

SC21 Implementation Case Study

Clamonta Ltd



SC21 programme making the difference

Customer Comments:

“The training and support we received from TPT helped us to reduce our cost of scrap by over 50% and to improve our delivery schedule adherence to close to 90%.

TPT have assisted us in 5S, skills matrices and training plans, SMED, operator self first-offs and appraisals, all of which have helped our company improve beyond all recognition during 2010.

As a consequence of this, customer confidence has grown allowing us to win a number of large contracts which we would not have been previously considered for.”

Mark Bott

Continuous Improvement
Manager

Clamonta was founded in 1954 as a manufacturer of machined components for industrial and marine gas turbines. They expanded into the aerospace industry in the early 90s and specialised in the manufacture of lockplates for the Rolls-Royce Trent series of engines. Using innovative methods, they were able to completely machine these parts which had traditionally been pressed/machined offering much greater accuracy but at reduced cost. The business expanded rapidly and in 1999 it moved to its present site which has 20,000 square feet of manufacturing space. In 2007 Clamonta became part of [Symmetry Medical Inc](#) which has sites worldwide manufacturing medical and aerospace components. Today Clamonta manufactures over 4000 different parts from simple turned to complex prismatic components.



Benefits

- 75% reduction in set up times in the Lockplate area
- Increase in uptime resulting in better throughput
- Better able to respond to customer requirements and increased customer orders

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SC2I Implementation Case Study

Mark Bott –
Continuous
Improvement Manager

“We are using SMED to identify wastes associated with our tool changes to improve our performance”

Results

The changes to the process resulted in the changeover time being reduced from 120 minutes to 30 minutes for this machine, a reduction of 75% of the original changeover time.

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Clamonta Ltd are members of the Coventry and Warwickshire Aerospace Forum.

Like many machine shops in the country, they are under pressure to continually improve in a very competitive environment.

The SMED programme has started in the Lockplate area on Cell A, which is a twin-spindle machining centre, where the changeover times were averaging 2 hours (120 minutes). The number of changes per week was 7. Therefore the number of minutes consumed by changeovers was 910 minutes per week.(15.16 hours). This equates to around a 303 parts lost per week.

SMED Activity

The SMED activity was documented in two ways:

Video

- To review key events
- To measure distances travelled
- Times taken
- Identify Non value added activity

These approaches allowed the Value Added and the Non Value Added activity to be determined.

Clamonta consider any external activity as non value added. The situation at the start of the project was established and the times recorded for each of the process activities. The results are correlated in the table labelled original conditions.

Original Condition Actions

The changeover process was reviewed by the manufacturing

Process Step	Process Time/ Week
Set-up	840
Inspection Time	70
Machining Time (Cycle Time)	3
Average no. of parts per run	90
Total time (average run)	2800
Total NVA Time	910
% NVA Time	32.50%
Parts lost per week	303
Parts per month	1213

team working in the Lockplate area.

The team, initially identified all the activities that could be done off line, to achieve this:

- Change to standard cutter eliminating need for pre-setting of non standard re-ground cutter
- Renewing of collar bolts for the retention of jigs due to wear
- Renewing of part location pins, due to setters filing pins to align parts on set-up
- Introduction of Tool-Boss storage, to reduce travel for tooling
- Elimination of inspection time through self-inspection

A further study was conducted to confirm that the changes would achieve the desired result, the study confirmed this. The study was repeated with different operators and the results were confirmed, however, the modifications were not robust enough, so adaption had to be made again to the jigs, where each head had to be clocked-in to independent jigs and fixtures.

The outcome of the study realised that the 2-head jigs were located across a plate that would not allow the jigs to be located (clocked) individually; to this end, each spindle has an individual location plate for location of the jig. The location plates have also eradicated the need for time taken to secure, as the bolts have been replaced with quick secure clamps.

Process Step	Process Time/ Week
Set-up	210
Inspection Time	0
Machining Time (Cycle Time)	3
Average no. of parts per run	90
Total time (average run)	2100
Total NVA Time	210
% NVA Time	10.00%
Parts lost per week	70
Additional Parts per month	933
Number of Additional Lines	10