

Quality Improvement - Eliminating Service Delays & Cost Avoidance

Client

Asset Maintenance Company

Background and Challenge

Our client provides train maintenance to one of the busiest service operators in the world. They are committed to delivering on time in order that the operator can maintain a high level of service provision to the general public. Failure to do so not only means revenues are reduced, but also a disruption to the running of the railway.

The fleet maintenance schedule involved a major overhaul of the key drive train components which was often hindered by supply of poor quality refurbished traction motors. These quality problems regularly resulted in maintenance over running, service shortages and financial penalties.

Additionally, concerns were raised that there could be possible future underlying issues to the rest of the train components, resulting from the poor quality motors.

Solution

Spitfire Consultancy were appointed to improve the delivery of materials into the fleet's maintenance depot and provide long term solutions to improve performance and quality.

One of the fundamental tasks was to improve the quality of the refurbished traction motors to prevent any delay to the train maintenance schedule, and any subsequent delays to the train service.

The solution was to conduct a Practical Problem Solving (PPS) activity on the delivery and quality of motors into the fleet depot.

Implementation

The Practical Problem Solving (PPS) initiative was kicked off and identified the 'Point of Cause' as being motor storage at the depot. From the initial investigation, a cross shift review was conducted within the depot to brainstorm the potential causes of the degradation, with two significant areas being identified:

- Inadequate storage conditions
- Degradation of the internal electrical insulation

To countermeasure the first issue, the motors were raised off the concrete floor preventing their quality from worsening. Also, a simple receiving procedure and check sheet was introduced, enabling the rate of degradation to be visualised.

For the second concern, a trial was set up with the overhaul supplier to return the motor to the original design condition. An earlier solution to overhaul every motor had been provided to the depot to extensively overhaul every motor at cost of **£10k** per motor.



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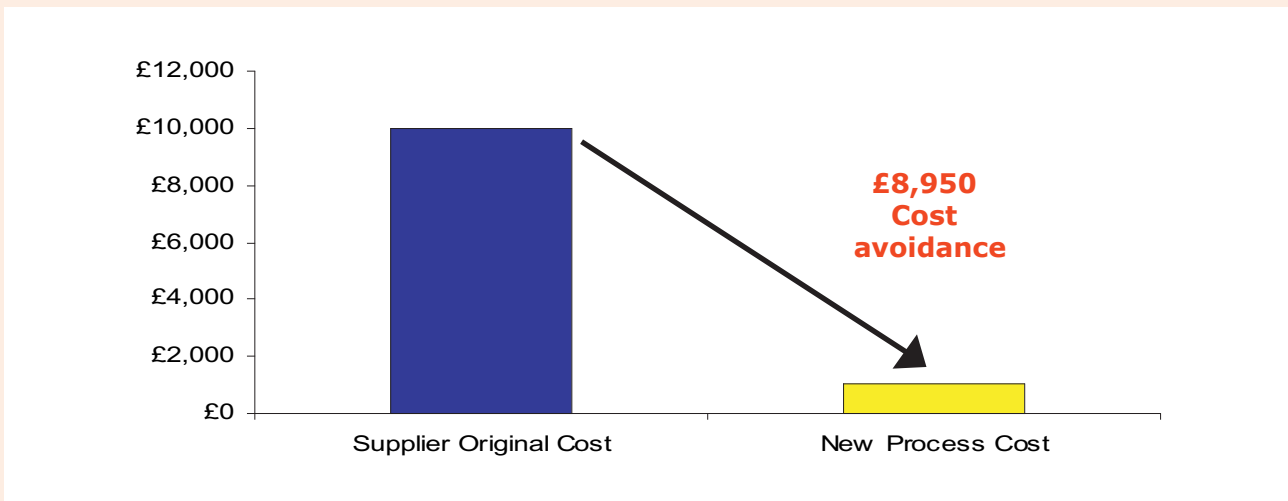
Case Study - S019

Results

Upon completion of the PPS the following results were realised:

- Elimination of supply disruption at the depot
- Trial completion identified that the problem could be completely solved at an average cost of **£1.05k** per motor, a reduction of **£8.95k** compared to the supplier's original solution - this meant **£1m/year** cost avoidance for upgrading the entire fleet's motors over 5 year programme
- Reduction in quality 'drop off' rate from 32% down to **7%** to provide a **4 fold shelf life extension**
- Quality of service provision maintained

Cost Avoidance Per Motor



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