

MANUFACTURING WASTE REDUCTION WORKSHOP

After undertaking the renowned FIRA Set Up Reduction (SMED) Workshop, Kembles/Yamaha Pianos have streamlined their facility and reduced finished goods stock in their external warehouse by £450,000. This stock reduction was achieved by reducing batch sizes from 12 to 6 (50%) which required reducing the set up times of 5 main machines in the mill area.

Client feedback - *"Utilising the experience and expertise of the shop floor team to collect and analyze their processes and complete actions to reduce set up times, hence batch sizes, has made a significant impact on the finished goods stock value of this company."*
Robert Brown, Manufacturing Director, Kembles

Background

Kembles has been making fine British pianos for well over 90 years. Each instrument is manufactured to reflect their tradition and commitment to craftsmanship, design and value. Their award winning upright pianos are made in England where they use a unique blend of traditional piano making skills with the latest technology that has made their plant the most advanced in Europe.

Problem Statement

Kembles currently has an external warehouse which holds finished goods with two years remaining on the lease. The stock value of pianos in this warehouse totals £800K. By relocating the factory there is space in their main facility to hold about 400K finished and therefore reduce overheads of external warehouse by 200K per year. To achieve this, the number of finished stock pianos needs to be reduced by 50%. By reducing the batch size by 50% from 12 to 6 and increasing flexibility in their production process. This will ultimately reduce finished stock and bring them closer to the customers requirements.

Objectives

Objectives for the activity were defined as:

- Decrease finished goods stock
- Reduce batch sizes by 50% 12 to 6
- Identify and eradicate 'bottlenecks'

Diagnostic

The team collected downtime raw data from the shop floor on 5 machines over a two month period.

The team analysed the data and drew Pareto data trails that showed set up time as the main cause of downtime over the data period for all machines.

The analysis shows that if the team did not address the downtime caused by set up and reduce the batch size from 12 to 6 the lost uptime will double as no. of set ups doubles. With this lost time the machine will not have enough uptime and overtime will be required to satisfy sales.

The action - Set Up Reduction

- Process Mapping the manufacturing process
- The Team Videoed set up on 5 main machines
- Observe the video with a team of operators and fill in a standard work combination table
- The team used information at their disposal to brainstorm ideas to reduce set up time
- Creation of Action Plans to reduce set up times on each machine
- Resolution of actions
- Re-video after implementing actions to quantify results:-

Machine	Before(mins)	After(mins)	%
5 Cutter	43.5	9.5	-78
CNC	16.4	10.5	-36
D.E.T	4.2	2.0	-50
S.E.T	8.2	7.2	-23
Shaper	26.2	17.1	-34

FIND OUT HOW YOU COULD BENEFIT FROM SIMILAR RESULTS

Tel 01438 777700 • Email blovell@fira.co.uk