

## Model Depot - Maintenance Improvement

### Client

Asset Maintenance Company

### Background and Challenge

Our client's previous performance improvement activities had focused on asset failures in passenger service where trains either failed to enter or were withdrawn from service. These activities had gained significant results, however the client believed there were additional improvements required within its maintenance functions.

The layout and arrangement of the train maintenance depots had never been tackled by the improvement team. Little thought was given to equipment layouts, parts locations and tooling requirements and also many safety related concerns existed. This meant the workforce were very inefficient in the way maintenance was managed, carried out and ultimately the time taken.

### Solution

A team of two consultants was set-up to work with the depot team consisting of the Depot Manager and key 'Lean Champions'.

These Lean Champions were coached in the basics of lean and then through a deep dive activity the Champions identified the various concerns with the current condition; an implementation plan was then developed to deliver the improvements.

The key challenge was changing people's behaviours in their approach to work and what the best standard looks like.

### Implementation

The implementation consisted of:

- Identifying and setting-up the Depot Improvement teams
- Coaching basic lean principles to Champions
- Completing a Deep Dive activity - waste analysis on all maintenance processes
- Completing a Need / No need exercise, removing all redundant / excess equipment and materials
- Implementing a future state layout to minimise excess walking and material movements in completing maintenance. All equipment and locations were also foot printed
- Setting-up material racks by process, two-bin system, Kanban system, component change kit boxes
- Setting-up tooling by process instead of by individual using shadow board / shadow tray principles
- Dedicated torque control tooling by process
- Creating audit standards and depot sustainment audits for which the Depot Manager drove weekly to push local ownership and behaviour change

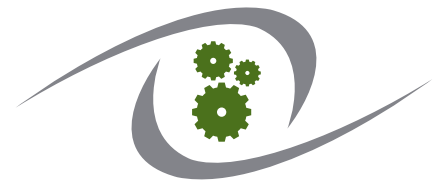


**Spitfire**Consultancy  
Your Performance. Our Passion.

Kirkhill House, Broom Road East,  
Glasgow G77 5LL Scotland  
t: +44 (0)141 639 7561  
f: +44 (0)141 639 5537

[www.spitfireconsultancy.com](http://www.spitfireconsultancy.com)

Case Study - S045



Spitfire\_process

## Results

The scope of work in each depot was completed over a four month duration, with three teams cascading through 9 depot locations to complete the activity.

- 9 Depot locations completed
- 387 Initiatives implemented across the depots
- 34,000 Man hours reduced from routine maintenance through efficiency improvements
- Behavioural and cultural change in working practices and 5s principles implemented across fleet
- Processes and improvements sustained by all areas with continuous improvement now driven by the depots

### 5S Layout Footprints



### Material Kit Box



### Tooling Shadow Tray



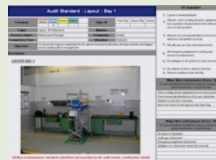
### Torque Control Board



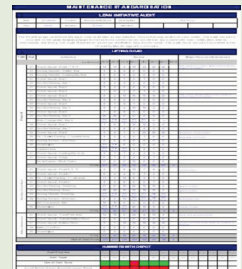
### Materials Two Bin Racks



### Audit Standard



### Audit Sheet



### Client Testimonial

*"I along with my immediate managers and shop floor staff, we were very sceptical with what was going to be achieved. But with the drive and enthusiasm shown by the spitfire team, along with the buy in and support from the shop floor staff it was a very satisfactory outcome. Using the techniques we have learned it is now down to the depot to sustain it."*

Depot Manager



**Spitfire** Consultancy  
Your Performance. Our Passion.

Kirkhill House, Broom Road East,  
Glasgow G77 5LL Scotland  
t: +44 (0)141 639 7561  
f: +44 (0)141 639 5537

[www.spitfireconsultancy.com](http://www.spitfireconsultancy.com)