

# CASE STUDY 005

V 001

10.19

## CASE:

**Right Maintenance/  
Most efficient way  
(LEAN)**

## CLIENT:

**GSK**

**PSW**  
**GROUP**

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## CASE: Right Maintenance/ Most efficient way (LEAN)

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## Client Challenge

The case study reported in this paper has been conducted at multiple Biological facilities globally. (global implementation for 1 organisation), managed from Belgium. The management of the company observed that:

- Maintenance costs were higher than that of competitors
  - Too much maintenance
  - Incorrect Maintenance
- Quality issues were seen, causing product recall.
- Spares inventory and stock levels were significantly higher than need (uncontrolled)

## Solution

The objective of this program was to allow the improvement of Maintenance Services to Customers with as little waste as possible allowing for gains in Equipment Reliability and Improved repeatability of Process. (Variation reduction) achieved through maintenance plans for equipment and equipment types.

A series of cascading analyses will support this objective. The maintenance plan for an item or family of equipment will have the following attributes.

- 1 A standard plan, in a standard format
- 2 Activities to be carried out on a regular basis (These will be a mix of predictive and preventive tasks such as regular replacements, adjustments, visual inspections and measurements, diagnostic condition monitoring techniques such as thermography and vibration analysis)
- 3 Frequencies of regular activities
- 4 Actions to be taken when discovering a problem during regular inspection or diagnostic activities (such as adjustment, scheduling a future repair or replacement)
- 5 Triggers outside of regular predictive maintenance activities that point to remedial action requirements (such as high temperature or differential pressure readings on process equipment) and actions to be taken.
- 6 Defined Bill of material for spare parts and consumables for that item or family of equipment.

## Project Realisation

Each maintenance plan was developed and owned by a subject matter expert. The Processes, Techniques and Tools in Use (TIU) described within this RPC will be used for the final developed plans and will have input and support from maintenance, production, QA and GTS personnel.

One of the Pillars of the GSK philosophy for the maintenance of our assets is 'The Right Maintenance'. This RPC identifies the requirements to carry out the Right Type of Maintenance, in the Right Manner, using the

Right Tools by the Right Personnel with the Right Documentation and reducing or eliminating "waste". All Maintenance activities will be planned, scheduled and executed in a manner to ensure they meet the needs of Quality, Safety, Asset Utilisation, Reliability, Regulatory Compliance and Cost Effectiveness. To ensure "The Right Maintenance" is being deployed on the right equipment there are minimum requirements that must be satisfied. These are:

1. Asset Health (see Asset Health Assurance Model Figure 1 below)
2. Asset & Component Catalogue
3. Asset Criticality (Criticality Ranking Index)
4. Failure Modes Effects Analysis (FMEAs)
5. FMEA
6. RCM
7. PM Generation, Evaluation and Optimization
8. PM
9. PdM/Condition Based Monitoring
10. Inspection
11. Maintenance guideline generation
12. Run to Fail (RTF)
13. Failure finding tasks
14. Redesign Redundancy strategies
15. Operator Care (OAC)
16. Operational Documents (OP-1 & OP-2)
17. KPI Reporting/ Tracking
18. Root Cause Analysis (RCA)
19. Performance Assessments
20. Continuous improvement (FRACAS)

## Project Impact

As with all interventions, the overall programme was designed to leave a legacy of self-sustaining improvement. Therefore as well as delivering outstanding operational performance, the programme leaves in place:

- Reduced inventory by 30%
- An operational Stabilisation Strategy, which has supported the transition to steady state of equipment management;
- Reduced quality issues by 25%
- Reduced urgent repair work by 35%-40%
- A stable equipment process with significant OEE improvements (various result on different plants)
- Proactive asset management programme.