinx data is used to highlight the ‘where, when, and why’ of any anomalies for further analysis and troubleshooting.

Install the ‘right’ supply chain technology tools to enable sustainability

A Rolls Royce facility in Glasgow, UK, manufactures rotors, seals, and stators for Rolls Royce’s entire engine build requirement. Material is shipped from the Glasgow plant to multiple locations in the UK and mainland Europe. Daher, a 3PL, was selected by Rolls Royce to handle the temporary storage, handling, and shipping of finished products to other Rolls Royce sites. Key drivers in Daher’s selection of Waer as their preferred technology provider to support this activity were:

Functionally, the WaerLinx application meets the current and anticipated future needs of the business. Core to the application are features to monitor and report discrepancies in supply chain operations such as overdue demands, incomplete shipments, and inventory balance anomalies.

Full integration with portable hand-held scanning devices allows operators to continue working at an optimum level of mobility, without compromising data integrity.
The application runs on Java and Webservices, and is delivered with a flexible middleware component, making it an ideal source of online, event-driven data for users of the SAP system that Rolls Royce uses for medium and long term planning.

At Airbus, WaerLinx is used across the supply chain to identify and eliminate possible problems that can cause cost ‘creep’, such as projected excess inventory, incorrect replenishment parameters, bill of material inaccuracy causing production delays, and slow-moving inventory. WaerLinx identifies these problems in advance, alerting managers in Airbus fastener operations to take action before there is an adverse impact on their budgets.

**Integrate Supply Chain into New Product/Service and S&OP Decision Making**

Build requirements for the assembly of Airbus A380 wing sets are subject to frequent changes between successive aircraft builds. These changes, driven typically by engineering teams, can include both the addition of new kits and changes to existing kits. The supply chain team with responsibility for A380 wing assembly is closely involved in the specifications and timelines for implementation of these changes to ensure that the available capacity, tooling, and process capability within the supply chain is compatible with current and future engineering changes on the build line. Wing build schedules are communicated to first, second and third tier suppliers on a monthly basis, and provide views over the short, medium and long term. WaerLinx provides vital information on both the overall build schedule, as well as the effect on actual demand for individual parts at the lowest level of the BOM, giving suppliers essential visibility of Airbus’ forward build requirements at a sufficiently detailed level for suppliers to plan as accurately as possible in response to current and future engineering changes. This feature has helped Airbus avoid many of the potential supply chain cost increases that could otherwise occur if supply chain operations had less of an input into the design and roll-out of new kit configurations.

**Tighter Contracting with and Management of Suppliers**

Before Airbus implemented WaerLinx, its fastener supply process was effectively out of control. Material became urgently needed before suppliers were aware of it. The number of stock-outs was high and material often arrived late. Supplier visibility of Airbus’ firm needs was poor. Costs of administering huge numbers of discrete purchase orders were high, and management of these problems was made more difficult due to a lack of adequate performance
measurement tools. When WaerLinxx was selected by Airbus for integrated management of inbound fastener supplies, the improvements were immediate and significant:

- **Elimination of stock-outs on most parts**
- **Material was delivered on time and to the right place**
- **Collaborative planning processes provided essential visibility for suppliers**
- **Procurement processes were simplified**
- **All of the above contributed to immediate and on-going savings of many millions of dollars**
- **Business growth and increasing supply chain complexity are proceeding in a controlled and sustainable way**
- **Performance measurement tools are designed to allow Airbus and suppliers to remain focused on the stability and reliability of their improvement objectives:**
  - **Compare the number of parts the supplier contracted to maintain in stock to the number that has actually remained in stock for the duration of the measurement period**
  - **Measure performance against specific supplier delivery commitment(s).**

One result of this method of contracting and management is that the Airbus suppliers remain in control of inventory that they own, even though it may be physically located at a great distance from their own facilities. Each supplier typically has one dedicated individual responsible for continuous improvement in the following areas:

- **Integrated planning:** suppliers have developed their own routines for interfacing live WaerLinxx data into their internal systems for planning, procurement, manufacturing, and inventory management.
- **Supply chain collaboration:** suppliers can record delivery dates and brief messages that their Airbus counterparts can view on reports and enquiries. Event-based alert messages can be issued automatically, as required.

**Use Benchmarking Data to set Cost Standards**

WaerLinxx provides vital data for use in measuring actual performance against industry standard benchmarks.

At Airbus, examples of actual performance measurement include transactions per hour worked, inventory availability, inventory returns, inventory record accuracy, and fulfilment performance. The aim throughout is to understand
where activity is being conducted well and where further improvements need to be made.

**Outsource Non-core Activities**

Airbus decided the inbound delivery of fasteners was not a core competency, and that a third party specialist could do this more cost-effectively. To transform its fastener supply chain into a consignment stocking and VMI model, Airbus engaged a 3PL to use WaerLinx for fastener receipt, storage and delivery to their points of need, as well as for tackling the challenge of excess inventory and poor visibility for planning and control purposes. This enabled all affected supply chain partners to benefit from this significant cost reduction initiative:

**Benefits to Airbus**

- Immediate and on-going savings in inventory and procurement costs
- Improvement in supplier delivery performance
- Agility in response to changing schedules and business needs
- EU statutory reporting for Inward Processing Relief.

**Supplier Benefits**

- Visibility, control, and stabilised schedules for planning, communication, delivery and invoicing purposes
- A turnkey system that is provided for them by their customer
- A predictable, long term revenue stream
- Confidence in the Airbus customer relationship at a corporate level
- Processes which integrate with internal lean initiatives
- The customer takes ownership of inventory if it has not been used after a fixed period of time (subject to criteria predefined in the contract).

**3PL Benefits**

- The system and related hardware are provided by the customer, which simplifies contract service obligations
- Operator-oriented functions with minimal training needs – supports the 3PL staff rotation policy
• Available options to integrate with transport management systems.

Sustainability in Cost Reductions

WaerLinx is a proven tool for driving continuous improvement and savings in the supply chain. Using WaerLinx, you have the flexibility to address your areas of greatest need and focus first on the solutions that provide the greatest benefit.
Waer Systems specialises in the design, development and implementation of flexible software solutions for organisations with complex supply chain and reporting needs.

The company was established in 2000, initially to meet the need for improved supply chain execution and warehouse management within the global aerospace industry. Today, our innovative, elegant solutions deliver increased process efficiency, optimised parts/asset management and real-time information flow to market leaders in a range of sectors.