

Lean Logistics Assessment - Identifying Waste and Opportunities

Client

Aerospace Company (UK)

Background & Challenge

Our client, a major commercial aircraft manufacturer, had a requirement to design new internal logistics processes for the production of a long range aircraft due to start in 2010.

Therefore, in order for a 'best in class' manufacturing solution for the new aircraft to be achieved, the logistics processes must be improved.

Additionally, production of the new aircraft would present new challenges for the logistics function such as:

- Handling of new composite materials
- A Very steep production ramp up plan

Solution

As part of a much wider Supply Chain activity, Spitfire Consultancy were requested to lead the logistics process evaluation activity.

Focus on the current processes highlighted concerns in a number of areas, this enabled countermeasures to be identified to improve operational performance.

Working closely with the client's project team and utilising their knowledge of the current processes within the different aircraft programmes, the solution identified was to employ key Lean assessment tools in order to:

- Streamline the processes
- Reduce material lead times (internal and external)
- Improve handling and distribution

Implementation

The key to the evaluation was to have detailed, factual information about the processes that were causing problems. Therefore it was necessary to have a baseline from which all issues could first be identified before any solutions were suggested.

To deliver that full understanding, an individual Value Stream Map was drawn up for each of the commodities in all the client's aircraft programmes with the aim of:

- Identifying current actual levels of inventory versus the client's own inventory policy
- Identifying total process time and elements of waste within it
- Pinpointing areas where stagnation of inventory was occurring
- Correlating all information into a report format with recommendations to improve current operations and eliminate current concerns from the new aircraft model by designing best practice logistics processes from the outset



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Case Study - S064



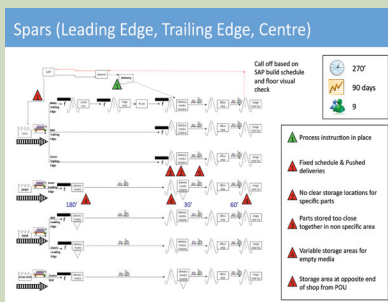
Spitfire_process

Results

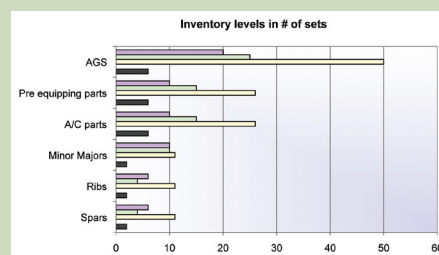
On successful completion of the evaluation activity a number of results were achieved which enabled the client to see the overall condition of its logistics processes for the first time. These included:

- Total of 48 current state Value Stream Maps were completed - one for each commodity type on each aircraft programme
- All concerns were highlighted - inventory above policy (up to 60%) and uncontrolled inventory stagnation were major issues common to all Value Stream Maps
- Up to 65% wasted time in processes identified
- Bespoke improvement manual created for each programme and handed over to each responsible logistics manager
- Process base line created in order to get 'right first time' process design

Value Stream Map



Inventory Levels

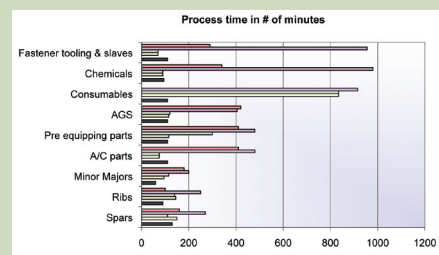


Inventory levels up to 60% above clients policy identified

Improvement Manual

Weakness	Cause	Proposed enhancement	Benefits
Feed schedule & Pushed deliveries	Production delay is not taken into account in schedule Supplier contract allowed to swish based on plan build	Improve the call off process with suppliers based on actual production output	Lower inventory Receiving flexibility
Difficult to check if all parts have been received for specific MSN	No clear storage locations for specific parts.	Mark out footprints in staging area for next MSN parts Incorporate progress lanes	Inventory accuracy and reduced handling
Difficult to manoeuvre parts out of storage location when moving to PDU. Have to move other parts out of the way.	Parts stored too close together in non specific area.	Mark out footprints in staging area - in above	Reduced handling
Interim empty media not available when required for GR or decant	Media not found-variable storage areas.	Dedicated area for empty media as close as possible to GR/decant areas (Learning point for A350)	Reduced time for GR operation and minimum disruption to decant
Delivery from storage area to PDU is time consuming	Storage area at opposite end of shop from PDU		

Process Time



Up to 65% wasted time in processes identified

Client testimonial

"We are now using the Value Stream Maps that Spitfire developed for us to illustrate the logistics flows to other areas of the business. They are also being used in our project review and brainstorming meetings to give us a greater understanding of our actual operating condition"



RECOGNISED PRACTICE



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