

Case study

Aerospace component manufacturing

Learn how a UK Aerospace component manufacturer transformed their operations using the 4-step FlowPlus transformation process

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SUMMARY

The client



The client is a UK based component manufacturer for the aerospace industry, with roughly 230 employees on-site. They produce highly precise components and have capabilities for high speed 5-axis milling, CNC grinding, heat treatment, surface treatment and more.

The problem



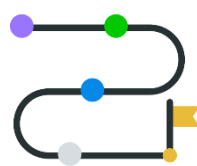
The client reached out with a challenge – to increase site capacity. They were aware that machine downtime was a big problem but weren't sure where to start. They opted for our [Discovery](#) service to help them kickstart their transformation.

Our Solution



We conducted 4 primary projects. Firstly, we implemented a new CMMS (centralised maintenance management system) and introduced a TPM strategy. The next projects changing the factory layout to separate different product families and improve flow. This was coupled with the introduction of supermarkets and a kanban pull system throughout production.

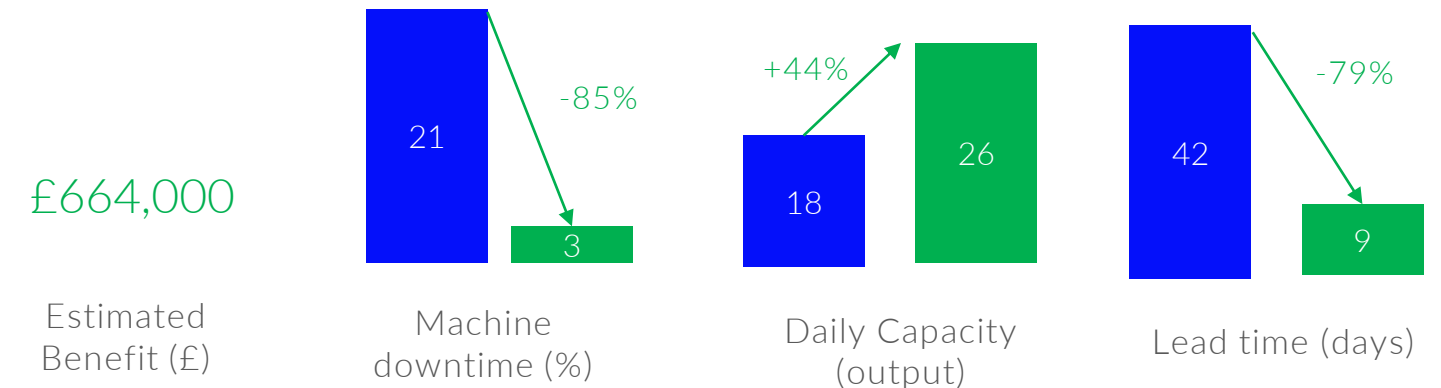
Implementation process



Following the [FlowPlus transformation cycle](#) we started by uncovering where and how they could improve. Once we had a clear improvement roadmap we worked as one-team with the client in workshop style to implement the improvements with the greatest ROI. Upon achieving the results, we trained their team how to follow a structured problem-solving approach and conducted Lean Six Sigma training. This training was followed by coaching to allow the Lean champions to put what they had learned into practice, helping them solve a problem within the different warehouse operations. Finally, we set up daily improvement huddles that empower staff to spot and solve problems, instilling a continuous improvement culture.

Results achieved

We achieved a step-change in performance, transforming their operational performance and establishing a continuous improvement culture.



Client testimonial

“FlowPlus helped us unlock our potential and as a result of their input we have delivered significant business improvement.” Operations Director

Next Steps

If you would like to find out more about how we can achieve similar results within your warehouse operations, please get in contact to schedule a free 30-minute consultation:

[Book an enquiry meeting](#)



FLOWPLUS CASE STUDY

Introduction

Having helped multiple Aerospace manufacturers with their Lean & Continuous Improvement journey, we have selected one case study to demonstrate their transformation and showcase the results they achieved.

We understand that every business is unique, with different challenges and aspirations. For that reason, we don't use a 'one-size fits all approach', instead we follow our transformation cycle as a framework to create bespoke solutions that are tailored to each client.

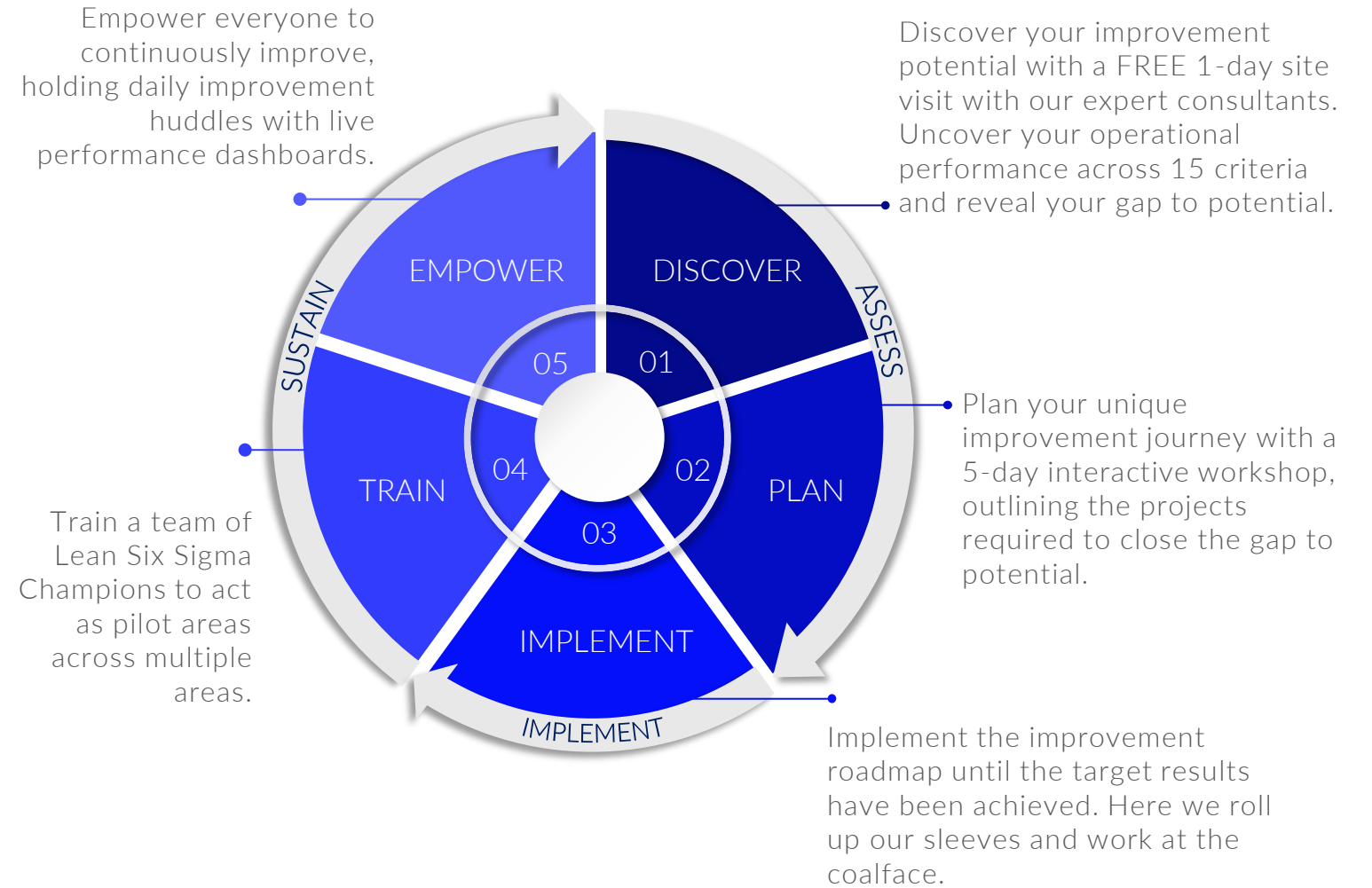
The client in this case study was a Midlands based site with roughly 230 employees, producing aerospace finished component.

Some of the clients we work with:



The 5-step cycle has proven to deliver operational transformations that are sustainable and develop a continuous improvement culture that stands the test of time. By following the cycle, businesses have the chance to discover where and how they can improve, uncovering how their operational performance compares to best-in-class food & beverage manufactures. Once an improvement plan has been developed, we help our clients make the changes and implement the improvements required to close the gap to potential. The final stage of sustain ensures the client is equipped to raise and solve problems long into the future.

The FlowPlus Transformation Cycle™



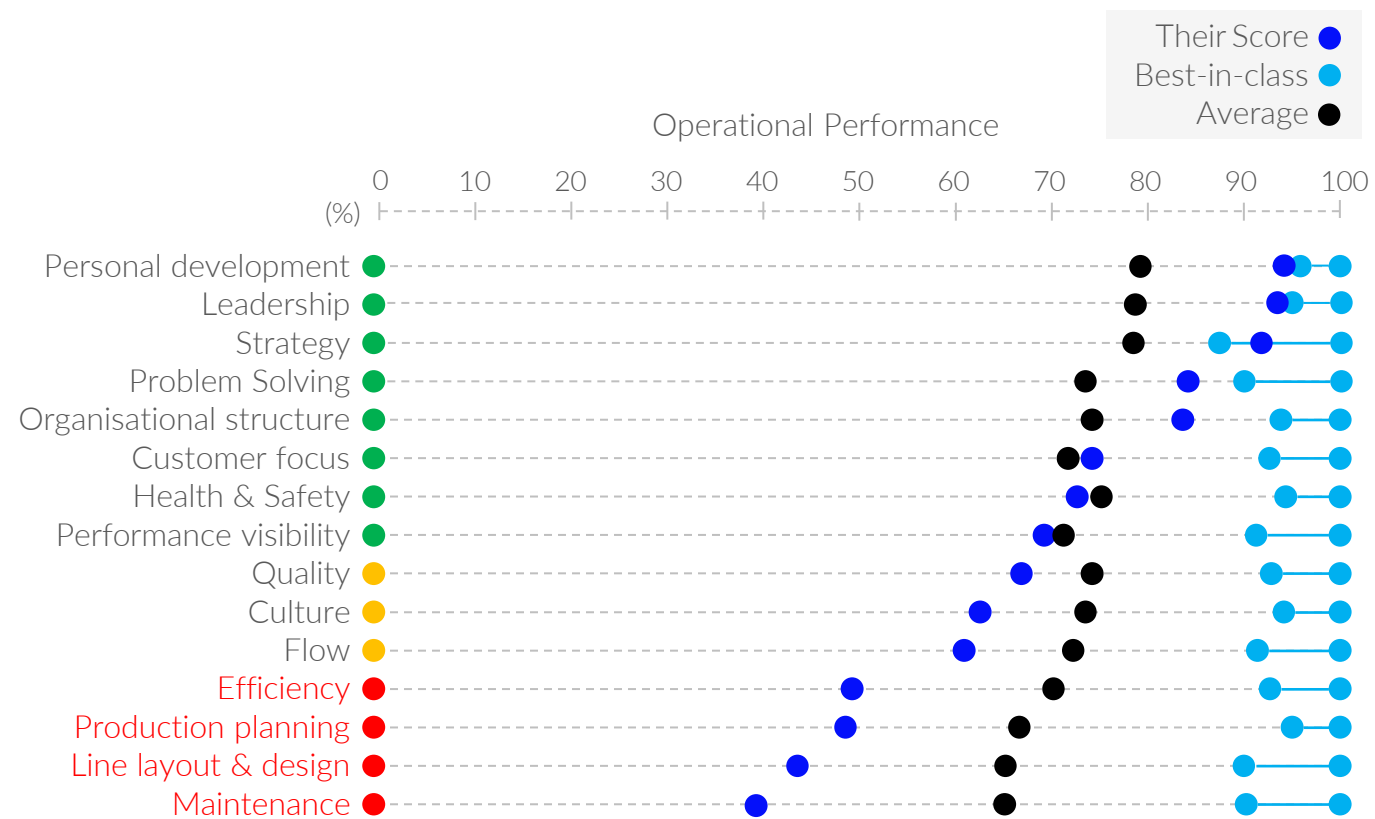
01. Discover

The client contacted us with a particular challenge they had – poor equipment reliability and an associated high level of downtime. The client wanted to increase site capacity and asked us to uncover how best to do so.

Our first stage – DISCOVER did exactly that, it benchmarked their operational performance and uncovered their gap-to-potential (difference between current performance and best-in-class performance across 15 criteria).

We visited their manufacturing site, made observations, spoke with operators, supervisors and the factory manager to collect data to better understand their processes and equipment. The results of the discovery report uncovered exactly where and how much they could improve. ●Red (<50%), ●Amber (50-70%), ●Green (>70%).

We uncovered 4 main areas for improvement; their maintenance strategy, factory layout, production planning methods and finally efficiency.



02. Plan

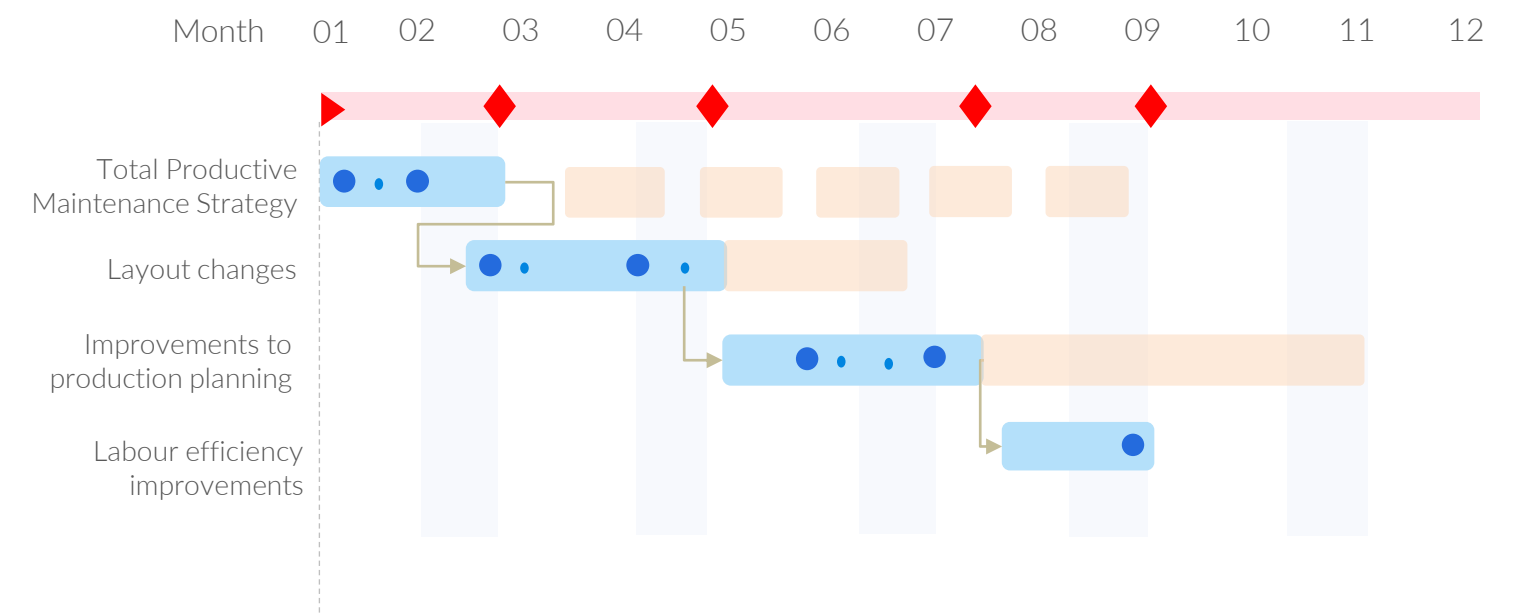
The findings of the discovery phase highlighted the main areas for improvement, next we needed to work out how to make the changes required to close the gap to potential (difference between current performance and best-in-class performance).

Through a collaborative 5-day workshop on site, FlowPlus worked with a multi-disciplinary team to dig deeper into each improvement area and devise a solution. Analysing production data to help quantify each improvement opportunity, a bespoke improvement roadmap was created – outlining the projects required to achieve their potential. The Plan stage involved a value stream mapping exercise, a future-state value stream design and a Return-on-investment analysis.

3 KPI's were set with assigned targets to track the improvements made:

	Machine downtime	Daily capacity (output)	Lead time (days)
Current	21%	18	42
Target	06%	25	20

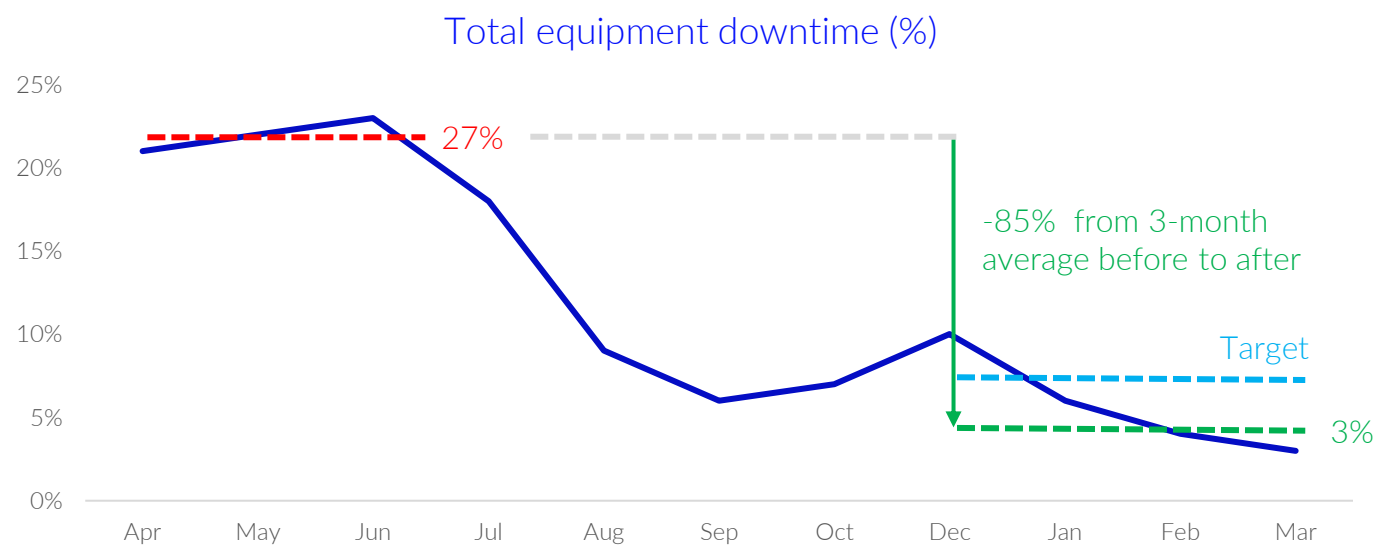
The improvement roadmap can be seen below:



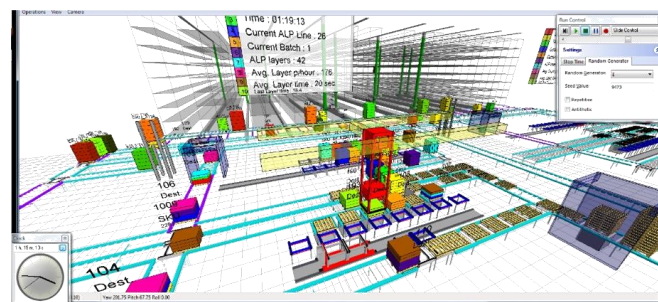
03. Implement

Before increasing capacity or making any lean improvements, you need stable and reliable production capabilities – this means equipment that is ready to run when you need it. The first project focused on reducing machine downtime.

Working closely with both the maintenance and the production team, we selected a particularly poor performing machine to act as a pilot area to commence the total productive maintenance (TPM) journey. Initially we simply collected downtime data to learn what the common faults were and the reasons for the downtime. It soon became clear that the most significant problems were a lack of preventative maintenance activities and poor management/control of critical spare parts. With the maintenance team we redefined the preventative maintenance activities and frequencies, empowering the operators to carry out the basic daily tasks of inspection, cleaning and lubrication. Conducting an FMEA exercise, we identified the critical spares required and ordered them. Over the following year the same approach was rolled out throughout the business. The results can be seen below:

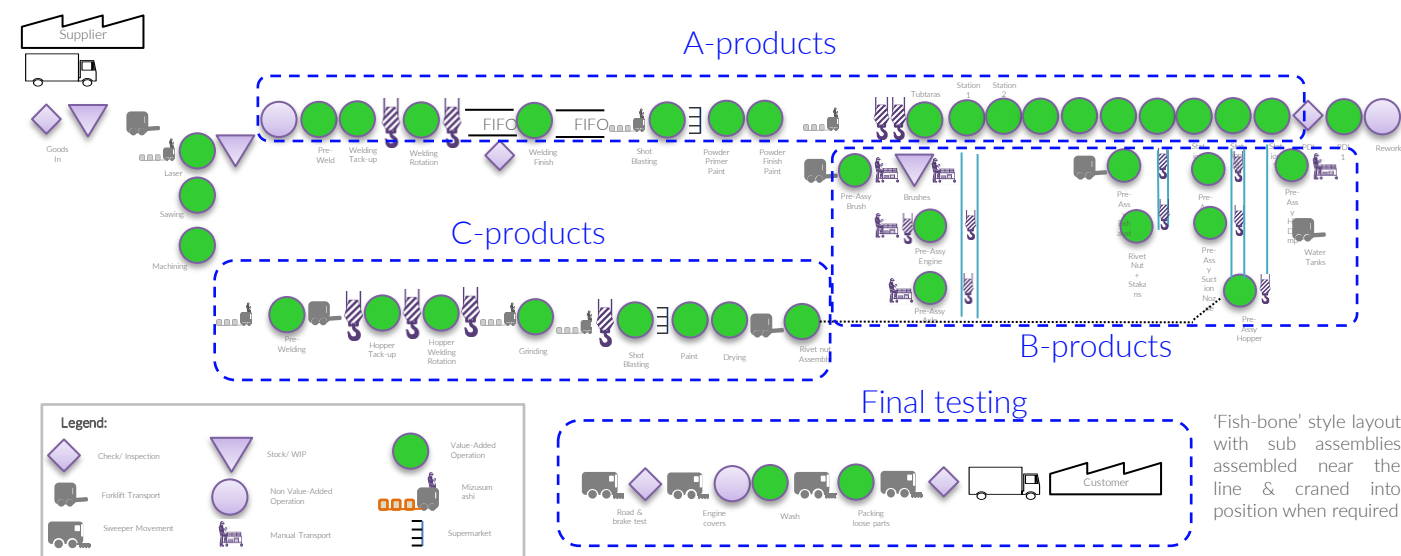


To optimise the factory layout to improve flow and efficiency, while also reducing lead time by limiting WIP between processes, we used our motion tracking technology to minimise travel distance. Introducing supermarket style racking between machines with set minimum and maximum stock levels helped establish a pull system where a kanban trigger would notify the upstream process when to produce.

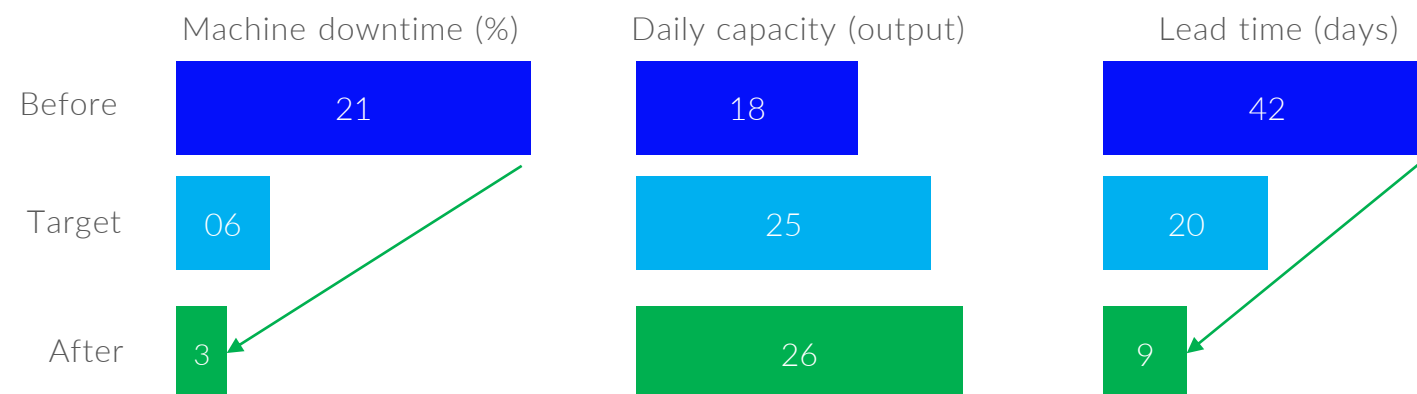


With an improved flow through the factory, we classified every product into A- Runner, B- Repeater or C- stranger based on their sales revenue.

A-runner products were made to stock, with a finished goods supermarket used to satisfy customer demand. B-repeater products were made in a U-shape cell which was away from the main production line dedicated for A-runner products. C-stranger products were made to order on a bespoke basis and their own production cell. The new production layout can be seen in figure 1.



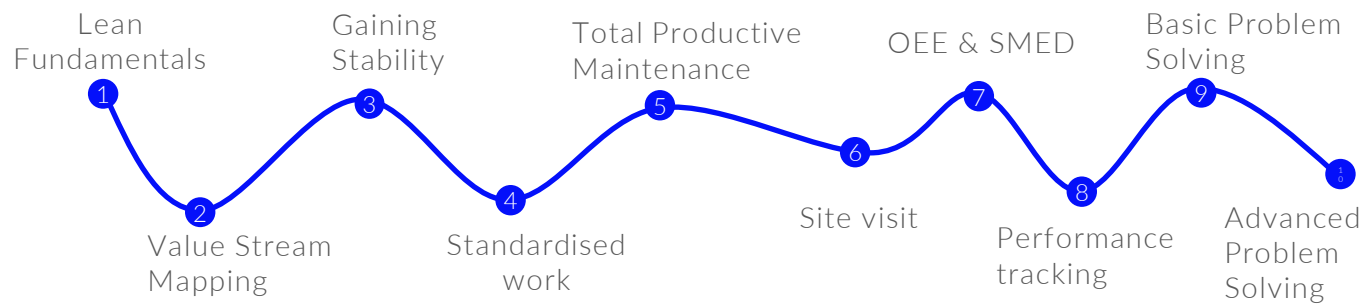
The new factory layout, the reduced machine downtime and the kanban pull system used for production planning all lead to the following results:



04. Training

To ensure improvement is sustained and a continuous improvement culture is established, these 2 phases – Training & Empower are essential. It's very simple, to drive change and improvement in the long run you need a team of problem solvers. By driving the change internally, the Lean champions can solve problems throughout the business and empower team members/operators in improvement identification.

Over the space of 10 days, we trained 20 Lean Six Sigma Green Belt champions with practical problem-solving training, equipping the champions with the ability to drive improvement within different areas of the business. The training included a site-visit to an aerospace component manufacturing client of FlowPlus to see how they had progressed on their lean journey and the tools/techniques that worked for them, offering food for thought and a chance to see the practical techniques in place.



Our training is different for 3 main reasons:

- 1) It's Practical
- 2) It's Bespoke
- 3) It's Accredited



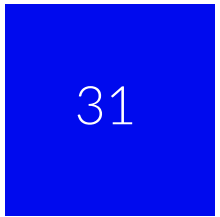
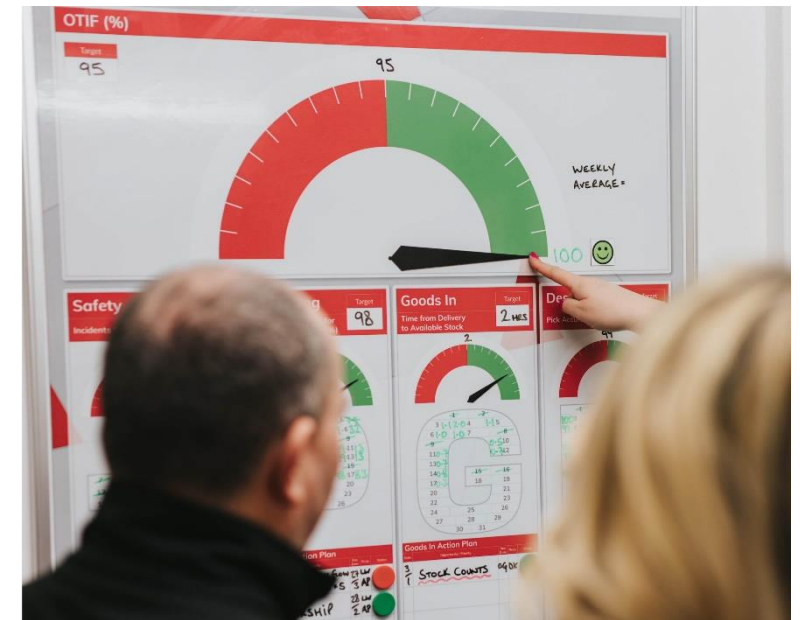
Practical – We do most of the learning on the shop floor, using exercises and case studies to provide real, usable skills that can be easily applied within their work environment.
Bespoke – We tailor each training to the clients unique business, providing training where the greatest scope for improvement has been identified and specific to their processes;
Accredited – At the end of the training, each Lean Six Sigma Champion is coached over 90-days to solve a problem within their department. This not only creates substantial tangible benefits but provides confidence that each student can practically apply what they have learnt. Upon completion of a successful project, each student will receive their globally recognised certification.

05. Empower

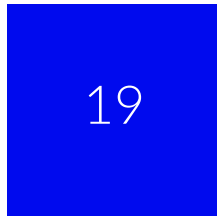
This final stage of the transformation cycle is what makes the transformation sustainable. We introduced 8 continuous improvement tracking boards and daily huddles throughout our client's site. These huddles act as a vital part of the continuous improvement journey, providing operators with visibility of their performance and the ability to raise any improvement ideas they have. Some of the key metrics measured include; output/day, quality faults identified, improvements made to SOPs & OTIF(%).

By holding continuous improvement huddles, each natural team became empowered to solve problems and improve daily. Team leaders/supervisors run the meetings and using their Lean Six Sigma training, solve problems that really matter.

Within the first 6 months of holding the improvement huddles, the client identified 31 improvement opportunities and has already solved 19 of them – resulting in an additional annual benefit of £290,000. The improvement huddles are still in place and have established the habits and culture needed to drive continuous improvement throughout the business.



Improvement ideas raised



Implemented improvements



Estimated benefit



**FlowPlus helped us
unlock our potential and
as a result of their input
we have delivered
significant business
improvement.**

Caroline Grant - Production Director



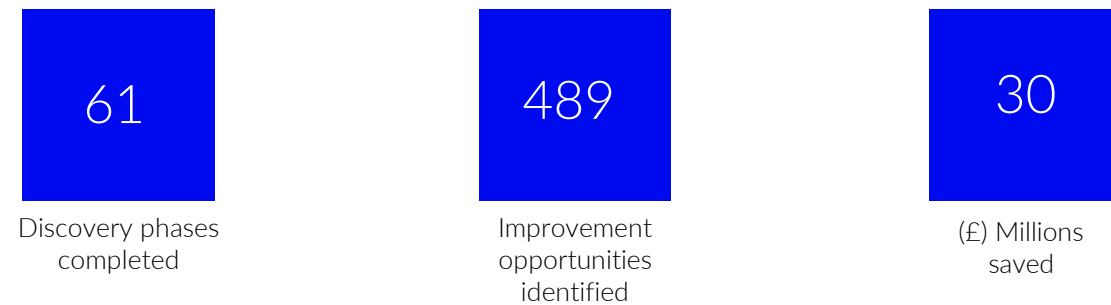


ABOUT US & NEXT STEPS

About FlowPlus

Having helped over 20 precision machining manufacturers (automotive & aerospace) with their Lean & Continuous Improvement journey, we believe every organisation can improve, and that starts with a discovery.

We understand that every business is unique, with different challenges and aspirations. For that reason, we don't use a 'one-size fits all approach', instead we follow the transformation cycle as a framework to create bespoke solutions that are tailored to each client.



Our team of consultants are experts in continuous improvement and lean manufacturing. We help our clients to work smarter – not harder. With experience ranging from lean manufacturing and operations management, to artificial intelligence and finance, we provide a unique insight to improvement, tailored to your unique business.

We are headquartered in Surrey and were founded by two friends from the University of Warwick studying Physics and Engineering. All our consultants are Lean Six Sigma Black Belts and have 5+ years of experience within the industry.

We provide a wide range of consulting services based on your specific needs, ranging from Lean Six Sigma training to focused improvement projects.

Risk-free consulting

We only charge our clients based on the results we achieve. No traditional charging for days on-site, we believe we should be judged and rewarded only if/when we achieve the target. This means no risk for you, if we don't get tangible results, we won't charge.

Next Steps

If you are interested in achieving similar results or have any queries about how we work, our payment terms etc then please book a free 30-minute consultation with one of our consultants below:

[Book an enquiry meeting](#)

Or email:

enquiry@flowplus.co.uk with your request.

We believe every Organisation can improve.

Right now, within your organisation, there are complex and apparently insurmountable challenges to solve.

Equally, there's hidden opportunity to tap into. If you're going to overcome those obstacles, unearth that potential and keep on improving as an organisation – change is essential. But where to start? How do you make the right changes? And how do you make them stick?

That's where we come in...

Get in touch to book a free 30-minute consultation and accelerate your improvement journey.

[Book an enquiry meeting](#)

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