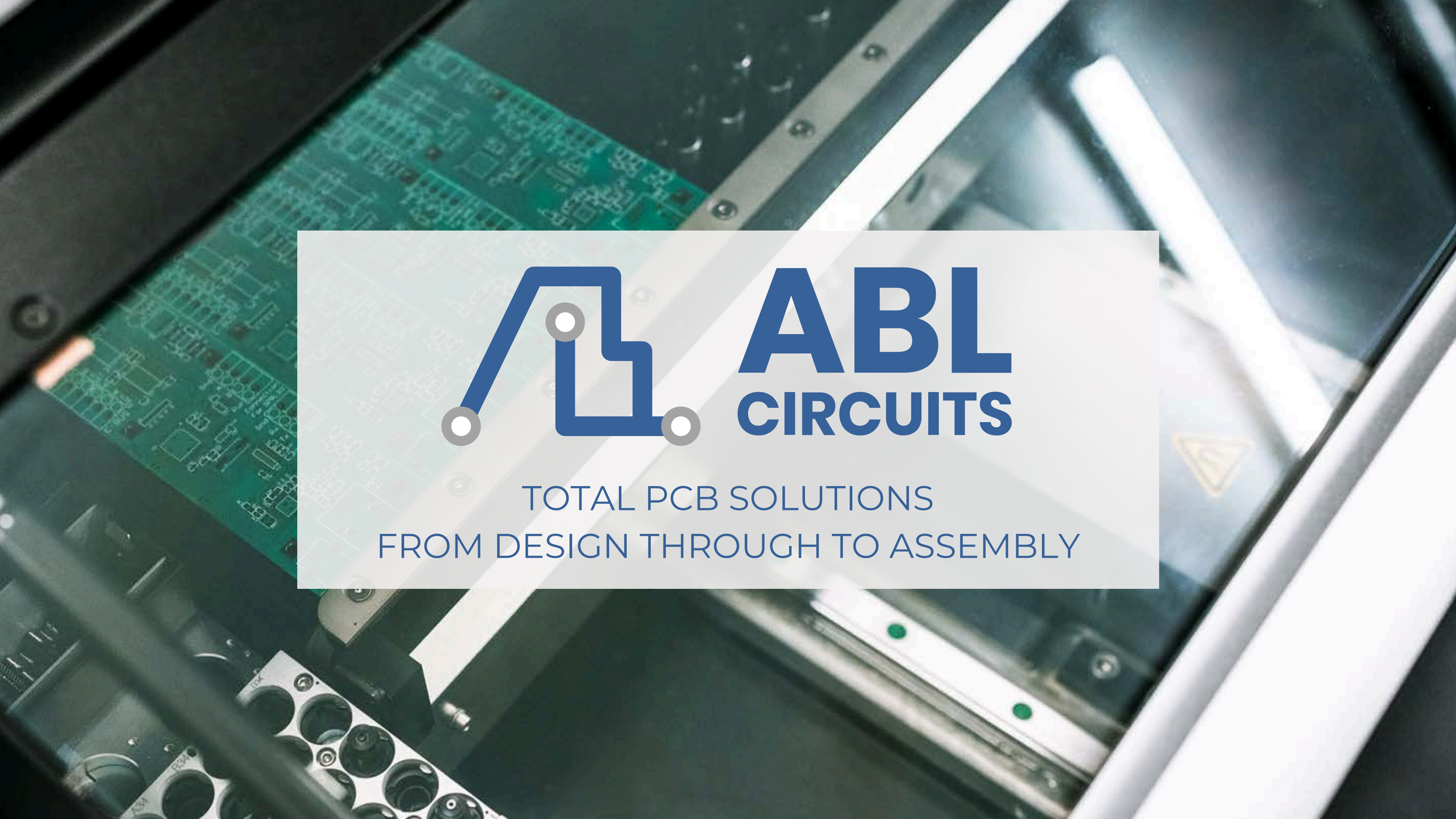
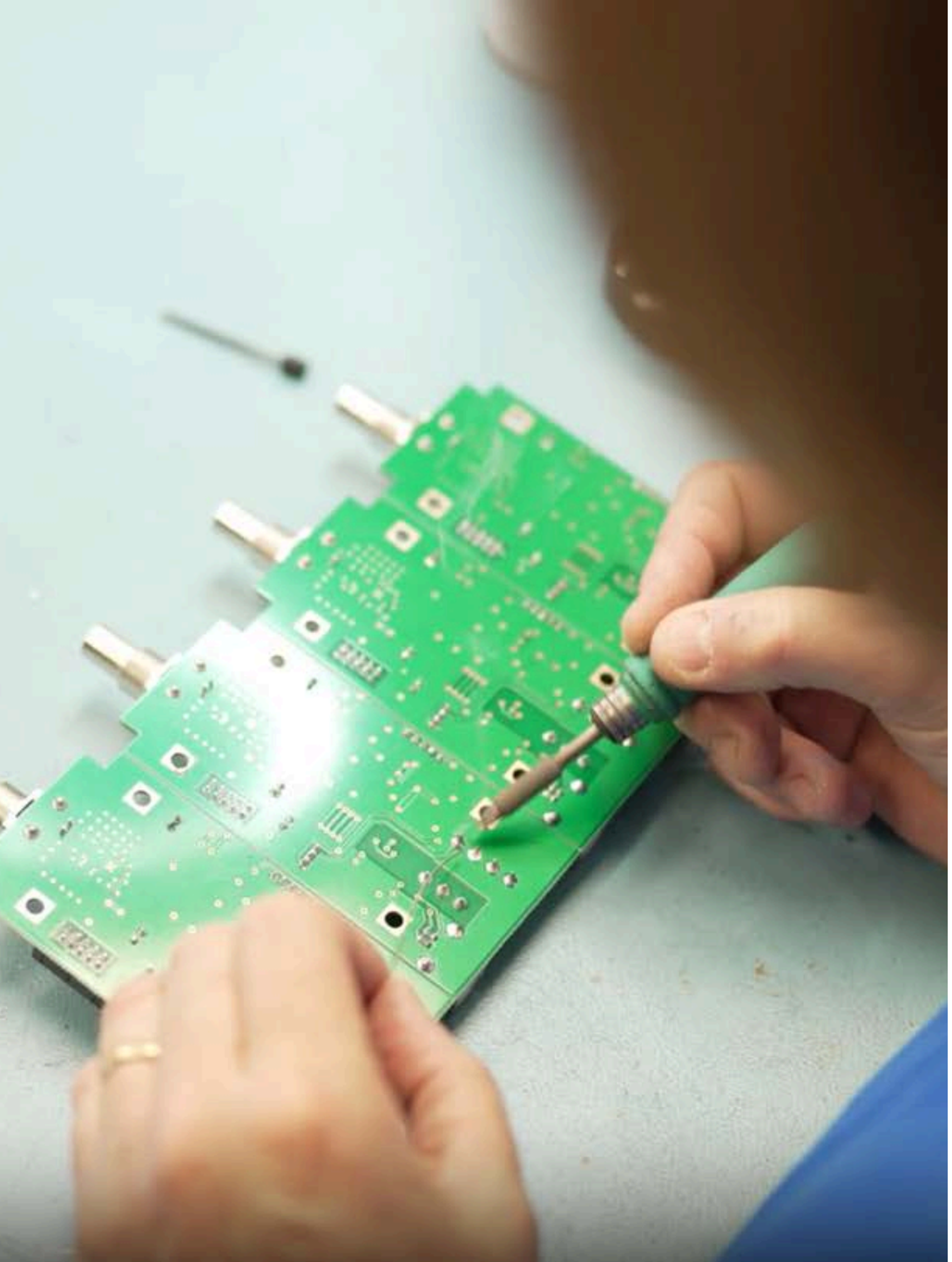


ABL CIRCUITS

TOTAL PCB SOLUTIONS
FROM DESIGN THROUGH TO ASSEMBLY



ABL CIRCUITS: OUR JOURNEY

ABL Circuits began in 1983, when Managing Director Mark Leverett started the company at home with simple yet effective equipment. His mission was clear: to produce high-quality circuit boards with enthusiasm, speed, and precision. As demand grew, ABL Circuits moved to Baldock, Hertfordshire, where it continues to thrive today.

Over the years, ABL Circuits has expanded its factory space, increased its talented workforce, and invested in cutting-edge technology. Reliability, affordability, and dependability remain our core values. With Mark's son, Will Leverett, joining as Director, the business continues to grow.

Looking ahead, ABL Circuits remains dedicated to providing exceptional customer service and producing high-quality products with precision and timeliness. Our future is bright, and we are committed to maintaining our standards of excellence and innovation.

ABOUT US

ABL Circuits is a leading provider of high-quality printed circuit boards with over 40 years of experience.

Located in Baldock, Hertfordshire, we pride ourselves on offering a complete in-house solution from design to assembly, ensuring the fastest lead times in the UK.

Our family-run business is dedicated to delivering exceptional customer service, rapid prototyping, and reliable, high-quality PCB products for a diverse range of industries.

We combine advanced technology with skilled craftsmanship to meet the specific needs of each client efficiently and effectively.

WHO WE HAVE WORKED WITH IN 2024

bp pulse

plexus

pod POINT

AIRBUS

ORACLE
Red Bull
RACING

RVC Royal Veterinary College University of London

Cranfield University

diamedica

BAE SYSTEMS

AMG PETRONAS FORMULA ONE TEAM

ghd good hair day

Schneider Electric

CLIENT SUCCESS STORIES

A Perfect Partnership in Precision and Innovation
Our recent collaboration with Mantle Packaging Machinery was labelled a huge success. An esteemed member of the Made in Britain community, this partnership has been a testament to the power of synergy and shared commitment to excellence.

Meeting the Challenge
Mantle Packaging, a leader in delivering top-quality Food Packaging Machinery, sought a reliable partner to support their Printed Circuit Board (PCB) requirements. Known for our precision and reliability, ABL Circuits was the perfect match to meet their advanced machinery needs.

Achieving Excellence Together
ABL Circuits successfully met the specific needs of Mantle's advanced machinery, ensuring precision and reliability at every stage. This collaboration not only met but exceeded expectations, demonstrating the high standards and craftsmanship both companies are known for.

MANTLE
Packaging Machinery Ltd

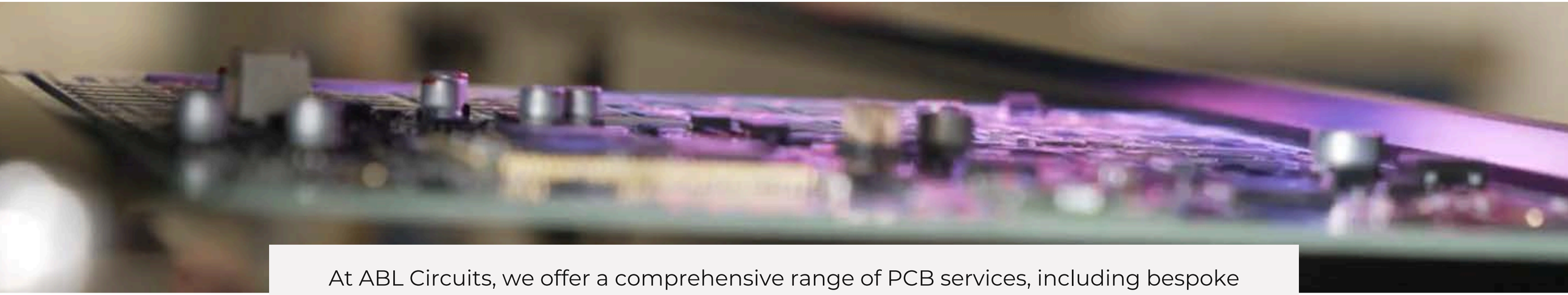
We are thrilled to announce our new partnership with ABL Circuits Ltd, a fellow member of Made in Britain.

At Mantle Packaging, we have always prided ourselves on delivering top-quality Food Packaging Machinery, and this collaboration marks a significant step forward in our mission to innovate and excel. By joining forces with ABL Circuits, known for their exceptional Printed Circuit Board manufacturing service, we are combining our expertise to bring even greater value to our customers.

We are looking forward to embarking on this exciting journey together.

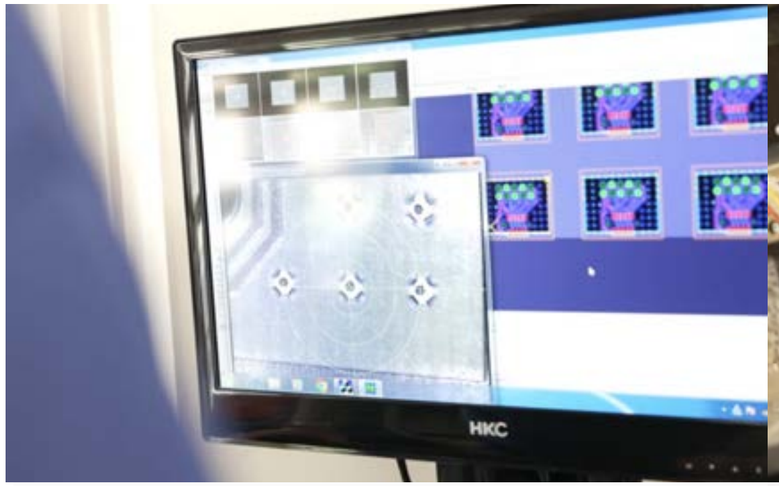
Laura Sieczkowski - Managing Director
Mantle Packaging Machinery.

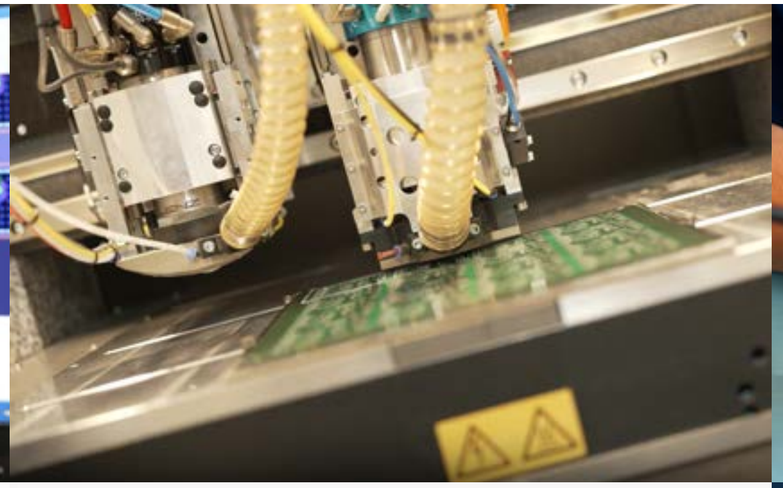
OUR SERVICES



At ABL Circuits, we offer a comprehensive range of PCB services, including bespoke design, manufacturing, and assembly, to fulfil our clients diverse requirements. Our services encompass every stage of the PCB production process, from initial concept and design to final assembly and testing.

By providing customised solutions tailored to each client's specific needs, we ensure optimal performance and reliability in every product. Our state-of-the-art facilities and highly skilled workforce enable us to handle projects of any complexity, delivering high-quality results with unparalleled speed and precision.





PCB Design

Our PCB design is done by an in-house CAD team, our entire design and production process takes place at our factory in Baldock, Hertfordshire.

Engineering our circuit boards in the UK helps to ensure the quality that you need, and allows us to offer the fastest lead times of any British PCB manufacturer.

PCB Manufacturing

Our PCB prototype service is among the fastest and most reliable in the industry. We aim for same-day delivery of working test models.

If you need to ensure the core circuits of a PCB design will function as intended on an assembled board, we can get one to you in as little as eight hours.

Prototyping is a key part of a complete bespoke PCB service, and a crucial step in preparing your specified circuit designs for a full manufacturing run.

PCB Prototypes

Our efficient production facility and skilled workforce can produce PCB prototypes within 8 hours from receipt of data.

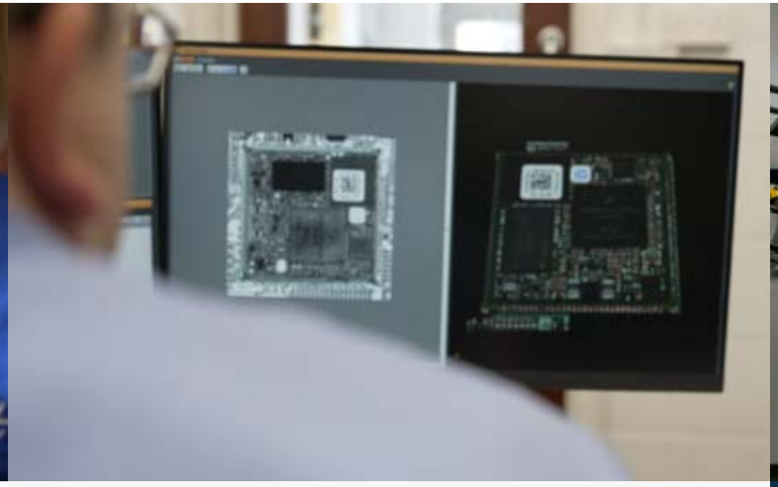
As one of the country's most reliable and trustworthy PCB manufacturers, you can be rest assured your PCB prototype will be manufactured, quality checked and returned to you for your own testing or development in the shortest possible timescale.

PCB Assembly

Our PCB assembly service takes away from the time-consuming stress of component procurement and assembly.

We use our skills and expertise to produce fully assembled Printed Circuit Boards delivered to your door, providing you with a complete project management service.

After designing and making your PCBs, we can either assemble boards using your own components, or we source components on your behalf.



PCB Reverse Engineering

Our reverse engineering service allows us to reproduce existing boards, recreate and improve faulty PCBs, or design all new boards to replicate the functionality of those you already have.

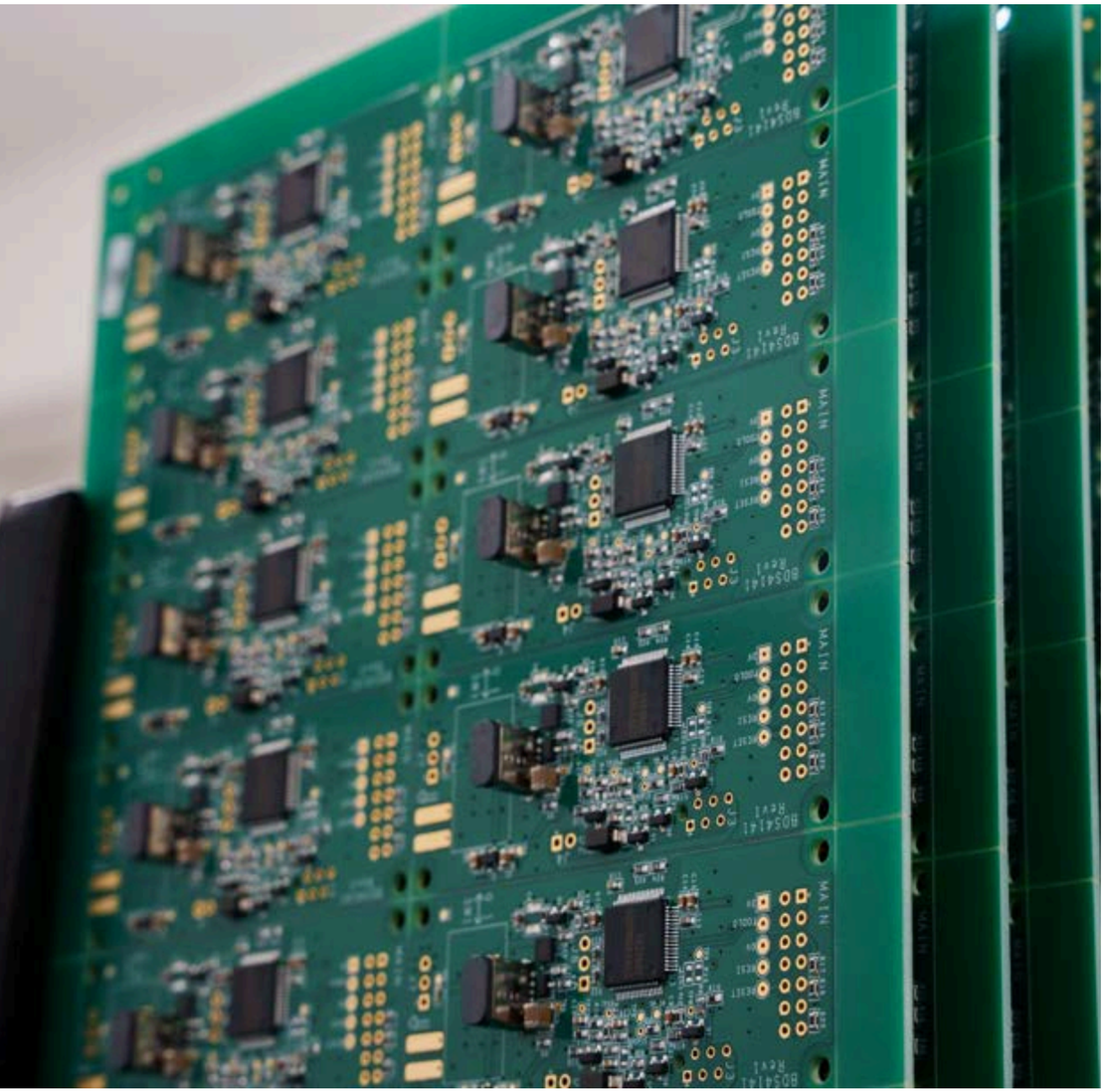
We do this by computer-scanning artwork, photos or PCBs to gather CAD data that allows us to produce new boards. This is a much cheaper process than a total redesign, and one that ensures your new PCBs will function just like your existing ones.

Total PCB Solutions

ABL Circuits offers a complete PCB solution, managing the entire process from consultation to design, manufacturing, assembly, and delivery.

We begin with a customer consultation to understand your needs, then proceed with the design and production of your PCBs.

Our comprehensive project management ensures you can focus on your business while we handle all your PCB requirements



TYPES OF PCBS

Single sided PCBs

Single sided PCBs, or single layer PCBs, were the first printed circuit board technology and have been around since the 1950s. They remain one of the most commonly used circuit boards due to their simple design. They're made with one layer of conducting material on one side, while the other side is used for incorporating different electronic components.
The base material is coated with a thin layer of copper due to its ability to function as an electrical conductor.
These boards can be used in many complex electronic devices, such as calculators, radios and stereo equipment.

Double sided PCBs

Double-sided PCBs, also known as plated through hole (PTH) PCBs, feature a base material with a thin layer of copper on both sides. This design allows for closer routing traces, as connections can alternate between the top and bottom layers using via holes.
This capability is advantageous for many electronic products, enabling tracks on one side of the board to connect to the other through drilled holes. Components are connected using either surface-mount technology or through-hole technology, depending on the product requirements. Double-sided PCBs are used in devices and applications requiring an intermediate level of circuit complexity, such as LED lighting, industrial controls, and medical and aerospace applications.

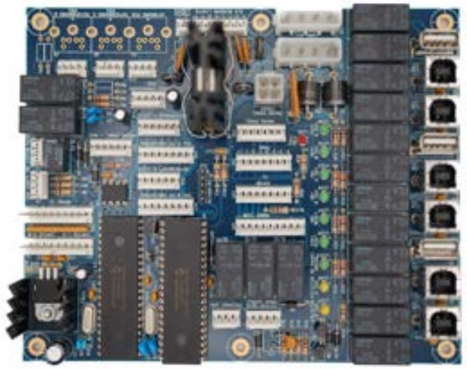
TYPES OF PCBS

Multi layer PCBs

Multilayer PCBs are circuit boards with more than two layers, typically ranging from 4 to 12, or sometimes more. These layers are laminated together under high temperatures and pressure, ensuring no air is trapped between them and that the specialised glue used to secure the boards is properly melted and cured. Multilayer PCBs offer several advantages over single or double-sided PCBs due to their internal layers. They can be smaller with higher assembly density, and benefit from inner ground and power planes. Multilayer PCBs are commonly used in electronic devices such as computers, GPS technology, satellite systems, and space technology.

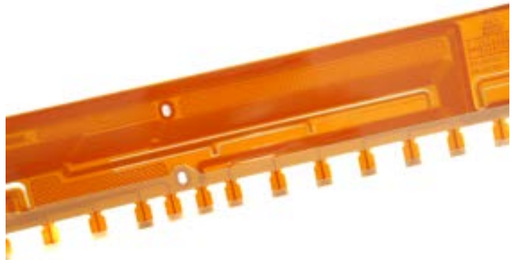
Rigid PCBs

Rigid PCBs are solid, inflexible circuit boards that maintain their shape thanks to a solid substrate. They are used in devices and applications where the PCB must retain a specific shape throughout its lifespan. Rigid PCBs can be single-sided, double-sided, or multilayered, but once manufactured, they cannot be modified or changed. These PCBs are integral to many products we rely on daily, such as GPS equipment, mobile phones, tablets, X-rays, and heart monitors.



Flexible PCBs

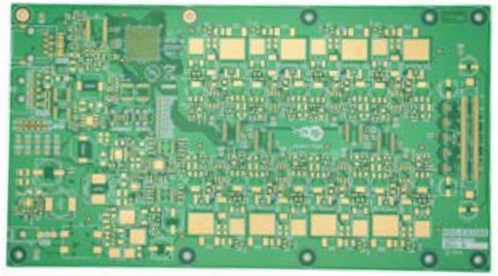
Flexible PCBs are typically mounted onto plastic substrates, allowing them to move and flex. They are usually thin, lightweight, and suitable for small spaces and contoured shapes. Due to the need for flexible materials, they are more costly to manufacture. However, they offer many advantages over rigid PCBs, including requiring less space and weighing less. They also need less material and packaging, and replacement costs are lower. Flexible PCBs are commonly found in computer hard drives and printers.



TYPES OF PCBS

Rigid-Flex

A Rigid-Flex PCB merges elements of flexible and rigid PCBs, creating a board that can be folded or continuously flexed. Flexible layers are embedded within and extend through rigid sections, enabling 3D designs for shaping products. These boards are typically thinner, optimising design with reduced size and weight. They are crucial in space-constrained products like pacemakers, digital cameras, and smartphones.



HDI PCBs

HDI PCBs, or High Density Interconnect PCBs, offer higher circuit density than traditional boards, featuring smaller vias, capture pads, and higher connection pad densities. Their compact design and fewer layers compared to multi-layer PCBs enable greater packaging density. Utilizing HDI Microvia technology, an 8-layer through-hole PCB can be condensed to a 4-layer HDI PCB while maintaining or enhancing functionality. They are essential in advanced systems like game consoles, medical cameras, and touch-screen devices.

Aluminium PCBs

Aluminum PCBs have a layout similar to other PCBs but feature a metal substrate instead of fiberglass or plastic. They are typically single or double-sided and offer excellent thermal conductivity, effectively dissipating heat from critical components. With high heat tolerance and durability, aluminum PCBs are ideal for applications with dense circuits. They are commonly used in LED displays, computer motherboards, and audio equipment such as input and output amplifiers.

MEET OUR TEAM

Mark Leverett

Managing Director

Will Leverett

Director

Will Worboys

Operations Manager

Caroline Smith

Accounts Manager

Kristie Furniss

Marketing Executive

OUR GUARANTEE

1

We can produce your single-sided or plated-through printed circuit board within 5 working days from receiving your PCB data, as our standard service – with no additional rush fees.

2

We replicate your drilling data exactly, preserving both position and diameter, to streamline assembly procedures for your printed circuit boards.

3

Your printed circuit boards undergo meticulous inspection at 7 distinct stages to guarantee a flawless final product. This comprehensive approach ensures every aspect of your PCB meets the highest standards of quality and reliability.

4

If you require your printed circuit boards more urgently, we offer an expedited 8-hour turnaround PCB manufacturing service to meet your deadlines effectively.

ABL CIRCUITS VISION

ABL Circuits intends to remain a leading name in UK PCB solutions. We will continue offering our customers high-quality printed circuit boards, delivering unparalleled speed, precision, and reliability while advancing our technology and processes to provide the best service possible.

We strive to support and invest in our employees, fostering a culture of continuous learning and development to ensure they are equipped with the latest skills and knowledge in the industry.

Together, we are dedicated to exceeding customer expectations and setting new standards in the PCB manufacturing and assembly industry, ensuring that every product we deliver meets the highest benchmarks of quality and performance.

GET IN TOUCH

Phone : 01462 894312

Website : www.ablcircuits.co.uk

Email : sales@ablcircuits.co.uk

Address : Icknield Way, Baldock, Hertfordshire, SG7 5BB

MADE IN BRITAIN

IPC Certified IPC Application Specialist

CorporateLiveWire INNOVATION & EXCELLENCE AWARDS 2024 WINNER

RECOGNISED BY TOP MICRO ELECTRONICS COMPANY IN THE UK 2023 SEMICONDUCTOR REVIEW

UR 2023 50 Innovative Companies to Watch

nqa ISO 9001 QUALITY MANAGEMENT

UKAS MANAGEMENT SYSTEMS 0015