

Sustainable Continuous Improvement

A Solutions Unleashed Whitepaper

To SolutionsPT Continuous Improvement is a way of life, the hundreds of manufacturing systems that use our technology have access to fine resolution data that is easily rendered into context-specific information, such as quality for the quality engineer and schedule adherence for planners and operations. We know how to make data work and how to make it work even after several stages

of improvement have been achieved. When the pressure is on to do more about cost saving and becoming even more efficient then you need to talk to SolutionsPT, accessing our expertise and experience in systems that are the underpinning of Lean Manufacturing and Six Sigma – finding what is even unobservable and obtaining measurable improvement – continually.

In manufacturing business there are many worthwhile initiatives that deliver results. In general these initiatives have replaced other initiatives and previously acquired benefits were either robust enough to become residual or are lost. One reason why initiatives are replaced is that they flounder when things get difficult, that is when the detail that is required overwhelms one's capability to sort, filter or analyse. In general this is accepted as being the way of things, but does it need to be? Is there a way, a process, which produces Sustainable Continuous Improvement?

What is Continuous Improvement?

One generally available definition is "Continuous Improvement is a phrase suggesting that a process or product should always get better as knowledge about it and experience with it accumulates over time. It is specifically used in quality systems or management programmes such as Total Quality Management." There are numerous other definitions along similar lines. Other initiatives can be seen to fall within generic Continuous Improvement such as Lean and Six Sigma.

Today many companies have applied a key identity to Continuous Improvement and use it as a catch-all to allow management to focus on the subject. Experience of working with many manufacturing companies indicates that in all cases real and measurable benefits are achieved in all initiatives. However it is also clear that once the early-day activities (perhaps "common sense" activities) have been completed then it becomes increasingly difficult to make further progress. By way of example this effect can be seen in the annual need to grow revenue and reduce costs; the early years are easier than following ones. It is as if the available extra rewards start to lose attraction when compared with the difficulty and cost of obtaining them, the initiative thus "plateaus", or even declines in its contribution to desired "improvement". There is an attraction to saying that enough is enough and then entering into a new initiative.

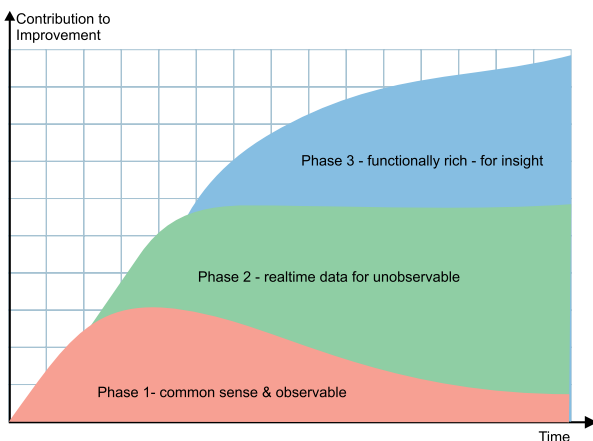
The issues facing manufacturers are many and varied. Some have always been there (waste, scrap, efficiency, downtime, business risk reduction) and some are new (the cost of energy, regulatory compliance and annual accreditation schemes). In both cases improvement will help a company's competitive position. In most companies these issues will be addressed and it may be thought literally "that is that". Although this is a generalisation and but it is one that we have found to be true in many of the investigations that we have undertaken.

What we have also found to be true is that there is a common "shape" to the problem of Sustainable Continuous Improvement. This is where the "difficulty curve" (over time) is starting to be alarmingly exponential and results have plateaued. It is here that manufacturer's initiatives need extra help; it can be seen as a second stage booster. The core of this help is frequently to be found in the very detail that is usually locked up in automation controllers, manual processes and other systems and machines. The help has to be extracted from masses of detail.

To avoid "information overload" proven real-time IT tools need to be used to tame masses of data to provide functionally specific and clear information for continuous improvement; this applies to all aspects of the manufacturing process, from raw material to finished goods. An additional and important aspect to this is to deploy IT tools that have inbuilt functionality that relates to the problem, for example Quality or Downtime.

The three stage improvement booster...

Sustainable Continuous Improvement can be seen to have three phases. Anticipating the likely results and contribution to Continuous Improvement within an enterprise can thus become a real advantage in foreshortening any learning curve delays and optimising returns from a C.I. investment.



Phase One

This is the common sense phase and usually involves group sessions of people in various operational areas. Improvement suggestions arrive thick and fast, each are evaluated and implemented according to their anticipated benefit and C.I. is produced. However, this source dries up as ideas cease to arrive or they are seen as not being worthwhile, or impossible to implement. The initiative has plateaued and improvement contribution will usually decline.

Phase Two

The second stage booster can be found by finding a way of dealing with "detail"; that is dealing with issues that are not directly observable.

These can be through short transients (delays, dwells, abnormalities) or through simply being physically unobservable (oscillatory liquid flow in a pipe). The data for this is found in automation controllers and SCADA systems. IT tools to deal with this will involve Data Acquisition, a real-time Historian and a reporting tool that produces functionally specific information for the user (e.g. the Quality Manager receives Quality related information). It is also vital that ad hoc reporting is available, for example the quality manager can directly investigate abnormal conditions by accessing the same data to produce information that may reveal a root cause.

Phase Three

Phase Three overlaps Phase Two and its anticipation may allow Phase Two to be partially avoided. Phase Three uses application specific IT tools that provide information about quality, equipment performance and downtime through ready-to-use reports that are built in to them. This does not constrain flexibility; instead such tools allow shortened development, configuration and deployment. In other words they deliver more for less effort.

Each phase is about data and rendering it to become useful information, the advanced phases use highly functional tools to do this – making their deployment efficient and delivering results quickly.

The three phases to Sustainable Continuous Improvement are linked. Taking a more holistic view Continuous Improvement data is in fact part of the whole manufacturing activity in operation, quality, supervision and environmental schemes. This latter point is important as the source data for C.I. is to be found within the data that controls them. Solutions that can access this provide a very effective way of producing improvements that continue to deliver year in, year out.

In use...

In order that Continuous Improvement can be characterised in this context the following examples of everyday management questions apply:

“How do you obtain traceability for regulatory compliance and accreditation scheme validation without it being pure cost?”

“How do you reduce energy costs even when you have a successful energy reduction programme?”

“How do you reduce scrap even when you have deployed a Six Sigma programme?”

“How do you reduce inventory and work in progress even when you have totally bought into Lean Manufacturing?”

“How do you obtain more machine utilisation even when you have a TPM programme?”

“How do I embark on a Continuous Improvement programme in a validated system?”

Modern object-oriented IT tools that are based upon Microsoft's .Net architecture provide the solutions to all of the questions above, through inherent functionality to deliver holistic information in the form of reports that let managers know what is going on whether an event is observable or not.

Reality...

The old adage of “if I had known that I would arrive here, I would not have started there” applies to Continuous Improvement. To avoid money wasting directions that lead to dead-ends you may wish to see the future and thereby start at the right place. For this you will need to contact SolutionsPT.

SolutionsPT deliverables...

SolutionsPT is able to respond to your requirements whatever need you may have. If you require data acquisition and network extensions for Continuous Improvement then HardwarePT has the know-how and products that you are seeking. If you have anticipated stage 3 or wish to evaluate products that have stage 3 functionality then our Wonderware United Kingdom and Wonderware Ireland operations have the software products that you seek. It may be that you want to discuss your needs from start to finish; it is here that you need to contact EmsPT our Enterprise Manufacturing Systems division whose highest aim is the provision of Sustainable Continuous Improvement.

Key solutions that are recommended for Sustainable Continuous Improvement are...

HardwarePT www.hardwarept.co.uk

ADAM IO and media converters, Ethernet as well as panel PC's and Servers.

Wonderware® www.wonderware.co.uk www.wonderware.ie

Wonderware System Platform, Historian, QI Analyst, Equipment Performance Modules, ArchestrA.

Complete Solutions at **EmsPT** www.emspt.co.uk

And the total overview **SolutionsPT** www.solutionspt.com

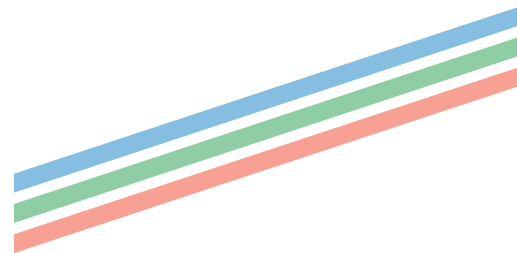
The systems that are delivered by SolutionsPT and its Solution Partners provide a way forward by a process of Sustained Continuous Improvement. This is achieved by accessing as much data within your manufacturing process as possible, filtering out that which is useful and then producing real time information that is functionally specific and can be displayed at anytime on your desk top PC.

Talk to us about our ideas and experience in enhanced Continuous Improvement. We have many testimonials from leading UK and Irish companies that show that our solutions work. It is well worth putting aside a couple of hours of your time for an initial investigation.

SolutionsPT Ltd is a leading supplier of manufacturing solutions to major companies across the UK and Ireland. Using world class industry expertise, quality training and support facilities and a proven range of software and hardware technology products, SolutionsPT specialises in delivering manufacturing management solutions that can increase productivity and supply corporate management with the real-time information they need to make sound business decisions.

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