



**YORKSHIRE
PRODUCTIVITY**

"...driving manufacturing excellence..."



Case Study

Palintest® - entering lean waters

Leaders in Water Analysis Technology

Palintest is a world-leading manufacturer of water testing and environmental products for water quality, drinking water, and swimming pool testing.

Its UK operations are based in Gateshead, Tyne & Wear.



Part of the Halma Group, Palintest leads the way in technology for the domestic, industrial and commercial water and soil management markets.

It supplies a wide range of photometer and comparator instruments, test kits and reagent systems for the detection of many elements.

Palintest sells to a very wide range of users around the world, with half its business outside the UK.

Water companies use its products for monitoring the quality of drinking water, and to monitor sewerage works and effluent streams.

Industry of all types use its equipment for testing process waters, boiler water testing, and for effluent analysis. Palintest also has a sizeable customer base in the leisure market for the testing of swimming pools, spas, aquariums and ponds.

Production profile

Palintest operates on a dayshift only, producing approximately 120 million tablets per year across a range of 400 variants.

It also manufactures 10,000 single and multi parameter photometers, as well as reagent liquids for the main water authorities and swimming pool testing kits.



Most of its competition comes from overseas.

Historically, production was driven by as large a batch size as possible, across many variants.

David Bowden, Operations Director for Palintest, explained the drive to adopt lean manufacturing practices: "From experience of lean manufacturing in other industries, I knew that implementing the tools and techniques at Palintest would transform operations and drive culture change"



Quantifying efficiency improvements

Lean training

Lean training organisation, Yorkshire Productivity, was engaged to help achieve these changes.

Sixteen members of Palintest's staff embarked upon a Business Improvement Techniques (BIT) Level 2 NVQ.

BIT is effectively a qualification in lean manufacturing and, as the emphasis of the NVQ is on work-based competency, there is a very practical approach.

The training was with a mixture of team leaders and shop floor staff and concentrated on the packing and kit making areas of the business.

At the same time the trainees were using their knowledge to assist with change in other areas of the business.

These 16 people have now successfully completed their BIT level 2 NVQs.

A BIT level 3 NVQ programme will be started early in the new year.



in Association with the Regional Centre for Manufacturing Excellence

This covers in-depth aspects of lean with the emphasis on leading continuous improvement activity, rather than being part of it.

It is ideal for supervisors and team leaders.



Operational implementation

The layout has now been changed in the 2 main focus areas.

Firstly, by reducing stock holding, Palintest was able to free up space to move the kit making area.

Previously this was remote from the instrument manufacture lab which supplied it, and also from the despatch area to which its output was transported.



Successful NVQ candidates from the first group of learners

The team looked at options and layouts and developed the best solution to minimise walking and maximise working space.

The new kit making cell now allows bespoke kits to be built to specific customer needs on the same day the order is received.

A new cell was set up in despatch which was much more flexible and has seen labour efficiency increase from 45% to 110%.

Customer complaints for incorrect kits have gone from an average of 4 per month to zero for the past 4 months.

The other area of focus was the hand packing area.

Firstly a 5S activity was carried out to clear out and reconfigure the workplace. Then, the team decided what the best layout would be to achieve the best material flow.

Packing area 'before'



Packing area 'after'



As this is a flexible cell, the actual layout was changed 3 or 4 times as better ideas were put forward.

Once fixed, the layout has been 'locked' by marking material, work in progress, and equipment locations. Standard Operating Procedures have also been developed for key processes.

This area now uses approx 50% of the space previously used and labour efficiency has improved from 80% to 120%

David Bowden commented: "Using the BIT process has forced us to free up people from their normal roles and invest in improvement activities."

People involved in the activity are notably enthusiastic toward improvement and change and actively get involved.

It has also improved their confidence and given a sense of achievement.

The biggest physical change has been the roll-out of 5S techniques throughout the factory.

This has taken a lot of resource, but the result is excellent in terms of visual impact. More importantly it provides the foundations for future improvement. "

Equipment is clearly located and identified whilst material flow is visual. Walkways and material storage are clearly identified.

David advised: "During delivery of the NVQ training sessions, up to 30% of our production staff could be away from their workplace at any one time. Then, to implement the techniques, we had to free up staff over and above that."

This is a key point as continual improvement will not happen unless it has the full support of the organisation and resource is made available.

We have actively reduced our batch sizes which has improved lead time and flexibility, reduced stock holding which allowed us to use the NVQ 2 process to reconfigure the shop floor work area.

We will continue to carry out small team improvements, concentrating on improving quality further and reducing raw material stocks.

We are also going to plan in further BIT and leadership training, as many employees have seen the benefits and wish to progress further. "

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