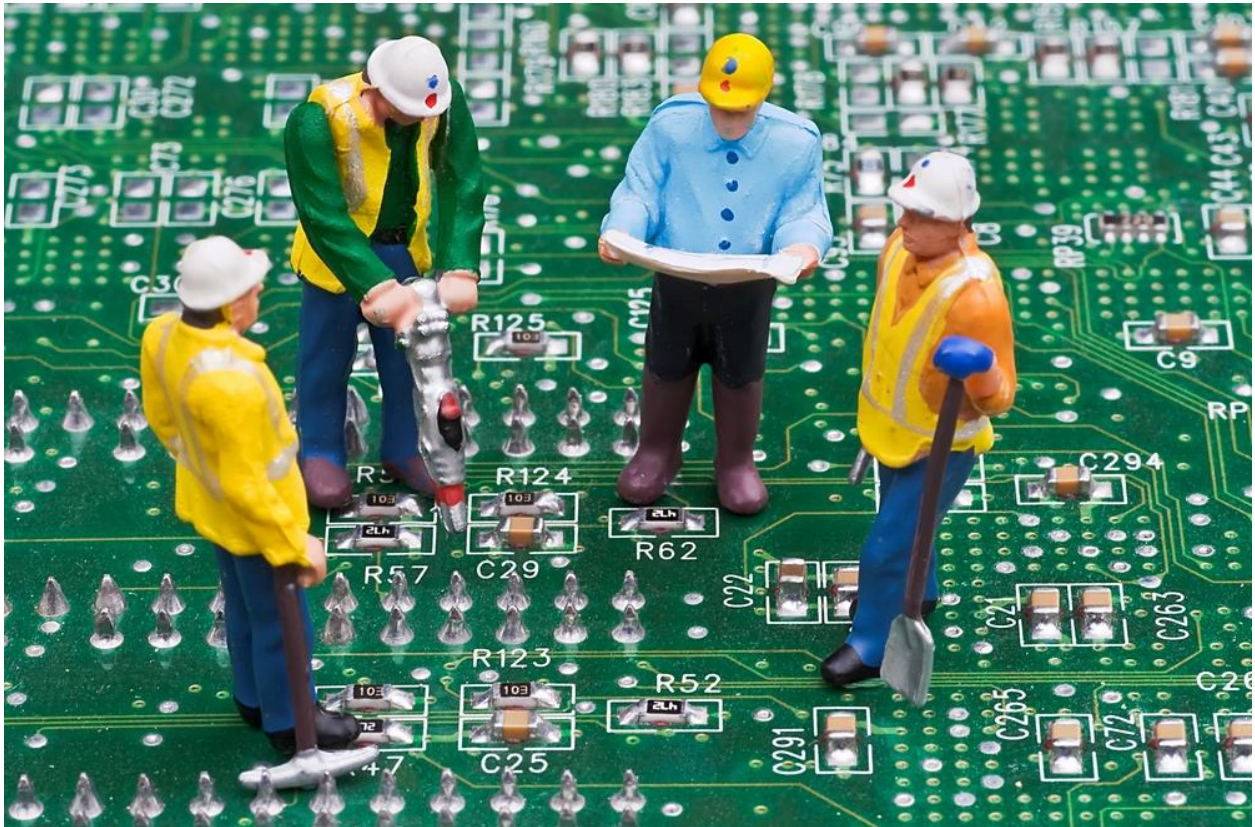


Benefits of outsourcing PCB Assembly



PCB Assembly Team

PCB assembly can be a time-consuming process, from design to routing and testing, getting your desired end product can be a labour of love. For some, they simply don't have the time and resources, or the necessary expertise and equipment.

What is a PCB supplier (EMS)?

A PCB supplier, or electronic manufacturing services, can be a small or large company that offers its own manufacturing services, including design, [assembly](#) and testing of printed circuit boards (PCBs). Some companies may only offer one particular stage of the process, whereas others, like [ABL Circuits](#), are a one-stop shop for all your PCB manufacturing needs. The PCB supplier best for your needs will depend on which part of this process you are looking for.

OEMs and product manufacturers

An Original Equipment Manufacturer (OEM) and a product manufacturer, also known as an Original Product Manufacturer (OPM), have a few fundamental differences. An OEM is a company or manufacturer that sells products to another company. This company then uses these components in part of a wider process to create products for their customers under their own branding.

For example, big companies such as Apple (OPM) may use components from other companies (OEMs) in order to create their end products, such as their phones, iPads or MacBooks. They are then sold as Apple products to consumers. This is similar to having [PCB assembly](#) works at ABL Circuits where we source vital components needed for PCBs from various OEMs in order to create your desired end product.

Who needs a PCB supplier and why?

There are a number of reasons customers work with us as their PCB assembly contractor, and why some companies need to outsource PCB assembly. Some may be time-poor or lack the resources to meet the demand needed within a particular timeframe. For some companies, they may also need to outsource due to the ever-changing innovative technology and equipment used which can require specialist work outside of in-house capabilities.

Outsourcing – key benefits:

There are a number of key benefits when looking to outsource PCB assembly or your PCB supplier, including:

1. Time-saving

One of the biggest benefits when looking to outsource PCB assembly is the time this will save you, whilst not compromising on quality. Some organisations may not have the capacity to employ a PCB specialist, or have enough work for them, which can raise a variety of complications leaving a company time-poor. Our new and innovative technology, such as our selective soldering machine, is quicker than hand soldering and not as destructive as wave soldering. It also has the ability to automate the soldering

process to solder PCBs with top and bottom surface mount components, something that without state-of-the-art machinery like this, would need to be done by hand. Additionally, PCB suppliers often have several pick and place machines, which can each pick and place approximately 60,000 components per hour. Pick and place machines are not only costly to purchase, you also need to ensure you have the expertise to run these at this efficient pace for effective results, which is often why companies look to outsource. Learning how to use some of this complex equipment can take years to master, alongside there being limited specialists within the industry to teach how to do so.

2. Higher quality product

We know that when something goes wrong during the PCB assembly process, it can be costly and time-consuming to fix to ensure quality is not being compromised. When you outsource PCB assembly or design with a specialist supplier, you can usually rely on the product being of a higher quality. This is due to the number of PCB designers and specialists these companies have, compared to most in-house companies, alongside their equipment.

In a fast-paced industry where standards and quality are constantly changing and need to improve, PCB suppliers must be versatile and adapt to these changes and improve their equipment and technology to keep up. Unfortunately, not all in-house organisations can keep up at the same pace and afford to do so. For example, at ABL Circuits we knew that to keep delivering the high quality we strive for, we needed to make some changes and improve our equipment. Our new selective soldering machine ensures 100% barrel fill, meaning it meets IPC class 3 standards, the standards needed in all medical and military equipment. This means that no matter what your project may be, its size or budget, it will receive the same quality, care and precision as PCBs that are being used in medicine and in the military.

Automated Optical Inspection (AOI) is another essential piece of machinery in ensuring your product is of high quality. The automated visual system inspects assembled PCB boards for any defects. These machines are both big in size and investment, meaning they are generally only found within bigger PCB companies that have the supply and the demand.

3. Support and advice

The saying is as old as time, but communication really is key. For some in-house companies and organisations that rely on a small number of PCB designers or specialists, the necessary support structure is not always there to

lean on. When you outsource [PCB assembly](#) or design it's important to know you will be getting consistent support and advice throughout, all the way from conception, to production and testing.

4. Long-term money saver

Value for money, that's what we are all looking for, and outsourcing your PCB supplier is a great way to achieve this. For some, there will be a regular need for PCBs, however, not all companies or organisations have a steady workflow or demand. For those that do not have a regular demand, outsourcing with a PCB supplier who has the latest equipment to produce high-quality PCBs quickly, saves both time and a huge amount of money for those unable to keep up with the latest technology. This can be particularly beneficial for start-up companies that do not have the financial means to facilitate such means early on in their life span.

Companies who may be in a position to buy the necessary equipment can often then spend a large amount of time and money not only trying to learn how to use it but also learning what not to do through trial and error. At the end of the time-consuming process of assembly, you will only know at this point if your product is operating correctly. If at the end of the process you discover your PCB is not operating as it should, this will either need to be reworked, which requires a PCB specialist with a large amount of experience, or it's back to square one. With component supply at an all-time low, starting from square one could be near impossible, or hugely costly in order to source the necessary components.

This is why outsourcing your PCB assembly to experts who are specially trained and have access to a large volume of components from suppliers is an advantageous option.

5. Valuable expertise

Without a doubt, one of the biggest advantages of outsourcing your [PCB assembly](#) is the knowledge and expertise you can gain whilst doing so. Working with industry experts and specialists who dedicate each day to designing, soldering, manufacturing and testing a large variety of PCBs, with the latest technology and equipment, means you can learn and be advised by the best.

Most PCB suppliers have been in the industry for several years, in the case of ABL Circuits, 39 years, and have a plethora of experience and knowledge to work across a number of different products from multiple industries. Experts

can use these experiences to draw solutions and generate innovative ideas to bring your latest project to fruition.

Where to go for further advice and support

If you have a specific request, or if you're not sure what you're looking for and need some advice on how to move forward with your product, [get in touch with ABL Circuits](#). With over 30 years of experience in the industry, our state-of-the-art technologies and our highly trained workforce, we are able to ensure that every PCB we provide matches your needs and requirements.