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**BEST OF BRITISH:  
SIX GOOD REASONS  
AND MORE**



I've spent ninety five percent of my career making things: machines out of metal, magazines out of paper and software out of binary digits. These roles have taken me to all four corners of the planet both as a consumer of services and seller of products.

Regardless of the strong pull of overseas providers, there comes a time in every project where made in Britain is always the right answer. The reasons can be one or many. Here are a few examples.

**Law:** no one wants their intellectual property stolen or agreements breached so it makes sense to write contracts in a jurisdiction with history and teeth.

**Standards:** products for demanding environments need to be manufactured under equally demanding standards which are applied rigorously.

**Speed:** distance equals time, now more than ever. If time-to-market is an opportunity, shrinking physical distance can only help.

**Culture:** A product's aesthetics and ergonomics are, in part, governed by the norms of the market into which it is sold. Working with a design and manufacturing team immersed in that culture helps underpin a project.

**Language:** If I have the choice of working with or without translated conversations and documents, I chose the latter.

**Time zone:** Plenty of days I work with my UK team all day and then overseas suppliers half the night. I wish I didn't have to.

I could go on, but I'm running out of words. Read on to discover a raft of suppliers that hold Best of British close to their heart.

*Jon Barrett*

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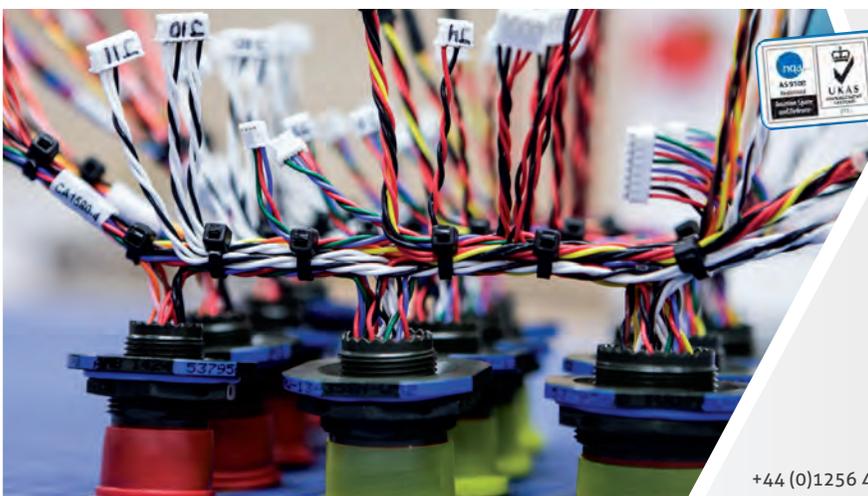
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# ROAD AND RAIL: SILK ROAD FOR THE 21ST CENTURY

*Learn how a combination of road and rail is delivering PCBs from China to Europe in a swift, low cost and sustainable manner*

With its origins dating back to the Han dynasty, the Silk Road was a series of trade routes extending from China, across Central Asia, to Europe. Historically, the Silk Road was a key link between China and the West. Goods were transported along this route and ideas were exchanged between the two great civilizations of Rome and China.

A trip along the ancient Silk Road was never the romantic journey the name suggests. Traveling thousands of kilometres, merchants had to contend with extreme climate and terrain, crossing snow-capped mountains and vast deserts. Such was the hardship; it was rare for anyone to undertake the entire journey. Instead, goods would be carried by teams of

camel caravans, working in relays. Fast forward to today and trains have replaced these camel caravans.

Goods are now shipped at speeds ancient merchants could never have imagined. Two thousand years ago, it would take a year for merchandise to move between China and Europe. Today's consumer goods can reach London in four-weeks thanks to the Silk Railroad, an international freight railway network that connects China to cities across Europe.

### **What does this mean for NCAB and its customers?**

Not only is rail cheaper, it emits three times less CO<sup>2</sup> than traditional air freight, symbolising NCAB's sustainability efforts. During

2020 NCAB UK will import approximately 350,000kg of bare printed circuits boards from China and see road and rail as an excellent opportunity for customers to reduce their carbon footprint, while keeping up with demands for shorter lead times.

With transit times of around four-weeks, road and rail is significantly quicker than sea freight, whilst being cheaper and more environmentally friendly than air.

This service will be available for all customers from September.

[www.ncabgroup.com](http://www.ncabgroup.com)



## Because failure is not an option.

In your daily life you are dependent on a lot of products. The car you drive, the airplane you fly in or the ECG equipment measuring your heart. You expect them to work – because they have to.

All electronic products have a PCB inside. At first sight they may all look the same. But it could be a world of difference between a normal and a High Reliability PCB. It all comes down to details, and thoroughness.

It starts with the design, the right specification and choosing the right production partner. It also includes logistics, delivery precision and making the whole process as sustainable as possible.

### **High Reliability PCBs.**

Because failure is not an option.

# COVID: A CHALLENGE UK ELECTRONICS INDUSTRY IS UP FOR

*Anglia Components' marketing director, John Bowman, illustrates how distribution is supporting Covid-driven electronics innovations in medical, retail and beyond*

Covid has presented the world with a unique challenge, one I believe the UK electronics industry is equal to. Customers are recognising their key role as we adapt to a new world. We are working with them as they develop solutions that fight the virus directly: for example, treating or testing for it. We are also working with them to reduce its spread, creating technology that: supports safe distancing; prevents multiple people touching the same surfaces; and enables offices and other spaces to reopen safely.

Companies like GB Electronics and Inovo Robotics are at the forefront, working with Brunel University, Lancaster University and the University

of Surrey to develop inexpensive, rapid diagnostic test kits based on a battery-operated, hand-held, smartphone-linked device that is safe and easy to use. The user interface approach is significant in other ways. It shows how Covid care and treatment will transform how medicine is practiced. Pre-Covid, carers and clinicians were happy standing close to patients when setting up instruments and taking readings. Now, instruments need to be operated at a distance.

The way users interact with instruments also needs to change. Touch screens are a popular, reliable and versatile interface for medical, retail and other applications. When sealed they can allow deep cleaning with aggressive

anti-viral and anti-bacterial agents. However, there is a desire to limit the risk of viral spread by their use. Instruments and kiosks can be redesigned with touchless two-way communication from a smartphone, tablet or other device. Gesture and voice recognition are further options.

There is also demand for new devices to remind us to distance, for example lanyards that alert wearers if they have been too close to another person. Also, MEMS thermopile sensor technologies are being integrated into access controls, allowing accurate temperature measurement before entry is allowed. Other products include badges that turn green when the wearer has been temperature tested.

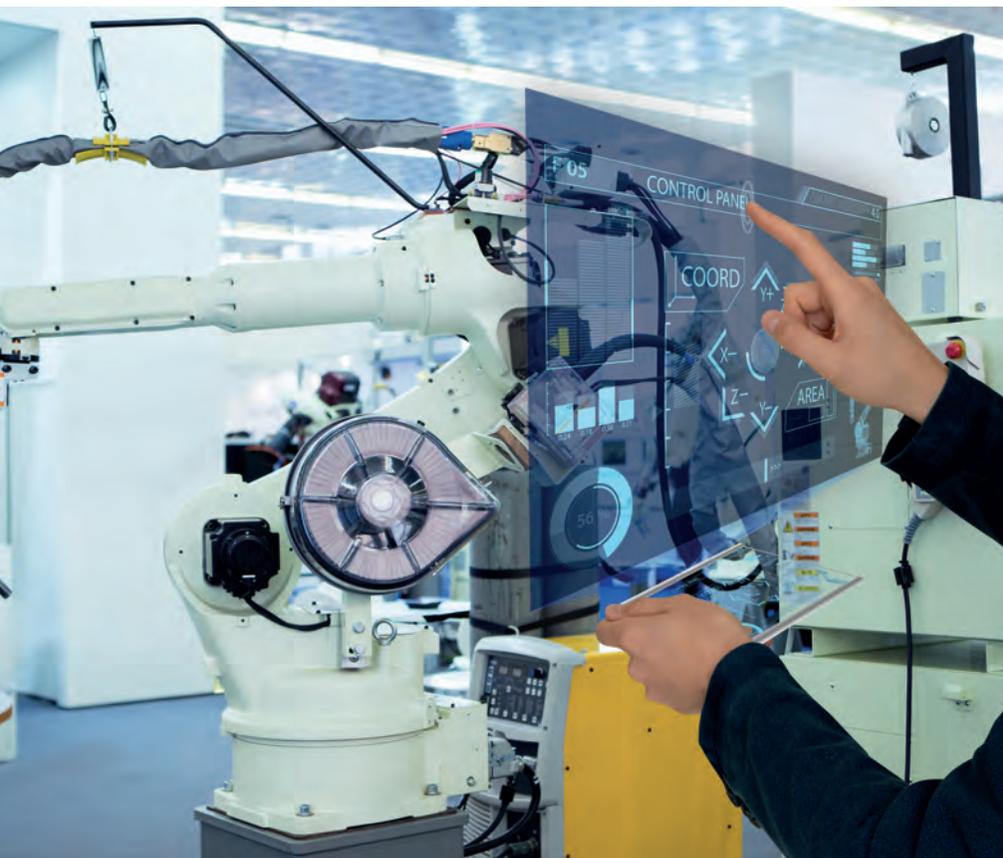
☞ *There is demand for new devices to remind us to distance, for example lanyards that alert wearers if they have been too close to another person* ☞

The pressure is on to move fast. Products need to be designed, prototyped and brought to market quickly. Distributors like Anglia have a key role to play. First, we can fill the gap between in-house design resources and the expertise they need to complete their design. In addition to our trained FAEs, we offer access to our Design Partner programme, a network of independent design consultants chosen for their experience designing for OEM and industrial applications.

Moving to prototypes, customers need quick access to small volumes of parts, allowing them to try alternatives before selecting the best solution. Anglia Live helps designers by prioritising results around profiled parts which are recommended for new designs.

As the design moves to production, Anglia 80/20 provides inventory on zero lead-time with zero up-front cost and zero management cost, allowing companies to scale rapidly to exploit demand spikes via an instantly accessible stock of commodity components on site.

[www.anglia.com](http://www.anglia.com)



# HELPING THE MEDICAL INDUSTRY FIGHT COVID-19

*OKW's marketing director, Robert Cox, explains how the company helped the NHS through lockdown and is now well positioned to support the supply chain*

OKW worked through lockdown to help its OEM medical equipment customers tackle the coronavirus pandemic. Medical electronics is a key market for Hampshire-based OKW. The company manufactured tuning knobs for 5,000 NHS ventilators.

Combination Knobs were supplied to the Ventilator Challenge UK consortium manufacturing Smiths ParaPAC300 ventilators. Members include Airbus, BAE Systems, GKN, Meggitt, Rolls-Royce and Siemens.

OKW's marketing director, Robert Cox, said: "We never closed, even when the UK infection rate was at its height. Our company was exempt from closing in all major markets because we supply the medical equipment sector. All our factories stayed open with special shift patterns (for social distancing) which remain in place."

The company manufactures virtually all its enclosure parts in-house so it was not impacted by worldwide logistics issues.

Robert added: "Should there be another spike and lockdown, we are confident the same will be true. We will stay open and continue working."

OKW has secured advance supplies of raw materials, plastics, sheet metals, fixing screws and hardware into 2021. This foresight, coupled with a strong financial position, helped the company support its supply chain.

Robert concluded: "During the lockdown, we supported smaller suppliers across the UK. They opened especially for us to complete production of our hardware components. We are a secure German and UK-based company with sound finances. Our customers are in a huge number of fields in the electronics industry,

so we are at less risk from any individual market slowdown."

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# UK QUARTZ CRYSTAL MANUFACTURING CONTINUES AT UPGRADED FACILITY

*With more buyers requesting country-of-origin information, the benefits of UK-based component production are becoming clearer*

Covid-19 had a unique and disruptive influence on business in general. However, Euroquartz, the sole remaining UK manufacturer of quartz crystals and oscillators has continued production at its Crewkerne, Somerset facility throughout the pandemic.

As with many companies, the dedication of its workforce is to be commended, with some working from home and the remainder working normally to maintain vital supplies for the medical and defence sectors. The overall order book has been hit hard and the financial impact remains a concern, although there are signs of green shoots of recovery and the company is hopeful for the future.

A recent investment in cleanroom technology has proved invaluable during the crisis, letting the company establish its new 7 x 5mm oscillator production line with quantities now ramping up.

Far East sourced products experienced delays of around three weeks at the start of the pandemic, but supply lines have stabilised since then. More worrying is the deteriorating political

outlook between China and the rest of the world. For instance, the USA is no longer quoting for product destined for China or Hong Kong which could have major consequences if Chinese authorities introduce retaliatory measures against exported product.

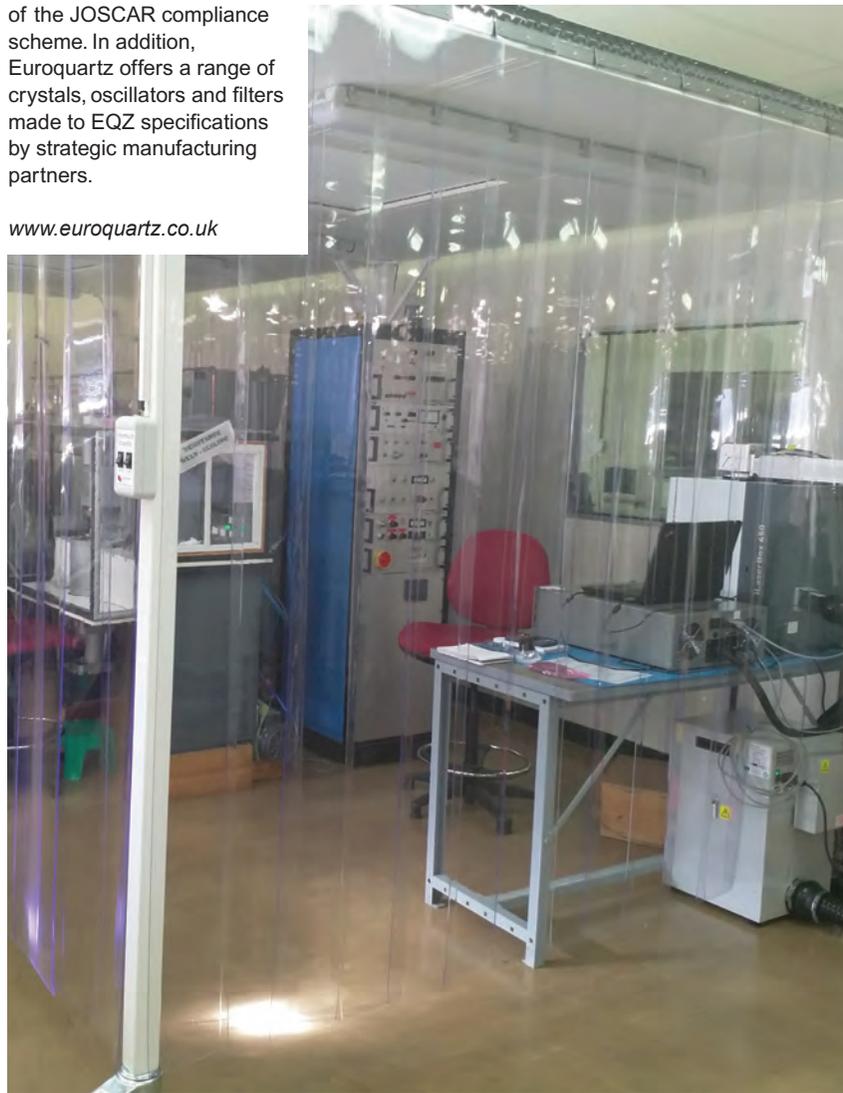
Many large companies are already making serious efforts to reduce their dependence on Chinese sources and are actively seeking alternatives. Euroquartz has seen an increase in companies requesting country-of-origin information and whether the product can be sourced elsewhere.

There is potential for many companies to investigate reshoring and return production to the UK. This can only be beneficial for the UK economy and UK electronic services sector.

Founded in 1982, Euroquartz is the last UK manufacturer of conventional high specification quartz crystals and military clock oscillators in its new UK class 7 cleanroom facility. The company holds AS9100 certification and is a member

of the JOSCAR compliance scheme. In addition, Euroquartz offers a range of crystals, oscillators and filters made to EQZ specifications by strategic manufacturing partners.

[www.euroquartz.co.uk](http://www.euroquartz.co.uk)



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## COMPONENT SOURCING

### THE FREE FINDERS SERVICE THAT PURCHASING PROFESSIONALS HAVE BEEN WAITING FOR!

During 2020 and with the impact of the pandemic, Electronic Sourcing readers have contacted MMG Publishing to request help and assistance to source components due to workloads / lack of stock or hard to find components. To assist readers requirements, Component-Sourcing is a new free sourcing service provided by the publishers of Electronics Sourcing magazine.

This is a free service to readers of Electronics Sourcing and supporters of Electronics Sourcing North America, Electronics Sourcing Europe & Electronics Sourcing UK & Ireland.

Readers simply visit [component-sourcing.com](http://component-sourcing.com) enter their component part numbers and quantity required, these component requests will then be forwarded to supporters of Electronics Sourcing magazine globally. Buyers can also obtain component searches using [Trustedparts.com](http://Trustedparts.com)

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# BACK TO BASICS

*FermionX remains committed to keeping the UK electronics manufacturing industry moving*

Like many British businesses, we had to adapt quickly to restrictions put in place to combat the COVID-19 crisis - changing our internal processes and also coping with the strain the global restrictions imposed on our supply chain.

FermionX did what we Brits do best, we adapted. We focused on our core values and ensured our partners were well supported.

We've been working hard with our customers to identify the best ways of working with them, without compromising on quality where cashflow may have been restricted. We're also offering our partners socially distanced site visits, virtual tours and remote QC audits to give them reassurance during times of uncertainty.

We're proud to be playing our part in supporting the industry to recover lost ground and pick itself back up again.

Get in touch with us to discuss your requirements or if you have any queries on how we can support your production.

[fermionx.com](http://fermionx.com)



**Dan Crothers**, managing director, FermionX Ltd



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[e:sales@fermionx.com](mailto:e:sales@fermionx.com)

# THE PERSONAL TOUCH

Just Electronics is a contract electronics manufacturer specialising in small to medium runs of mainly hand-built electronic assemblies and box builds. If a customer's product needs the personal touch, Just Electronics fills the gap where automation or mass production isn't possible or feasible.

The company supplies a variety of industry sectors, with all manufacturing done in Great Britain. During the Covid-19 restrictions, Just Electronics has been operating fairly normally, carefully following the official guidance.

For companies looking for help to get their designs into production and out to customers, Just Electronics

can provide a lot more than electronics manufacturing. As a small company it can: react quickly to changes; has been in business over 10 years; works with large and small organisations; and talks to designers and buyers to ensure things are done right, on time, each time.

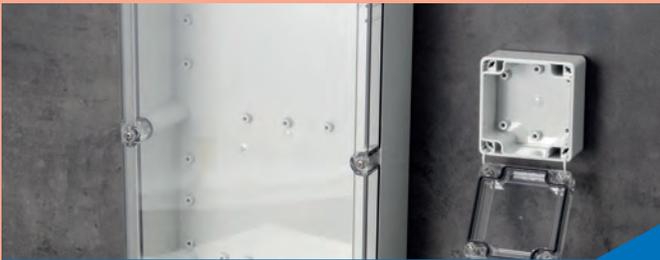
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## Transparent and tough

OKW has expanded its In-Box industrial electronic enclosures range. The transparent-lid version is now available in polycarbonate for extra strength and flammability resistance.

These enclosures suit applications including digital and analogue instrumentation, sensors, interfaces, security systems, HVAC, machine building, construction equipment, Smart Factory and Industry 4.0.

They offer high levels of impact resistance (IK07/08) and ingress protection (IP66/67). The sealing gasket is pre-foamed in the top, while quarter-turn stainless steel lid screws speed up installation and maintenance.

The enclosures can be wall mounted, either directly or with accessory brackets. Inside, there are screw pillars for DIN rails, PCBs and mounting plates.

Accessories include pressure equalisation elements, cable grommets, security kits, wall-mounting brackets, internal hinges, mounting plates, DIN rails (TH15, TH35) and self-tapping screws for mounting assemblies inside.

[www.okw.co.uk](http://www.okw.co.uk)



## Quality without the cost

BEC Distribution has announced new ranges of basic circuit components designed to combine cost-effectiveness with quality and short lead times. Initial ranges include RJ45 Ethernet connectors, PCB blocks and 1000Base-T magnetics. More will follow.

BEC states the components, which are sourced from established manufacturers, offer cost-effective alternatives to market-leading brands, often less than half price. Regarding quality, error-reduction designs have been utilised and many products feature gold-plated contacts and robust, rugged designs to ensure long life.

From a commercial perspective, short delivery times of two to three-weeks are offered, with many products ex-stock. Low MOQs of just 10 pieces are also offered on many products. The policy of sourcing from many different countries ensures continuity of supply.

BEC is also a franchised distributor of resistors, inductors, coils, chokes, power supplies, LAN magnetics and transforms.

[www.bec.co.uk](http://www.bec.co.uk)



## Ventilator production demands expertise and approvals

Review Display Systems is currently manufacturing essential sub-assemblies for ventilator systems. This is in collaboration with a group of companies, which included McLaren Formula 1 team and Ford, working with Penlon as part of the VentilatorChallengeUK consortium, with whom the Government has placed an order for 15,000 ventilators.

The company's expertise in providing display sub-assemblies and its ISO13485 approval has enabled it to consistently manufacture quality products, ensuring it can supply these urgent products over coming months.

RDS can design, prototype and build a range of bespoke products. If a company needs to add extra capacity to an existing manufacturing process or a new product that needs to be brought to market, it can help. With years of experience in embedded and display products its specialists have the expertise and knowledge required to assist the most challenging tasks.

[www.review-displays.co.uk](http://www.review-displays.co.uk)



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**BEST OF BRITISH**

# CONTINUING TO INVEST IN MANUFACTURING QUALITY

*Wilson Process Systems highlights how it provided reliable, agile and responsive client services through the Covid-19 pandemic*

South East-based contract electronics manufacturer, WPS, rose to the Covid-19 pandemic challenge, playing its role as a critical supplier to clients in the medical, environmental and road and rail transport industries.

At the time of writing, WPS has maintained its factory output at or close to 100 per cent, despite restrictions and limitations imposed by the pandemic.

The company has continued its long-term policy of ongoing investment in new technology with the acquisition of a Universal Fuzion OF1-11 odd-form assembly machine. In addition to full surface mount capability, the machine can also assemble a full array of through-hole components, further

enhancing client confidence in manufacturing quality.

WPS states its new 'Get a Quote' website portal is proving a useful tool, allowing customers to make enquiries quickly and efficiently without the need for face-to-face meetings and factory visits.

WPS' sales and marketing director, Nick Jones, said: "During these difficult times it is very reassuring that as a well-funded and stable family enterprise, with 40 years' experience in the electronics industry, we are not only able to maintain our position, but also to provide resource for further investment and operational improvements."

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# PERFORMANCE CONNECTORS, DELIVERED FAST

*Lodge Group companies, Lane Electronics and Weald Electronics focus on the manufacture and distribution of connectors for demanding applications*

Lane Electronics has represented many of the connector industry's leading manufacturers for more than 50-years. Today, these include Souriau, Huber+Suhner, Positronic, Nicomatic and Neutrik. Lane is also the only place to source connectors from fellow Lodge Group company Weald Electronics, a leading manufacturer of connector systems for high performance applications.

In addition, Lane has a dedicated Motorsport Division that connects technology across motorsport platforms from Formula One to Formula Student.

At the Lodge Group's UK headquarters, Lane and Weald provide a unique capability for specifiers and buyers of connectors and accessories that range from aerospace and defence to medical and security, plus a wide variety of demanding industrial sectors. Customers range from small specialist companies to high profile, multi-site international OEMs.

Lane has always held substantial inventory levels of standard connectors and connector piece parts from every company it represents. This lets Lane respond by return to almost every order for standard items with no

minimum order quantities or order value. For many customers, Lane also provides dedicated stock and flexible delivery dates for both scheduled and spot orders. Most products can be purchased online.

With connector assembly and manufacturing on site, Lane and Weald can also deliver customer specific connector and accessory solutions on some of the shortest lead times currently available.

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# UNION OF MANUFACTURING EXPERIENCE AND QUALITY

*Nemco explains how 35-years' experience and a focus on quality underpin the services it provides to its technical customer base*

UK contract manufacturer, Nemco, focusses on low and medium volume production, with customers ranging from internationally recognised defence and aerospace corporations to specialised laboratory and medical equipment manufacturers. Over the past 35-years the company has worked hard to ensure it is not reliant on any one market. Every customer benefits from a unique blend of skills and knowledge gained over years of electronics manufacture.

Nemco has developed through a process of continual improvement. The company states that one of the keys to success is its ability to become an extension of its customers' business and a partner in their product development. This means customers can concentrate on their core skills in the knowledge their product's life cycle is in safe hands.

The business recognises the necessity for quality,

offering customers: EN 9100:2018 (AS9100) Rev D Accreditation; ISO9001:2015; ISO14001; Cyber Essentials Plus; SC21 Silver Award and membership of the ADS group.

Nemco offers customers a range of electronic manufacturing services including: new product design and board layout; surface mount and conventional build; and testing including flying probe, bed of nails, Jtag and XJtag. In addition, the

company offers automated conformal coating; a Class 7 clean room; and cables, harnesses and full box build, a growth area over recent years due to customers requiring a packaged solution delivered direct to their end customer.

[www.nemco.co.uk](http://www.nemco.co.uk)



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# STABILITY KEY TO GAINING LONG-TERM VALUE

*Corintech thinks there is value to be gained by switching electronics manufacturer, but supplier stability is key*

Corintech specialises in the design and manufacture of electronic products. Forty-years' experience supplying high-tech customers has helped the company establish a reputation for quality and reliability.

When looking to outsource any element of manufacturing, there is always risk. Covid-19 has magnified this, as businesses look to secure and protect their current operations, rather than considering opportunities for improvement using a new contract electronics manufacturer. Neglecting this opportunity, businesses could be missing cost reductions,

quality improvements, shorter lead times, supply flexibility, design expertise and more. Business security remains top priority but benefiting from a new CEM doesn't have to be a high-risk activity, provided you consider stability.

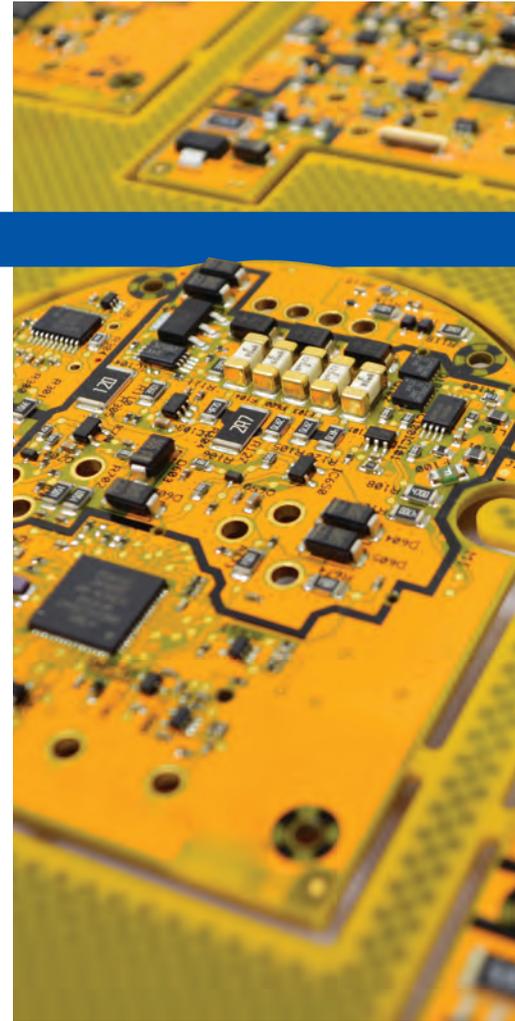
Corintech has safely operated all global production facilities, at full capacity, throughout the pandemic, having escalated manufacturing support for medical customers to help produce vital machinery.

Corintech continues to grow, as an increasing number of businesses return from lockdown seeking a reliable

supplier. Specialisms include: PCB assembly; thick film hybrid production; coating and encapsulation; mechanical assembly; and AS9100 quality accreditation.

A CEM relationship is a long-term partnership. No matter what the market, a good CEM provides confidence in its stability and ability to support operations now and into the future. Corintech's dedicated customer support team is ready to discuss your requirements and how they can support your electronics manufacturing.

[www.corintech.com](http://www.corintech.com)



# corintech

# ELECTRONICS

## DESIGN

- Advanced electronics engineering
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- 3D CAD
- Design for manufacture
- Wireless and IoT integration
- Software and firmware development
- Cloud service and app development

## MANUFACTURE

- Component sourcing
- PCB assembly
- Hybrid microcircuits
- Full product assembly
- Rapid UK and scalable offshore production
- Flexible stockholding and supply
- AS9100, ISO 9001, IPC, J-STD

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ELECTRONICS



# COMMITMENT TO MANUFACTURING QUALITY

*Advanced Rework Technology demonstrates how training can help manufacturers highlight their commitment to quality while remaining competitive*

Advanced Rework Technology believes that manufacturers can win contracts by using training to prove their production staff are qualified and certified for an immediate start. Training provides companies extra credibility when sourcing new customers and contracts in today's challenging markets.

Advanced Rework Technology offers training for every stage of the design and manufacturing process to ensure companies compliance to current industry documentation and standards.

Individuals can become certified to key IPC Documents and Standards:

- IPC 6012, Qualification and Performance Specification for Rigid Printed Boards
- IPC-A-600, Acceptability of (Bare) Printed Boards
- IPC-A-610, Acceptability of Electronic Assemblies
- IPC/WHMA-A-620, Requirements and Acceptance of Cable and Wire Harness Assemblies
- J-STD-001, Requirements for

Soldered Electrical and Electronic Assemblies

- IPC-7711/7721, Rework, Modification and Repair of Printed Boards and Electronic Assemblies

For aerospace manufacturers, Advanced Rework Technology is the only UK-based Accredited IPC Training Partner (IPC Training Centre) authorised to teach both of the IPC Space Addendum training programmes for J-STD and IPC-A-620.

Also, Advanced Rework Technology can provide training for design engineers, offering both IPC Certified Interconnect Design (CID) and Enhanced Certified Interconnect Design (CID+) courses.

The company's trainers are experts in their field and experienced in every part of the industry from design and fabrication, to assembly, quality and inspection.

Managing director, Debbie Wade, said: "Our trainers' expertise is supported by being active members and chairpersons of a large number of IPC and industry recognised committees. This gives us the added advantage and skills required to not just teach the latest requirements but to fully

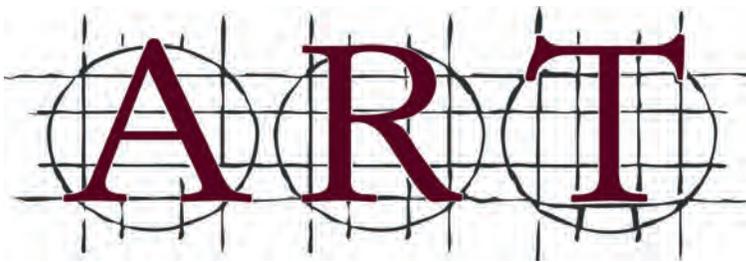
understand the changes to the technical standards and their associated training programmes. Our knowledge, skills and dedication is making Advanced Rework Technology a global leader. We are proud and humbled to be recipients of many industry and IPC awards: in particular, recipients of the prestigious IPC Presidents Award."

Even with the benefits of IPC training programmes, some companies do not have the requirement within their supply chain or contractual agreements. In these circumstances, Advanced Rework Technology is happy to work with companies to produce bespoke training syllabuses based around the customer's product and workforce. Alternatively, opt for one of the publicly available courses which include General Hand Soldering Techniques, Lead Free Rework, Laminate and Conductor Repair to Rework of Surface Mounted Devices.

All courses can be presented at the company's fully equipped training centre in Essex. Alternatively, training courses can be presented on customers' premises, ideal where a large number of delegates need to remain close to production.

[rework.co.uk](http://rework.co.uk)





Advanced Rework Technology Ltd



**SITES NOW IN UK AND ITALY**



As an Authorized Training Center, A.R.T Ltd can offer Certified Training to the IPC Standards listed below. A.R.T Ltd are the only training center in the UK able to offer CID PCB Design and IPC6012 training and Space Addendum training for J-STD-001 and IPC-A-620.



Acceptability of Electronic Assemblies



Requirements for Soldering Electrical and Electronic Assemblies



Repair Rework and Modification of Electronic Assemblies



Requirements and Acceptance for Cable and Wire Harnesses



Qualification and Performance Specification for Rigid PCB's



Acceptability of Printed Boards

[www.rework.co.uk](http://www.rework.co.uk)

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# We are here for you.

Anglia are proud to serve the vibrant and diverse UK design and manufacturing community.

With a line-up of products from world leading suppliers and comprehensive UK based inventory, our team are committed to providing all of our customers the support and service they need now and in the future.

THANK YOU **NHS** & ALL KEY WORKERS

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[www.anglia-live.com](http://www.anglia-live.com)