



CASE STUDY

P2i

Unique technology born in the heart of Oxfordshire is helping protect millions of electronic devices across the world and its impact is set to grow even further with outsourcing deal extension.



Control & Automation
Complete manufacturing solutions

P2i, which celebrated 20 years in business in 2024, designs and builds machines that apply the thinnest, most robust liquid protection on the market, helping to reduce the 58 million tonnes of e-waste that society creates every year. This is far bigger than the total weight of the Great Wall of China!

The company's coating technology works at the molecular level thanks to its unique Plasma Enhanced Vapour Deposition chamber. It is used to protect consumer, automotive, medical, aviation and general electronics and components.

Despite a host of global challenges leading to unprecedented supply chain disruption and soaring energy prices, the ambitious nano coating specialist has continued to increase its global presence, customer satisfaction levels and market diversification.

It now employs over 190 people globally at its facilities in Oxford in the UK, Shenzhen in China and satellite offices in Asia and the rest of the world, including technical/sales offices in India and the USA.

PICTURED:

One of the first P2i machine builds at PP C&A's award-winning facility.



The Scenario

Rewind just over ten years. P2i's technology was making waves, with the opportunity to coat and protect millions of emerging mobile handheld devices.

As a relatively young business, the company knew it had to work with a manufacturing partner to meet the volumes and achieve the speed to market required and demanded by its clients.

After an extensive selection process, it chose to work with PP Control & Automation (PP C&A) to develop the control panels for its first machines, a decision that would quickly flourish as both parties learned to leverage each other's strengths.

This naturally led to PP C&A being awarded the full build, providing electronics, supply chain management and sub-assembly services to P2i, creating 100 machines – all capable of coating hundreds of products at one time – that are still out in the market and operating successfully.

Like all fast-growing businesses, P2i was looking at new applications and opportunities for its technology, a search that led to the industry need for smaller machines that give customers the opportunity to invest and try out a compact model before purchasing the larger units.



The thinnest, most robust liquid protection on the market.

Phil Millard, Head of Engineering at P2i with the new 18L machine



The Solution

"PP Control & Automation has been our manufacturing partner for more than half of our company life and its 'DNA' was embedded into our hugely successful existing machines. Getting them involved in our next generation 18L model at the earliest possible stage was the natural decision," explained Phil Millard, Head of Engineering at P2i.

"This system takes all of our capabilities and condenses them into a smaller, standalone unit that has less than half the footprint and can be wheeled onto any shopfloor in the world."

PP C&A's proven New Product Introduction (NPI) process was at the heart of the build, identifying a host of cost downs and process build efficiencies and, importantly, assisting with the production engineering process.

It took just six months from the initial idea for P2i to supply the machine design files to produce the first 18L machine, built from start to finish at the outsourcing specialist's state-of-the-art factory in the West Midlands.

This incredibly quick turnaround was made possible due to the entrenched relationship between the two companies and the complete transparency, where iterations are welcomed and acted upon to improve the process and the end-use application.

Tony Hague CEO at PP Control & Automation, picked up the story: "NPI is all about learning as you go, applying DFM measures, and settling upon the best possible production method, driving out costs and identifying where we can speed up the build."

"Our partnership with P2i is a fantastic example of how strategic outsourcing should work. On the 18L, we have been able to eliminate 20 hours from the build process, whilst still delivering the performance and quality demanded by the client."

"To build a high-tech machine in just six months is some achievement, but I believe we'll be even quicker next time. We both view iterations as a great learning process and this approach has and will deliver some fantastic bottom-line benefits."

P2i is quick to praise the depth of the relationship with PP C&A, citing the constant communication and the levels of trust that have been developed over the last decade.

Engineers at both firms are continually emailing each other even when there are no machines in production, whilst phone calls are constantly made to sound out and test new ideas/small changes to the process.

Phil went on to add: "Sometimes it can be the little things that make the biggest difference and I feel this is reflected in the openness of our dialogue. Over the years, we have learned to leverage each other's strengths and share IP – you can't have that relationship with every supplier, that's why I always describe PP C&A as our 'manufacturing partner'."



18L machine, inside and close up

The Results

Five 18L machines have been manufactured in record time and are now being sold and shipped to a variety of customers.

This is just the start. P2i is expecting demand for these systems to outstrip earlier models and PP Control & Automation has built a dedicated cell capable of creating tens of units every week.

As a manufacturing partner it has not stopped there. On this particular model, the company has taken on more supply chain responsibility and is now offering 'Factory Acceptance Test' meaning when machines head to Oxfordshire they have been tested and are working efficiently.

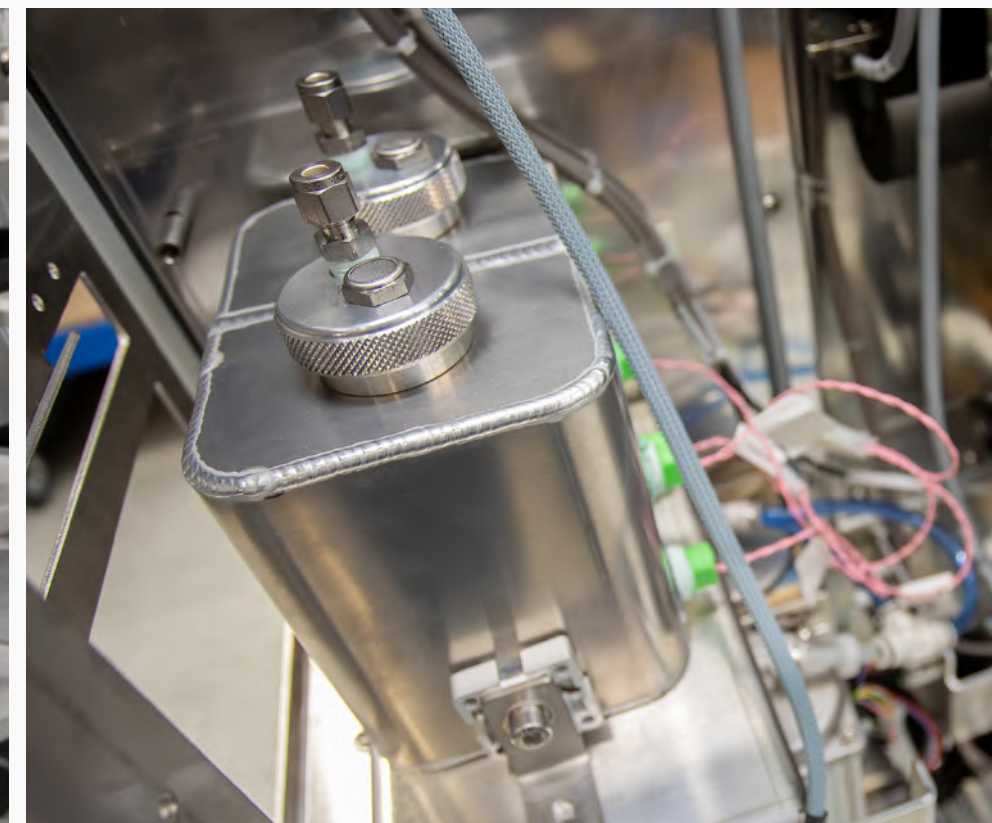
PP C&A's Tony Hague continued: "Our manufacturing expertise, combined with our automated cable processing to eliminate quality defects and the strength of our partnership, have created an industry-first machine that is opening up new markets for P2i.

"The build process has been revolutionised and we are now working on the sixth system, which we believe we will deliver in weeks as opposed to months. Design for manufacture has been critical in giving us a proven process that offers the best quality, speed and reliability."

Martin Tolliday, Chief Operating Officer at P2i, concluded: "Our expertise is in designing and developing machines that can apply ultra-thin coatings to a wide range of applications, helping increasingly reduce the amount of e-waste produced across the world every year.

"Our technology is our USP and, to get the most out of it, we leverage PP C&A's 50 years+ of machine build expertise as our manufacturing partner. It is a vitally important relationship, that is pivotal to us growing and taking advantage of new opportunities.

"The partnership is only going to get stronger. Whilst our 18L model is being rolled out, we are already working on the next generation of equipment that will provide the fastest and largest coating application capability we've ever produced."



Module or assembly-based, part or full machine build

Do things better and faster, with less risk.

PP Control & Automation is an award-winning provider of strategic outsourcing solutions to many of the most successful and respected machine builders worldwide.

The PP C&A approach to manufacturing starts with understanding your business pain. This pain is often a constraint to further growth. Commonly, they are centred around people and space, or production lead times and supply chain management. PP C&A alleviate these constraints by building relationships, strategies and manufacturing solutions that help you focus on your core competencies and comfortably and confidently leave the rest in expert hands.

Tony Hague CEO

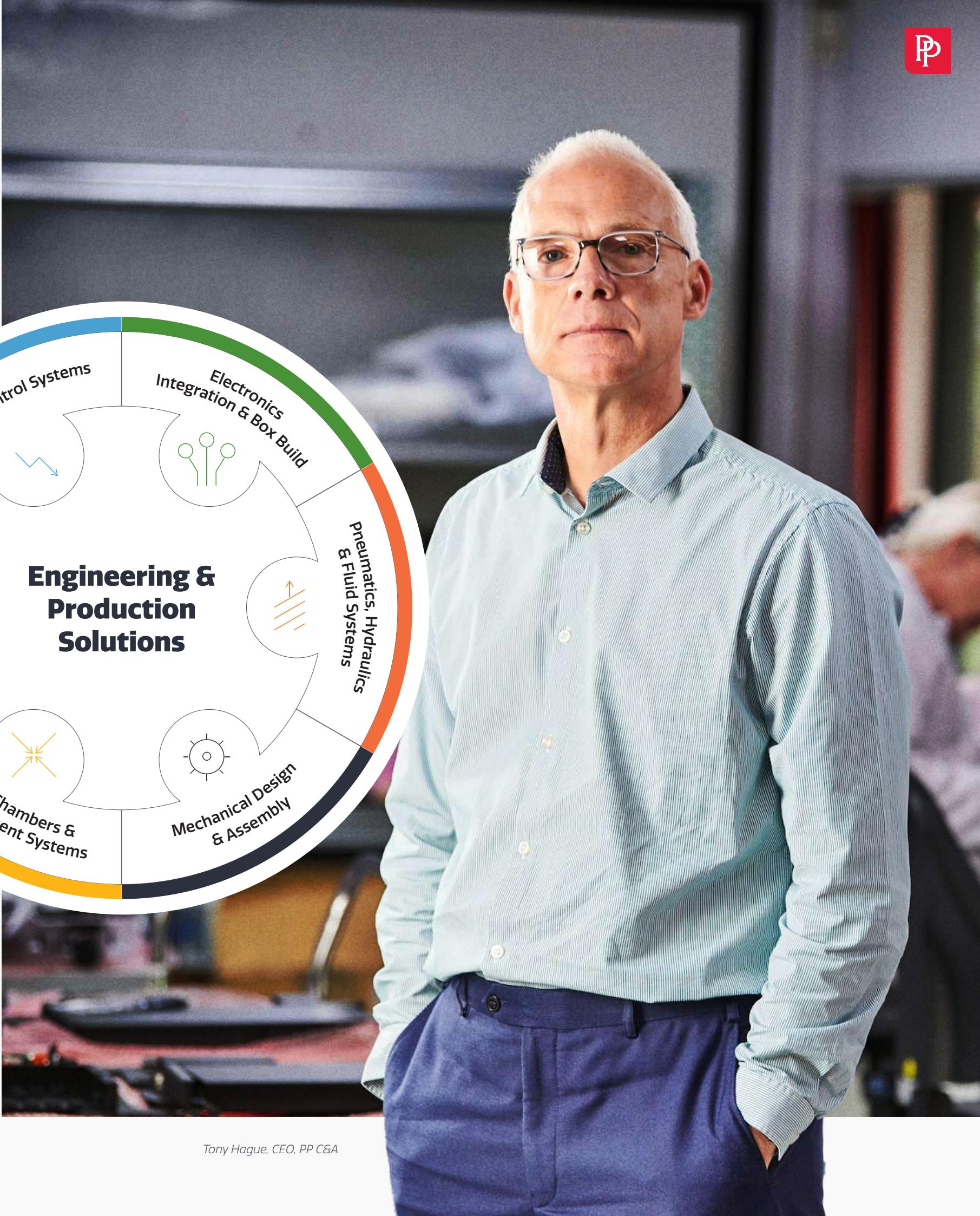
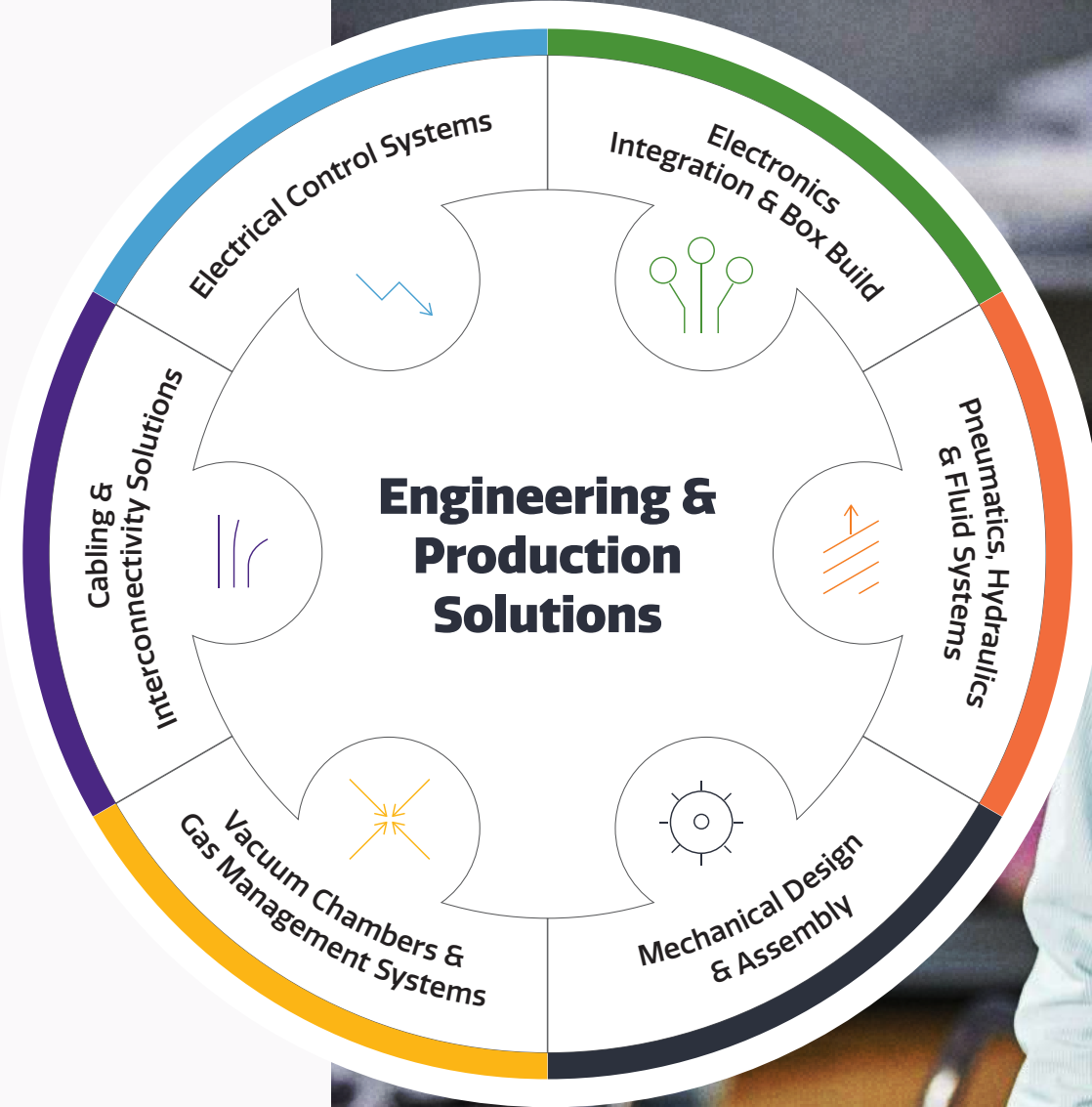
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Tony Hague, CEO, PP C&A

MAKING OUTSOURCING EASY



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