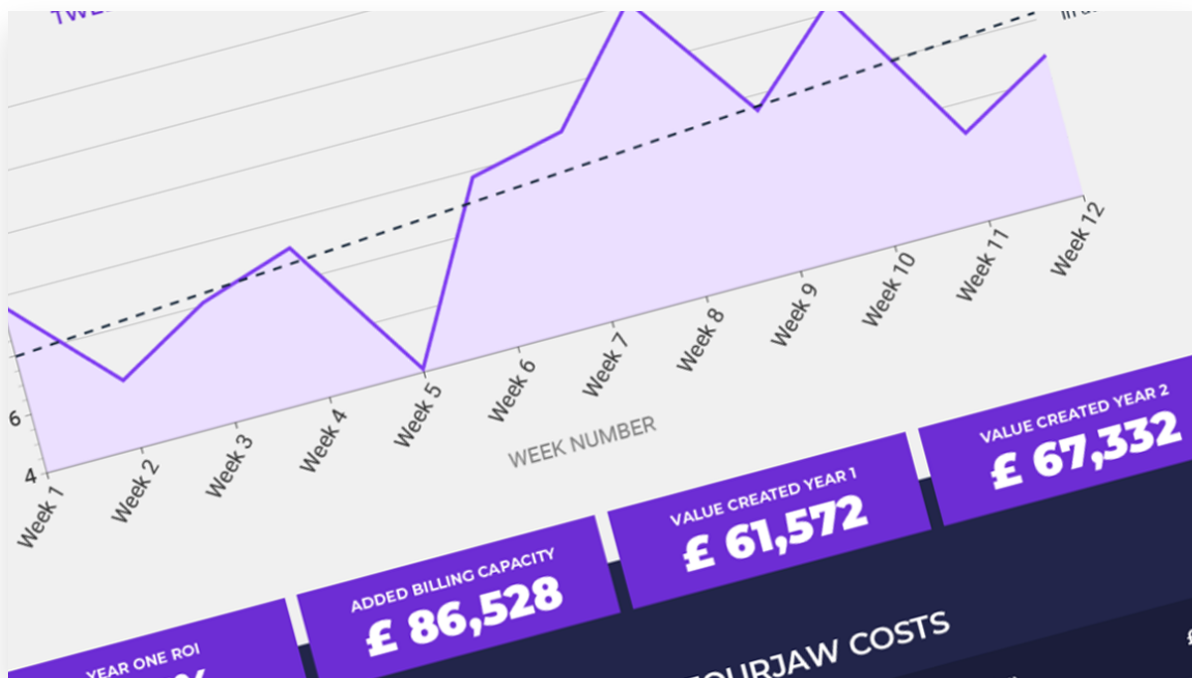


The benefits of machine monitoring explained. With hard numbers!

How production teams gaining total clarity on the shop floor helps determine where's best to focus their efforts.



By Chris Iveson

You've just commissioned a shiny-new CNC machine. Would you expect to increase production output if you forget to use it?

Silly question I know.

Even though machine monitoring with FourJaw is considerably more affordable than a CNC machine (and far easier to install!), it won't be a surprise to hear that it also needs a bit of love if it is to transform your production output.

For those that do use it, there are massive gains to be found. The average CNC machine FourJaw monitors, registers utilisation figures lower than 20%. Put another way, over 80% of the available time CNC machines are not making the business money! Many manufacturers are shocked at how low their machine utilisation is when they first install the FourJaw platform. **The good news is, this represents a massive opportunity for improvement, an opportunity they didn't know they had!**

Immediate gains can be found just by being able to see, with all machines on one dashboard, which are well utilised vs which are not. This means the supporting production teams have total clarity on where's best to focus their efforts.

The next obvious question is "why are my machines losing productivity", which is where help from the operators come in. The FourJaw tablets ask them to input downtime reasons as they occur at the simple tap of a button, empowering them to communicate all the daily problems they face. Support teams are finally able to quantify and prioritise downtime reasons/operator problems and work to remove them. The result is a happier overall team that's highly productive.

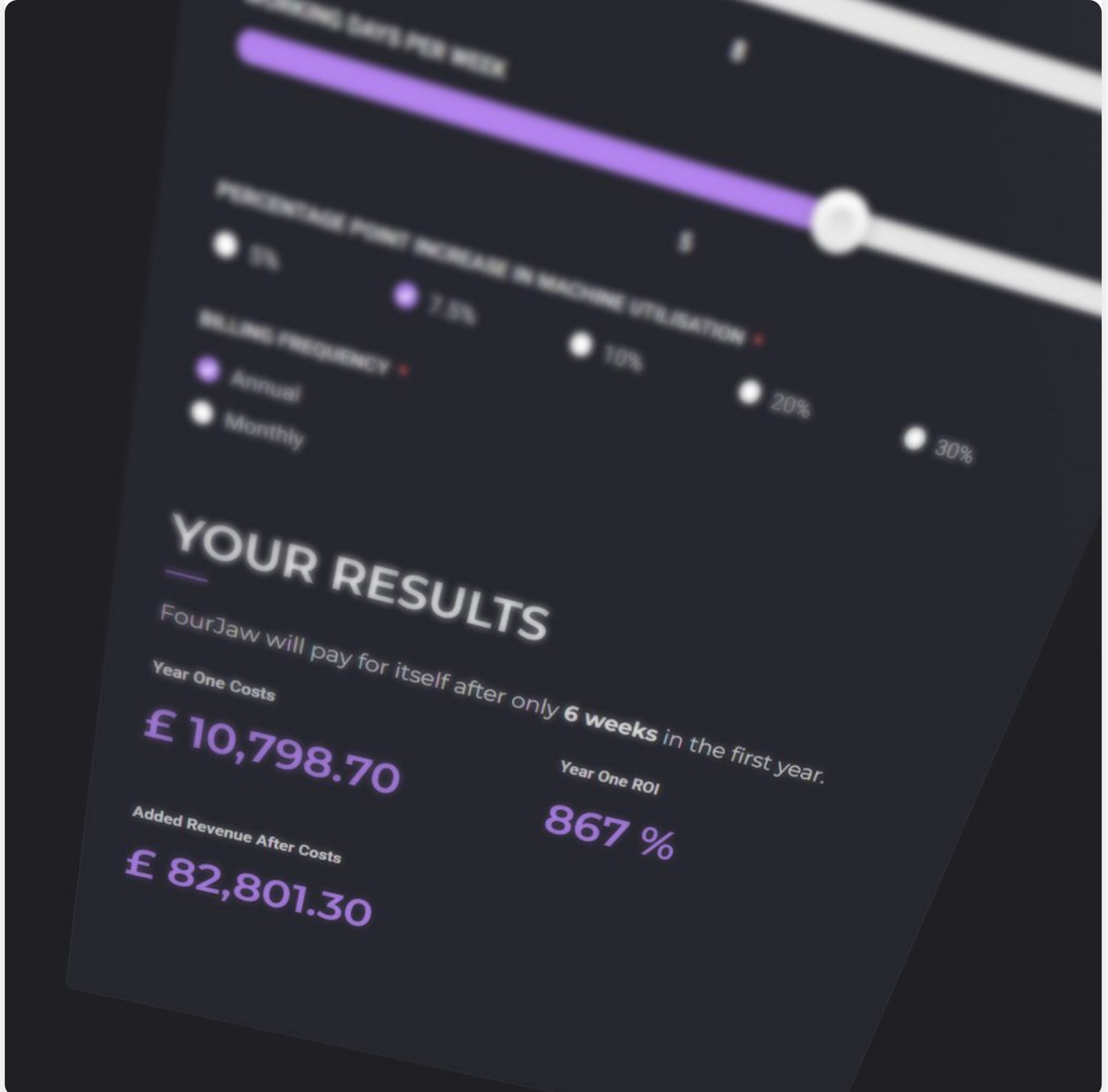
So how does this actually work in practice?

A very good question. Take this very short example from Harry Gray at KSW Engineering:

We looked at the FourJaw downtime data, which showed us that time lost due to not having enough production engineers was costing us £250k per year in lost productivity. This gave us the knowledge that we could effectively hire another five if we wanted to and still be in credit."

Harry Gray, KSW Engineering

Digital manufacturing is rarely about reducing team headcount, or about simply cracking the whip harder to get more. It's all about using data collected at the machines to drive smarter decision making, driving up productivity.



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Try our Machine Monitoring ROI Calculator

Find out how quickly you can see a return on investment with FourJaw Manufacturing Analytics

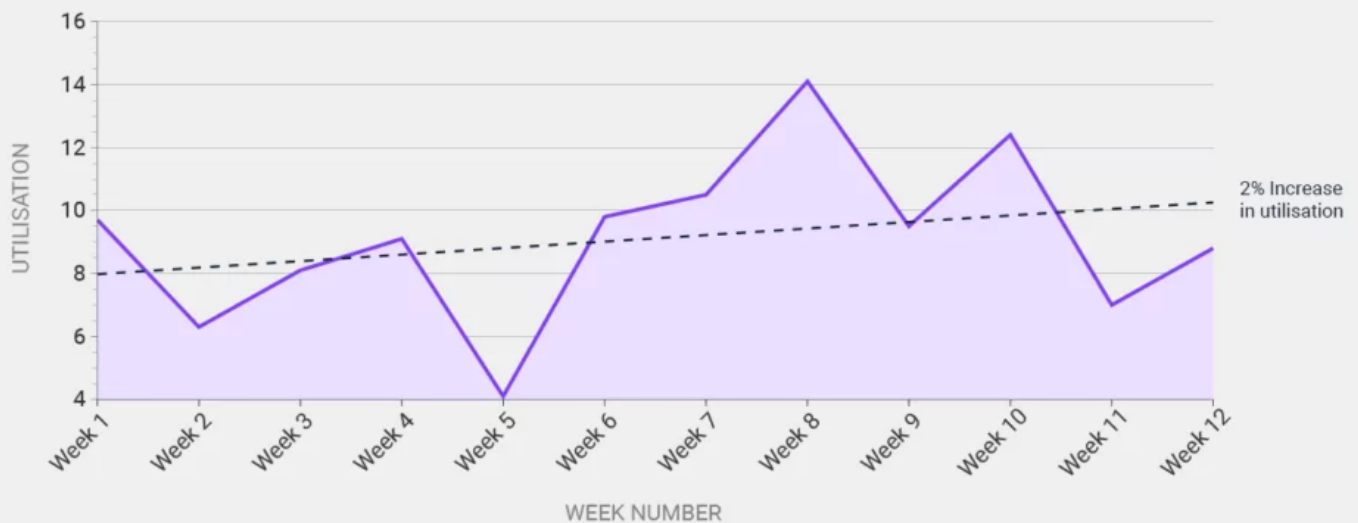
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So what? Where is the evidence this will actually impact our productivity, and will it do it quickly?

At FourJaw HQ, we have been running the numbers. We analysed the weekly machine utilisation figures of three manufacturers for 12 weeks following installation of FourJaw. Each manufacturer works in a different industry producing different parts of different complexity in different quantities, therefore the machine utilisations differ significantly from each other.

Manufacturer #1

TWELVE-WEEK MACHINE UTILISATION AFTER FOURJAW INSTALLATION



YEAR ONE ROI
347%

ADDED BILLING CAPACITY
£ 86,528

VALUE CREATED YEAR 1
£ 61,572

VALUE CREATED YEAR 2
£ 67,332

ROI CALCULATOR INPUTS

NUMBER OF MACHINES	16
CHARGE OUT RATE	£65.00
WORKING HOURS PER DAY	16
WORKING DAYS PER WEEK	5
INCREASE IN UTILISATION	2%

FOURJAW COSTS

FOURJAW SUBSCRIPTION (P/M)	£1,600
ONE-OFF HARDWARE COSTS	£,5760
YEAR ONE TOTAL FOURJAW COSTS	£24,956

Manufacturer 1 is a subcontract precision machine shop for various industries. The nature of their work means that their components typically require long run times on the machines. So, they found that they already had a very strong weekly utilisation figures. While there was significant fluctuation in the weekly figures, the trendline shows they were at 45% when they originally installed FourJaw. This is far higher than the average machines that we monitor- but still they knew they could improve!

In the same way as Harry from KSW, they worked with the FourJaw platform remove their top production challenges and started to see their

weekly performance increase through time. The graph below shows the weekly utilisation figure of their machines connected to the FourJaw platform over the first 12 weeks. We have plotted the trendline that shows utilisation steadily increasing up to a massive 60% on average.

Yes, they still have the odd challenging week that impacts their figures (something they're working on solving), but they've shown that on their best weeks, they're capable of hitting a massive 70% utilisation! The trendline over the 12 weeks has gone from 45% up to 60%, a 15% increase in weekly utilisation, or put another way a 33% improvement on where the trendline started!

So what does this actually mean for their bottom line?

Well, if you feed the numbers into the FourJaw [return-on-investment calculator](#) you can find out. This manufacturer currently has 6 machines connected to FourJaw. They have an average hourly billing rate of £65, and they run 2 x 8 hour shifts per day, 5 days per week. Plug in the 15% utilisation improvement that they've experienced and you'll see that FourJaw is helping them to add £243,360 of extra billing capacity per year, on only 6 machines! We'd of course like to point out that the £9k investment in the FourJaw platform is miniscule by comparison!

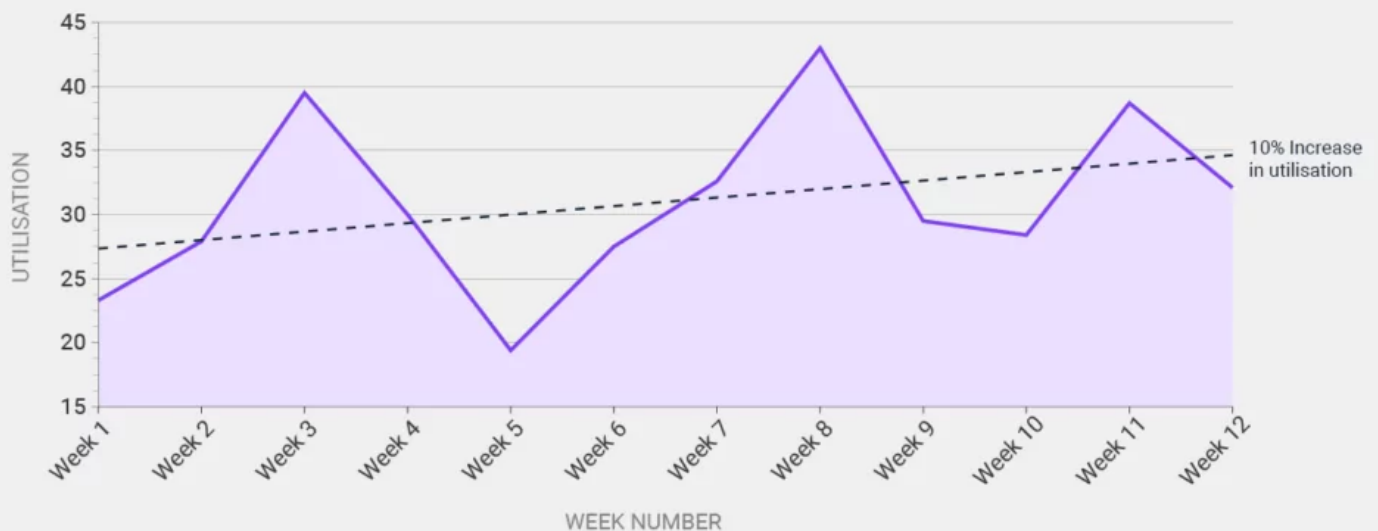
The manufacturer is very happy with progress, and is making some big improvements to their business off the back of the data that they're receiving from FourJaw. One of these changes is to expand the number of machines that are connected to FourJaw as they look to remove "blind spots" from their continuous improvement programme.

What about other manufacturers with lower starting utilisation figures?

Manufacturer 1 is not unique, we performed the same exercise on various manufacturers and have included 2 similar examples below, and frankly we could go on. Each manufacturer has very different type of businesses with very different baseline utilisation figures, and the numbers speak for themselves.

Manufacturer Example #2

TWELVE-WEEK MACHINE UTILISATION AFTER FOURJAW INSTALLATION



YEAR ONE ROI
3641%

ADDED BILLING CAPACITY
£ 331,346

VALUE CREATED YEAR 1
£ 333,505

VALUE CREATED YEAR 2
£ 340,704

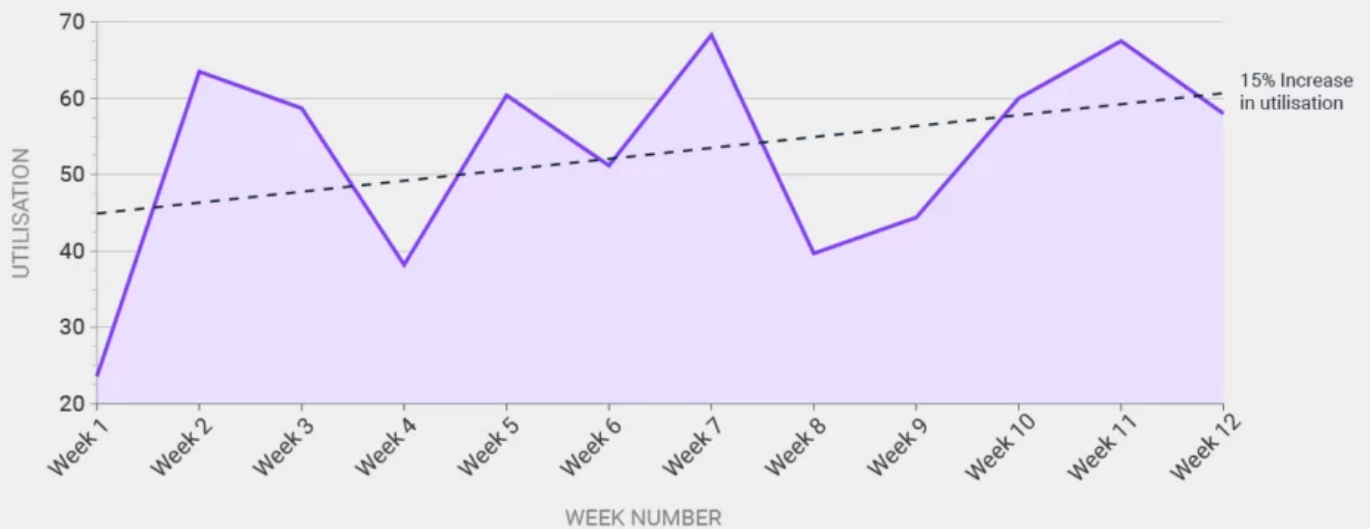
ROI CALCULATOR INPUTS

NUMBER OF MACHINES	6
CHARGE OUT RATE	£65.00
WORKING HOURS PER DAY	24
WORKING DAYS PER WEEK	7
INCREASE IN UTILISATION	10%

FOURJAW COSTS

FOURJAW SUBSCRIPTION (P/M)	£599.88
ONE-OFF HARDWARE COSTS	£2,159.88
YEAR ONE TOTAL FOURJAW COSTS	£9,358.44

TWELVE-WEEK MACHINE UTILISATION AFTER FOURJAW INSTALLATION



YEAR ONE ROI
2600%

ADDED BILLING CAPACITY
£ 234,001

VALUE CREATED YEAR 1
£ 236,161

VALUE CREATED YEAR 2
£ 243,360

ROI CALCULATOR INPUTS

NUMBER OF MACHINES	6
CHARGE OUT RATE	£65.00
WORKING HOURS PER DAY	16
WORKING DAYS PER WEEK	5
INCREASE IN UTILISATION	15%

FOURJAW COSTS

FOURJAW SUBSCRIPTION (P/M)	£599.88
ONE-OFF HARDWARE COSTS	£2,159.88
YEAR ONE TOTAL FOURJAW COSTS	£9,358.44

What's interesting here is that all manufacturers have significant week-on-week variation in their utilisation figures, which shows how complex their job is. Despite this, all three manufacturers are trending upwards over the 12 week period. What's also interesting is that even manufacturers who only see a small utilisation improvement (2%) still gain a significant ROI in financial value per year- you don't have to blow the doors off for FourJaw to make a significant difference!

In Summary

You need to engage with your digital manufacturing platform to receive the productivity enhancing benefits, and there are significant benefits up for grabs for those that do. This blog post has shown you a simple way of using the FourJaw platform to increase utilisation, increase your billable hours and therefore increase your profit!

And we haven't even started talking about how our works order booking platform can help improve the accuracy of your quoting and shop floor scheduling processes....

Why not take a look at our growing list of independent customer reviews [here](#) and then [get in touch](#) to see how you can realise the same level of benefits on your shop floor!

About The Author



Chris Iveson


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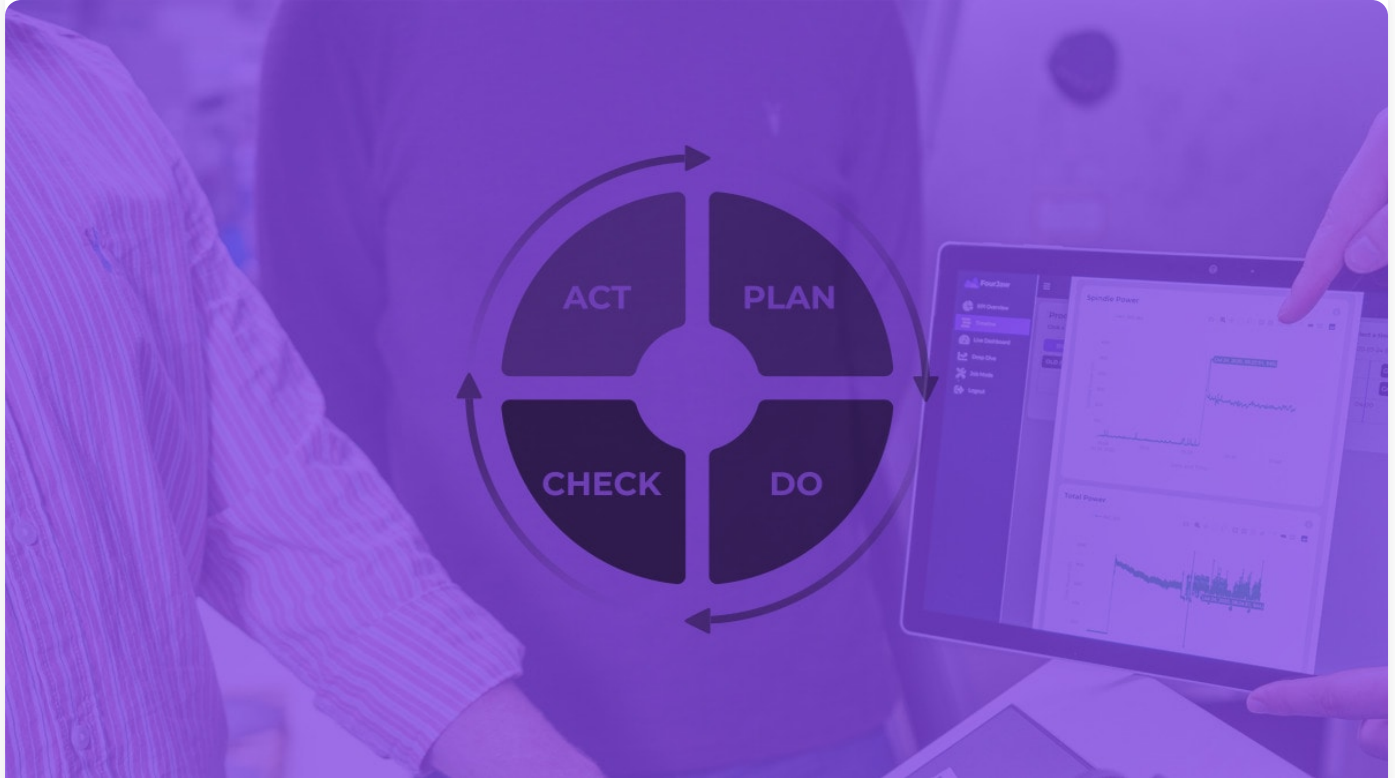
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<div>3 Title - enter MR, MRS, MISS, MS or other title</div> <div><div></div></div> <div>Surname or family name</div> <div><div></div></div> <div>First or given name(s)</div> <div><div></div></div>	<div>7 Last entries on P11 <i>Deductions Working Sheet</i>.</div> <div>Complete only if Tax Code is cumulative. Make no entry if week 1 or month 1 applies, go straight to box 8.</div> <div>Week number <div><div></div><div></div></div> Month number <div><div></div><div></div></div></div> <div>Total pay to date</div> <div><div>£</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> . <div><div></div><div></div></div></div> <div>Total tax to date</div> <div><div>£</div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> . <div><div></div><div></div></div></div>
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How manufacturers can beat “The Great Resignation”

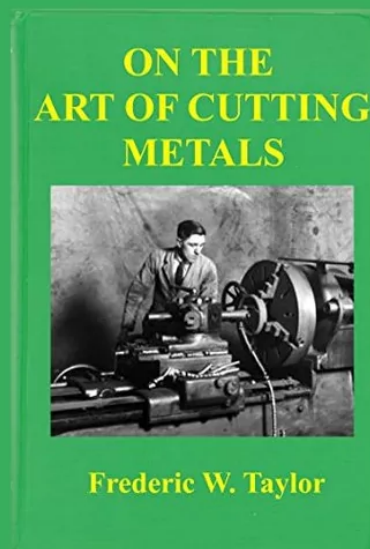
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Finding the sweet spot for CNC machining data

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$$\frac{\begin{array}{c} \text{FourJaw} \\ \text{Subscription} \end{array} \left(\begin{array}{c} \text{£ Per Machine} \\ \text{Per Month} \end{array} \right)}{\begin{array}{c} \text{Charge-Out Rate} \end{array} \left(\begin{array}{c} \text{£ Per Machine} \\ \text{Per Hour} \end{array} \right)} = \text{ROI} \left(\begin{array}{c} \text{Hours To ROI} \\ \text{Each Month} \end{array} \right)$$

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Dave Robertson ·

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