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There was a point over the last two years where I was genuinely worried about the future of face-to-face exhibitions. Legal restrictions essentially banned shows and the tech sector moved in with virtual alternatives. This created a potential tipping point. To my joy it tipped back in favour of live events.

I never frame different media as better or worse than any other. They are just more or less aligned with a message, audience and expected outcome. For example, magazines offer a curated, laser-like focus to specific subjects, delivered to a reader’s desk. Conversely, websites provide a deep and wide pool of information that visitors can wade through. Face-to-face shows offer something different again. Step onto any stand and the product manager acts as a very efficient ‘search engine’, listening to your questions and literally handing you a potential solution to pore over. However, having attended many shows a year, for over 35-years, I have decided that the premium benefit of a show is tapping into the experience and knowledge of the person you are talking to in an environment actually designed to foster problem solving, collaboration and partnerships.

So, it is with great fanfare that this issue of Electronics Sourcing is previewing two shows: Southern Manufacturing and Electronics 2022 (page 20) and the inaugural Electronic Component Show (page 34), a new event designed and managed by the Electronics Sourcing team.

I hope to see you on the Electronics Sourcing stand at both events and trust you will be ready and raring to mine the minds of the experts you meet.

Jon Barrett
**Supporting interconnect design and purchasing**

Lane Electronics has been appointed as a franchised distributor for Lemo connection solutions which are found in applications including motorsport, defence, medical, industrial control, test/measurement, audio-visual and telecommunications.

Lane Electronics’ sales director, Nick Wheeler, said: “Lemo connectors strengthen our product portfolio allowing us to offer their products to our customer base, especially in the UK motorsport and defence markets. We will be adding our usual benefits of high levels of customer service, technical support and a dedicated stock profile to make this great product range even easier to access and use.”

Lane Electronics will initially focus on M and F series circular connectors. M series connectors suit harsh environments and feature a ratchet screw system with multiple alignment keys enabling quick and secure coupling. F series products offer compact self-latching multipole connectors, with multiple alignment keys and are suitable for harsh environment.

www.fclane.com

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**I/O sensor in stock**

Mouser is stocking the Sentrius BT610 I/O sensor from Laird Connectivity. The Bluetooth 5 sensor platform turns wired sensors into IP67-rated, battery-operated wireless nodes that provide robust and secure messaging in applications such as cold chain, HVAC monitoring, single/three-phase induction motor AC current sensing or tank level monitoring.

The sensor is powered by Laird Connectivity’s BL654 Bluetooth module, delivering full Bluetooth 5 capabilities, including LE Coded PHY. The BT610 supports virtually any industry-standard external sensor through a range of interface options, such as general-purpose analog inputs, digital input/output to I²C, SPI and UART or in combination with a sensor cable assembly.

Configuration lets users read and report sensor data into the cloud and configure alarm events through the associated Android or iOS mobile app. The BT610 is certified for FCC, ISED, EU, RCM, MIC and is Bluetooth SIG listed.

eu.mouser.com

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**Expanding PCB protection range**

Farnell has expanded its PCB protection range with products from Dow, Ambersil, Robnor Resinlab, MG Chemicals, Electrolube CHT and Farnell’s private label brand Multicomp Pro. The in-stock range includes flexible silicone, rugged epoxy resin and conformal coating.

One example is MG Chemicals’ 832HD potting compound. Solvent free and featuring a low mixed viscosity, the compound is designed to penetrate small gaps and cavities while providing electrical insulation. It protects components from static discharge, vibration, abrasion, thermal shock, environmental humidity, salt water, fungus, and other harsh chemicals.

Offering a wide service temperature of -40 to 150°C, it is said to be simple to mix while offering high compressive/tensile strength with excellent adhesion properties.

Another example is Electrolube’s UR5041RP250G polyurethane resin. This two-part, high performance resin system is engineered to provide resistance to sea water and low water absorption, making it ideal for marine environments. It offers good physical protection with strong tear and oxidation resistance, as well as low temperature performance down to -60°C.

www.element14.com
Mergers and acquisitions have been prevalent in the semiconductor industry for the past two decades and have substantially increased in the last seven years or so, creating significant consolidation in the industry. These mergers and consolidations are major, multi-billion dollar deals that are streamlining the future of the semiconductor industry, and it’s no wonder why: in 2021, semiconductor sales were expected to reach $527.2 billion USD globally, according to Statista.

We expect these types of deals to continue for many reasons – technology continues to evolve, interest rates are low, and market caps and buyers’ stock prices are high, which allow for easier stock deals and borrowing money. There are also a variety of new markets on the rise, including 5G, artificial intelligence, machine learning, automotive, electric vehicles and IoT sensors, creating many new uses for semiconductors. Acquisitions are an efficient way to fill out a supplier’s product mix and provide end customers a robust solution offering.

Whenever there has been an acquisition, Digi-Key has nearly always already carried both lines. Of the major acquisitions in recent history, Digi-Key has been the only e-commerce distributor that has carried all the lines when the acquisitions were made. This has resulted in many synergies for the newly merged companies and exhibited further proof of the stability that Digi-Key provides our customers.

We’re proud to be the only constant on both sides of the ledger and are honored to continue working with the companies as they complete their mergers and transformations. For Digi-Key, it’s a seamless transition, because there’s no learning curve on how to market the products, work with the supplier, and manage relationships with their team – we’ve got the familiarity on all fronts. And because of our team’s technical know-how, we understand the product synergies very well. We’re able to take the elements and strengths of both companies and market them to the global engineering community, promoting the newly merged company as stronger than ever.

Looking ahead, we predict the industry will see larger suppliers offering deeper product portfolios, since suppliers are purchasing companies with synergistic products in order to offer a broader range of choices to their customer base. Suppliers will be able to leverage their expanded resources to provide designers and engineers with a solution sell rather than a one-off widget.

Digi-Key is proud of our extensive portfolio and the trust we’ve built with our supplier partners, which have served us and our customers well through this market consolidation.
In Brief

Securing pricing for 30 days
Digi-Key has partnered with CalcuQuote to integrate its technology with Digi-Key’s Quote API which secures pricing for 30 days versus standard price and availability options. It also offers a smoother ordering process with more efficient quoting and real-time data on demand.

Sustainable sourcing agreement
Offshore Electronics has committed to sustainable PCB sourcing and manufacturing through its exclusive supplier agreement with NCAB Group which has conformed to ISO 26000 since 2014. By signing a sole-source supply agreement, Offshore Electronics now effectively adheres to the same standards, extending efforts to minimise its own impact on the environment.

Positive outlook for 2022
Britain’s manufacturers are more positive about growth entering 2022, with greater confidence regarding their own companies than the global or UK economies, according to the 2022 Make UK/PwC Senior Executive survey. It also highlights the scale of uncertainty facing business in the turbulent global environment and that their optimism is tempered by escalating inflationary pressures and access to retaining talent and key skills.

Faster PCB manufacture and assembly
RS Components has expanded its design and manufacturing solutions by partnering with Eurocircuits, a specialist manufacturer and assembler of prototype and small series PCBs. Under the service, PCB prototypes can be manufactured in three days, and assembled in three days, catering for crucial time-to-market and thus maximising the product’s potential.

Cost effective LED indicator range
Anglia Components has announced a new UK and Ireland distributor agreement with Ekinglux, an ISO approved manufacturer of discrete indicator LEDs described as cost effective, quality products.

Buying into efficient relay operation
Rutronik is stocking Omron’s G6Q series single pole miniature power relays which are designed to offer flat dimensions, high switching current and robustness/stability in small spaces. Replacing G8P, they are smaller with the same footprint.

Chip resistors suit high continuous and momentary loads
TT Electronics has debuted its HPDC series high power density chip resistors. The design is optimised for power management, actuator drive and heating applications which benefit from enhanced heat transfer from element to terminal. High power density components save PCB area and boost reliability by restricting temperature rise.

TT Electronics’ director of engineering, Brian Stephenson, said: “Aluminium nitride gives the HPDC series our highest power density to date. With this product, our customers can reduce the size of their power conversion designs, while enhancing the reliability of the assembly through restricting the component hotspot temperatures.”

“These features make the HPDC family ideal for applications with high momentary load conditions, such as power supplies, motor drives, power amplifiers and actuator controls.”

Ratings are 2.4W (1206) and 3.5W (2512), Short term overload performance is 4.7W (1206) and 7.7W (2512) for five seconds, making HPDC ideal in active capacitor bleed circuits.

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Crystals and oscillators

Programmable oscillators save the day

In this article, Dove’s management team explains how programmable oscillators can save the day when dealing with material shortages and extended lead times.

Crystal and oscillator specialist, Dove Electronic Components, offers an extensive range of frequency control products and services. The company’s in-house programming center features four mass production machines with full laser marking and tape and reel capability.

Most programmable orders start as a customer request for a fixed frequency oscillator. Requests range from a prototype to support of an existing design. Programmable oscillators have saved the day when dealing with material shortages and extended lead times. Customers faced with line down situations or delivery dates inside current lead times have found programmable oscillators a perfect fit.

For example, customers looking for a specific oscillator have often exhausted all other stock avenues. Faced with having to wait months, a quick-turn, programmable oscillator offers a potential solution. Assuming the specifications fall within the available footprint, stability, temp range, jitter spec, etc, Dove’s team will offer a programmable oscillator from one of several manufacturers Dove is authorized to perform in-house programming for.

We’ll send the buyer a formal quote and soft copy of the datasheet to share with their component engineer. Once the customer approves the specification, we can send samples to test (if requested), usually within one to two-days, so the customer can confirm the programmable solution works before committing to a production order. However, the datasheet is often all they need before placing an order.

Production starts with allocating the blank (unprogrammed) oscillators to the customer’s order. This is electronically transmitted to the in-house Programming Center and automatically scheduled against the customer’s dock date(s).

Many customers are incorporating programmable options into their products, designs and supply due to their reliability and availability. Dove has revived orders that were facing a >30-week lead time and is ready to help more customers explore this solution.

Dove operates a cohesive process between the sales team and programming department. Strong communication between departments less the programming manager provide immediate explanations to the salesperson handling a standard or special order.

As inquiries for programmable oscillators come in, the sales team coordinates availability and scheduling with the programming department: first ensuring the specifications can be met, then confirming a firm ship date. Once an order is in place and on the department schedule, Dove’s programming manager prepares the materials and device kit.

The job is setup on a programmable oscillator automation handler, accounting for package size, laser marking and packing requirements. Setup includes hardware removal and installation, hardware alignment, software setup and packaging preparation.

Crystal and oscillator specialist, Dove Electronic Components, offers an extensive range of frequency control products and services
Using a combination of supplier provided software and proprietary equipment, specifications are entered and the devices are ready for programming. All program results are saved for reference, with precise and accurate device output frequencies logged.

Devices are laser marked per supplier standards, with some customers requesting custom marking which Dove provides at no additional cost. The laser marking system is constantly monitored for accuracy and etching consistency.

A strict traceability program is followed, tracking lot numbers and date codes through the programming process, ensuring programmable oscillator shipments are traceable to the manufacturing date and facility.

The order is then prepared for shipping. Before parts are shipped the order is processed through a series of quality check points with trained warehouse personnel cross checking customer requirements, date codes and lots against prepared paperwork/labels to ensure the order is shipped complete and precise.

www.doveonline.com

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Obsolescence

Why hi-rel markets face increasing obsolescence

In this article, Flip Electronics’ President Bill Bradford explains the forces driving component obsolescence and how to defend against it.

Semiconductor demand is driven by high volume commercial applications such as mobile phones, IoT, and consumer electronics. End equipment in these markets is constantly upgraded to compete with similar products from other manufacturers which, in turn, fuels demand for higher performance semiconductors. Moore’s Law accommodates this demand, chasing ever-smaller circuits that deliver on speed and power. Thus, most new chip capacity coming online supports new technologies.

Legacy semiconductor components are built on more mature (>28nm lithography) processes. Recently, this meant relatively low production costs because the wafers are generally considerably less expensive and they are built on fully depreciated manufacturing lines. However, in the wake of the current semiconductor shortage, legacy component supply cannot meet demand and manufacturers are not investing enough in these mature technologies to improve availability. Doing so would disrupt their cost models, as they would no longer be building on depreciated equipment. That’s if they can still buy replacement fab equipment for mature nodes.

Most applications use some legacy components for simple functions and interfaces, but a much larger percentage of a high-reliability BoM is made up of mature devices. Whether aerospace, defense, telecom, networking infrastructure, or industrial controls, equipment is complex, new designs are costly/time-consuming to produce, and testing/qualification can add significantly to the expense and time. These factors make it prohibitive for high-reliability systems to go through the cadence of regular upgrades to ensure components remain state-of-the-art. In fact, many defense systems are expected to support a lifecycle of multiple decades.

Over time, manufacturers discontinue many legacy components because they have been replaced by a newer, more advanced, higher performance version, or because the equipment required to build the legacy components is no longer viable.
Semiconductor manufacturer consolidation has also reduced the number of legacy component sources, and the rate of product discontinuance notices (PDNs) is increasing. This trend, plus the long design/qualification time for high-reliability systems, means many components are obsolete before a system reaches production, and often most components are obsolete during the planned equipment lifecycle.

This obsolescence, referred to as diminishing manufacturing sources and material shortages (DMSMS), requires a sophisticated forecasting rigor to manage. Precursors to product discontinuance, such as manufacturer announcements, channel inventory trends, supplier consolidation, etc., should be observed. Data modeling can also be used to predict component obsolescence over a longer-term horizon.

Manufacturers of high-reliability equipment can leverage specialty distribution partners to secure availability of obsolete components. Such distributors study the market, perform analytical models, and invest in discontinued inventory when the product is still available to support the lengthy production runs of the manufacturer. In some cases, they can arrange to have additional inventory built to support post last-time-buy requirements.

With semiconductor shortages expected to persist through 2022, high-reliability equipment producers should leverage their distribution partners to assist in predicting and managing the added stress of component obsolescence.

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Obsolescence

Component sourcing the green way

Rochester Electronics’ technical sales manager, Ken Greenwood, explains how authorised after-market distributors are helping manufacturers extend equipment service life

The prime goal of environmental legislators is waste prevention. Laws covering waste reduction, such as the Waste from Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU) and the UK’s Right-to-Repair Law introduced in 2021, aim to prevent WEEE creation and encourage equipment re-use and repair.

Long-standing partnership between Rochester Electronics and most leading semiconductor companies provides a demonstration of waste prevention in practice, while also offering a risk-free safety net in times of allocation.

The semiconductor supply chain works ‘imperfectly’. Production output and demand can never be perfectly matched. Cyclical waves of over/under-supply have been a consistent market feature since the day semiconductors appeared in mass-market goods.

In the past, surplus components were scrapped rather than re-entering the market in an uncontrolled manner. Raw materials were recovered but the sunk costs were lost. Also, the recovery process is highly energy intensive.

Today, many semiconductor manufacturers have eliminated the scrapping of surplus components by engaging an authorised after-market distributor. Sources such as Rochester Electronics, receive surplus stock and keep it in an authorised AS6496 ‘bubble’. As partners of the semiconductor manufacturers, they act as a trusted instant source of product when demand starts to outstrip supply. Thus, cyclical market peaks and troughs are smoothed and customers keep production lines rolling.

The second aspect of legislation—the extension of equipment in-service lives—demands increased component longevity.

These market trends are headed in opposite directions. Thirty years of mergers and acquisitions mean fewer suppliers. Fab start-up costs for new geometries mean investment is the preserve of the few. Component lifecycles are reducing.

Component discontinuations present customers and service providers with a stark choice: commit to a last-time-buy (LTB) to cover all future needs; and/or re-design/re-qualify the end-product. An LTB purchase will be based on best forecasts at the time. But what-if circumstances change or in-service life increases?

Semiconductor manufacturers also struggle to match supply with LTB demand. Surpluses inevitably arise, risking scrap and waste.

An authorised after-market distributor and licensed manufacturer can provide a risk-free safety net to help protect against these uncertainties and reduce waste. Deep long-standing relationships with semiconductor manufacturers mean Rochester Electronics receives billions of surplus EOL semiconductors each year. This authorised ready-to-ship stock provides a buffer against market uncertainties and allows customers to:

- avoid production stops;
- extend service-lives;
- avoid re-designs/re-qualifications; and
- resurrect older designs to meet critical market demand.

In many cases, surplus wafer/die, test equipment and tooling are also transferred allowing ongoing authorised production, sometimes 20 to 30-years after the original component EOL.

Rochester Electronics supports installed equipment in applications such as energy distribution, transport, industrial controls and aerospace, allowing original designs to continue unchanged. Past focus was on applications where robustness and longevity are the prized attributes. WEEE and Right-to-Repair legislation highlight a need for these attributes in components across a broader spectrum of applications and markets. This will require deeper co-operation between customers, semiconductor manufacturers and after-market distributors.

www.rocelec.com

Rochester Electronics’ technical sales manager, Ken Greenwood

Component discontinuations present customers and service providers with a stark choice
END OF LIFE IS NOT THE END OF THE LINE.
As an authorised distributor, Rochester Electronics provides the world’s most extensive range of end-of-life (EOL) and broadest range of active semiconductors to keep the medical, defense and infrastructure industries moving worldwide.
Societal changes are driving electronics innovations, including printed circuit boards. Michael Larsson said: “Although the pandemic has brought many challenges in the last year and a half, the ongoing global trend toward urbanisation has brought greater prosperity for many. There is a rise in middle-income earners, particularly in major Asian nations. More people are living more comfortably and longer and also want better standards and service.

At the same time, efforts are being directed to sustainability to meet the climate challenge and protect the environment. We need to save more energy and implement the shift to fossil-free energy sources. Another aspect of sustainability is working to secure a healthy future for this and future generations.

**Energy industry in transition**

Electronics is an important enabler in the development of technologies for smart homes, solar/wind energy, smart grids, electric vehicles and their associated infrastructures. For example, smart homes are seeing rapid development of control and operating systems that optimise well-being, net operating income and energy use. Looking at the climate, we are seeing extensive developments towards more electric transport. This will require new fleets of vehicles and upgraded infrastructures incorporating more electronics.

The energy industry is also undergoing change. Solar and wind have moved from symbolic initiatives into competitive energy sources. This is creating demand for electronics to transfer power surplus locally to the grid for storage or onward to where it is needed. In the manufacturing industry, new control and regulating technology is being developed as a result of advances in sensor technology.

Miniaturisation is another trend driving electronics development. The desire to accommodate more electronics into smaller spaces creates opportunities for new applications. At the same time, it creates challenges regarding thermal management.

Looking specifically at PCBs, Michael noted that miniaturisation is encouraging increasing numbers of NCAB customers to make technological leaps such as using more layers and...
deploying advanced solutions such as HDI, flex and flex-rigid boards: “Being bold enough to make such a move can result in the customer getting a smarter solution. With today’s products, for example, an HDI solution can often help avoid the unnecessary hassle that a traditional design would cause.”

**Consolidation in progress**
Commercially, the pandemic has challenged everyone in the PCB industry, but smaller players were hit hardest. This drives consolidation among product owners, contract manufacturers and their suppliers. In the future, size will become increasingly important if companies want to be seen as meaningful business partners.

Michael explained: “If you look at the demand for printed circuit boards from a geographic angle, Asia, where the vast majority of boards are manufactured, is the region that is both the largest and fastest growing. After that, Europe is the largest market for PCBs. About twice as much volume is imported there compared to the third largest market, North America. So for us at NCAB, this means that we are generally in the right markets. However, we are working to gain even better coverage in markets where we are not so well represented, given that an important part of our business concept is being close to the customers.”

**Reliable PCBs**
Today, there are more applications where failure is not an option. Reliability is increasingly crucial. An important part of NCAB’s strategy is to work closely with product owners, who are seeking more control over PCB sourcing.

Michael added: “This increased focus on control is often linked to key constructions where their own brand may be at risk. Apart from the quality aspects, this trend is also driven by the product owners’ own sustainability ambitions and the legal requirements in this area. Having control over sustainability aspects throughout one’s supply chain has quickly become increasingly important for both product owners and EMS companies.”

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**Growth through knowledge**
Going forward, NCAB will continue to focus on growth, both organically and through acquisitions. Capacity is constantly being expanded and NCAB continuously conducts sourcing and factory management work to meet customers’ needs regarding, for example, technology and country of manufacture.

Michael concluded: “In addition to control, knowledge is an important part of our offer. Based on the customers’ needs, NCAB has over the years built up a knowledge bank that enables us to help customers with good and smart solutions, optimised for production.”

www.ncabgroup.com

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**PCBs**

**Going forward, NCAB will continue to focus on growth**
Heilind Electronics is now stocking Amphenol Sine Systems’ ecomate Aquarius PCB mounted jam nut receptacles. They provide an IP67/69K waterproof rating (when mated) for industrial applications. The thermoplastic design meets growing demand for lightweight, lower cost, sealed connector systems. The MIL-DTL-26482 based design provides a quick, reliable, one-third turn bayonet coupling, ideal for indoor/outdoor applications.

Available in optional in-line, square-flanged and end cap configurations, the connectors feature pin and socket contacts that are available on reels and in strip form to accommodate high volume, low cost automatic machine terminations.

Applications include appliance and climate control, computer, datacom, telecommunications and alternative energy.

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Despite chaotic market conditions in 2021, ECSN members remain very positive about their organisation’s and its customers’ prospects into 2022.

ECSN’s latest Leadership Group Forecast predicts the UK and Ireland electronic components market will continue to grow strongly in the first half of 2022, returning between 11 to 15 per cent growth, showing around 13 per cent growth mid-year. In the second half, the association predicts that billings (sales revenues) will slow modestly to give a full year outcome ranging from eight to 12 per cent and showing a mid-point of 10 per cent growth over the previous year.

Market analyst, Aubrey Dunford, said: “The market upswing we expected to commence in 2020 was delayed by the global economic slowdown. A further effect of the pandemic is that normally out-of-phase regional cycles were brought into sync, further contributing to a global supply issue.”

In its 2021 Forecast, the association predicted rising global demand and extended lead-times on some products but like the coronavirus itself, the trend spread exponentially to affect virtually all component categories within weeks. From the start of 2021 members saw ‘book-to-bill’ ratios rise to levels rarely, if ever seen, with unprecedented ‘bookings’ driven by extending lead-times and price increases.

Dunford continued: “Any disruption to supplies that had been expected as a result of Brexit were dwarfed by the global supply issues. Despite the high level of bookings (new orders entered), billings were both constrained by the supply issues and boosted by price increases throughout the year. About 15 per cent was added to the DTAM (distributor total available market) as our members also expect a strong finish to the year.”

Authorised distributor order books (backlog) remain at historically high levels as market expansion, driven by technologies such as 5G, is now well underway.

Dunford explained: “Electronics are finding their way into more and more applications, so our members are confident that the underlying strong demand from their customers will continue. We therefore predict that bookings will remain strong throughout the first half of 2022, although we do expect to see the book-to-bill ratio decline as the supply conditions improve. In the second half of the year growth in the market will continue although the rate of growth will decline compared to 2H21.”

Customer order backlog levels leapt to unprecedented heights in 2021, a trend that looks likely to continue into 2022, driven not by customer forecast or actual demand but their need to have sufficient order cover and in-house inventory to match the very extended manufacturer lead-times.

Association chairman, Adam Fletcher, believes this will change as manufacturer lead-times decline but members’ opinions vary about when and by how much. “The consensus opinion held by ECSN members is that by mid-2022 lead-times will be declining rapidly to around an average of 12 to 16-weeks for most components but there will still be some outliers on much longer lead-times. I suspect proprietary semiconductors and interconnect products will normalise first, while commodity products (other than memory chips) will not be on track until 2H22.”

“My real concern is longer-term availability of legacy, larger case size MLCC and TFCR components used widely in the US and Europe. Lack of focus on increasing manufacturing capacity for these parts has the potential to be the next significant industry supply problem.”
Mid-term trajectory for the electronic components markets continues up and to the right. Despite the difficult market conditions in 2021, Fletcher remains confident that stronger underlying growth will return to global electronic components markets because so many competing applications are driving it. He sees 5G handsets and infrastructure, cloud/high performance computing and automotive as the main push with industrial automation and medical running a close second. Fletcher fears avionics and military will likely remain constrained.

It is therefore, going to be equally important in 2022 for customers to work with their distribution partners to get order cover and buffer stocks in place. It goes without saying now that the longer the view a customer can give, the better able the distributor is to provide support. As an added benefit, but equally important now, a longer view of the customer’s forecast or order book allows the distributor to better manage their CO² emissions potentially using ocean freight instead of airfreight, with a consequent 20 times reduction in CO².

Managing director Solid State Supplies and Pacer Electronics, John Macmichael, concluded: “It seems clear that despite the projected market growth 2022 is going to continue to be a challenging year with further price increases and shortages.
Southern Manufacturing Preview

Recharged and ready

Southern Manufacturing & Electronics returns to Farnborough from 8 to 10 February 2022, with over half the show’s 20,000m² floorspace dedicated to electronics.

In the component arena, names include Transfer Multisort Elektronik, one of Europe’s largest distributors carrying over 500,000 product lines covering semiconductors, IoT, optoelectronics, passive, electromechanical and more. UK-based firms include Wurth Electronics, G English Electronics, RF Solutions, RJS Electronics and Easby Electronics, itself one of the UK’s leading suppliers of components including custom batteries, power supplies, semiconductors, displays, electromechanical, passives, optoelectronics, IoT devices and EV charging equipment.

OEM manufacturers include Yamaichi Electronics, Relec, Coax Connectors, Binder, Cosel Europe, Midas Displays, TDK-Lambda UK and more.

Subcontract expertise will be on show, including design, assembly, PCB production and inspection. Design and software development consultancy Ignys will be offering advice on designing-around the global chip shortage. Esprit Electronics will highlight its range of services, including PCB assembly, NPI, DFT/DFM, test and inspection, conformal coating and box build. PCB specialists returning for 2022 include European Circuits and Shenzhen X-Mulong.

The free seminar programme returns for 2022 in a socially-distanced format. With UK business now operating in a post-covid, post-Brexit world, keeping abreast of the latest legislation and management strategies is important. Among topics discussed, Paul Grabham looks at post Brexit and covid impacts on HMRC R&D Tax Credits. Applied Lean Consulting’s Tim Scurlack offers delegates ideas on how to drive continuous improvement in their business. Graham Cooper provides tips on energy usage reduction in manufacturing. Nick Aitken and Dr Alex Martin give advice on how to handle a product safety incident. Sessions run over all three days.

Farnborough International Exhibition Centre offers extensive infection control measures to reduce risk. Free onsite car parking for 3,500 vehicles, plus a dedicated free bus service between Farnborough’s train stations aid travel arrangements. Other benefits include free WiFi and on-site catering.

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Simplify safe signal transmission in sensor-actuator applications

M8 signal cable connectors from Binder are designed for efficient, reliable installations in sensor and actuator applications. Featuring snap-in quick locking and three to six pins, they are used in industrial applications requiring reliable signal transmission and subject to space constraints.

Further straight overmoulded M8 snap-in connectors are being added to the 718 series, offering five and six-pin versions. They are available with PUR or PVC cables up to 2 or 5m standard length. Custom lengths are available. The locking mechanism doesn’t require rotating elements, making them easy to handle.

Specifications include IP65 when mated and gold-plated contacts—brass for male and bronze for female—offering over 50 mating cycles. Rated voltage is 30 to 60V, while rated current is 1.5 to 3A depending on wire gauge and pin count.

Binder product manager, Guido Werner, said: “With the M8 circular connectors and the quick locking mechanism, we are strengthening our position as a solution provider in automation technology. We will be happy to offer further variants or even customer-specific solutions with the snap-in latch on request.”

www.binder-connector.com

Blowers suit medical and industrial applications

Micronel will showcase high pressure and suction miniature DC blowers at Southern Manufacturing 2022. Visitors can see updated ranges of compact, energy-saving, miniature DC fans and blowers aimed at a wide variety of medical, industrial and process control, pressure or suction/vacuum applications.

High pressure medical blowers and turbine products suit Covid-19-related applications, such as breathing therapy, ventilators, respirators, personal protection, ICU hospital beds, air purification, disinfection, air sampling, laboratory, diagnostic and test equipment. All air movement with significant pressure or suction to force air through tubes or chambers or overcome system/filter resistance.

The company’s industrial blowers can be considered energy and space saving alternatives to bulky side-channel blowers and compressed air sources. Micronel states its 24V DC brushless motors use a fraction of the power of larger side channel blowers, which typically use over 2kW, and have much lower running costs when compared to costly compressed air systems.

www.micronel.co.uk

Investing in harness manufacturing

Cable loom and harness manufacturer, Convert, is showcasing its capabilities at Southern Manufacturing and Electronics. The Kent-based company specialises in automotive, public transport and scientific/medical sectors, manufacturing cable harnesses for car head and rear lights, passenger gates at railway stations and a range of scientific equipment.

Managing director, Dave Lord, said: “We are very excited to be able to attend the Southern Manufacturing show once again. It’s the only show we attend and have done so for the last 12-years. We’ve been working on some really interesting projects, so we are looking forward to connecting with customers and getting back to face-to-face networking to see what else exciting is going on in the manufacturing world.”

With its trained staff and continual investment in state-of-the-art equipment—including a Komax Gamma 255 automatic crimping machine and an Artos CR11 crimping machine—Convert states its cable looms and harnesses are manufactured to the highest quality, delivered on time and at competitive prices.

www.convertltd.co.uk

SMA connector range suits harsh environments

Coax Connectors has added more harsh environment connectors to its off-the-shelf range. The latest, an SMA reverse polarity, straight three-hole flange mount PCB jack, is IP68 un-mated and has a black non-reflective finish.

While some customers require a different finish for aesthetic reasons or to differentiate between connectors, specific characteristics are sometimes sought. For environments where reflection is undesirable, black plating can deliver a less reflective connector finish than gold or nickel in military, avionics, nautical and broadcast applications.

IP68 sealing provides protection against liquids and/or dirt which can damage the connector which impacts the associated equipment and RF signal performance.

www.coax-connectors.com
New Year, New Inspection Solutions

Experience our range of NEW digital inspection systems at Southern Manufacturing including:

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  Simple to use, compact digital inspection microscope

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- **DeepFocus 1**
  Extended Depth of Field digital inspection system

- **DRV N Series**
  Digital stereo high magnification microscopy system

Visit us on **stand G240** to see how our new and existing products improve your inspection and measurement accuracy and productivity.
Henkel's new Loctite 402 is an instant adhesive which develops handling strength twice as fast on most substrates by comparison with other assembly solutions (three to ten seconds). This single component product is claimed to remain three times stronger on most metals at temperatures up to 150°C and offer sustained hot strength performance on selected metals at 135°C. This benefits products whose power supply and connectivity generate heat.

This adhesive is also said to set a new health and safety milestone for instant adhesives. Specifically, it features a novel stabiliser package that removes the need for ingredients that recently came under greater regulatory scrutiny.

Tasks such as bonding, locking and sealing threads, retaining assemblies and liquid gasketing benefit from Henkel's continuous product development process. Notable improvements include higher service temperatures, ability to cure through light surface contamination and improved curing on inactive metals without a primer.

www.henkel.com

ODU UK is supporting its distributor Selwyn Electronics with new products including the latest additions to the AMC (advanced military connector) range. The AMC Series T now offers three locking variants of plug to fit the same receptacle: push-pull, break-away and screw locking (a built-in serrated trapezoidal thread ensures additional safety).

Now OEMs have a choice of locking mechanism at each connection point, while retaining the same standard bulkhead connector across all equipment.

In a second innovation, a new seven-pole insert for the ODU-AMC high-density Series features a size O shell but with a larger 0.7mm contact for higher robustness. The seven-pole configuration offers a future-proof alternative to other six-pole NETT-Warrior connectors, together with a significant performance increase.

www.odu-uk.co.uk

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Covid presents challenge and opportunity for medical electronics

Anglia Components’ marketing director, John Bowman, explains how the pandemic has transformed medical instrument design and the components specified.

The market for medical and healthcare products is accelerating. High demand for ventilators and other patient-connected systems remains. The drive to streamline treatments to optimise the valuable time of healthcare professionals is increasing the requirement for all kinds of instruments. Telemedicine and eHealth markets are also expanding rapidly, as medical professionals move to remotely diagnose, monitor and treat patients outside a dedicated healthcare environment. This is reducing the burden on health services while also limiting potential exposure to the virus.

Customers’ ability to fulfil this demand is constrained by the same supply chain challenges impacting the whole industry. In the pandemic’s early stages, we established a Covid task force dedicated to expediting inventory for ventilators and similar essential systems. Anglia is still prioritising these medical designs in partnership with its suppliers. As a privately owned company Anglia can take a strong inventory position. Despite this, we recommend all customers extend the lead-times on their ERP systems and forecast at least twelve months.

In parallel with the demand surge, the pandemic has transformed medical instrument design and the components specified. Most obviously is the issue of social distance. Previously, clinicians stood close to patients when setting up instruments and taking readings. Instruments now need to be operated at a distance from the patient wherever possible. Touch screens—until now the preferred user interface technology—are now seen as a potential infection vector. Instruments need to be redesigned with a touchless two-way communication such as a cell phone, tablet or other device allocated to
the carer. Finally, a new level of robustness is required. The expected operational demands on medical equipment (run hours, longevity) have increased significantly and need to be addressed.

The pandemic has also changed the volumes of instruments manufactured. Medical equipment normally made in quantities of hundreds per week are now manufactured in thousands per week. This means specialist medical manufacturers need to consider adopting some of the disciplines established in the consumer electronics space. Their situation is made more complex by the current exceptionally challenging supply chain situation. The best advice is to be realistic about what you need and when. Anglia has invested in its customers and business by vastly increasing its own forward ordering when stock was still relatively plentiful. Even so, the stock and forward orders will only go so far. Simply providing your best forecast, as far forward as possible, (without over-ordering) allows us to make the most of the supplies we can secure.

Medical electronics will play a growing part in addressing the pressure healthcare professionals are under, both directly from the pandemic and by the need to continue treatment of other conditions despite the depleted resources. Demand for medical technology to improve, speed and simplify treatment is strong. Our customers can capture this demand and benefit from these developments if they think about the supply chain early enough in the project’s lifecycle.

www.anglia-live.com

The drive to streamline treatments to optimise the valuable time of healthcare professionals is increasing the requirement for all kinds of instruments

Medical applications are being prioritised for supply.
Think medical, think EMC

SCHURTER is working with medical device manufacturers to ensure their applications comply with the strictest EMC standards.

For patients with an implanted device, such as a pacemaker, communication between the device and control unit takes place wirelessly via a radio signal. This signal has a specific frequency, so no radiation may be emitted from electronics in applications used in that frequency range. Thus, EMC plays a crucial role in application development.

For a touch controller multi-layer PCBs are used. The outer layers act as shields so signals in the inner layer cannot cause emission. Filter components are placed at cable and sensor connections so interference from the chip is stopped. The power supply uses linear regulators, instead of switched, because they also produce interference.

Many medical applications use an LCD controlled by internal electronics. To limit emission, a shielding film can be placed in front of the screen. This uses a mesh foil with electrically conductive grid.

While many mesh films darken the image, SCHURTER uses a film with high transparency so the image is not affected.

A prototype EMC properties are tested in a specially designed radiation-free room. The product is placed in the room, connected to cabling and switched on. Signals around the frequency in question are registered by an antenna and transmitted via coaxial cable to a spectrum analyser outside the room. An algorithm determines an average value which must lie between two set values.

Attention to EMC requirements is part of the initial product design so the choice of materials and their constructions are adjusted accordingly. Thus, it is possible to develop a quality product, that aligns with the production process, without too much additional cost, with the right EMC properties.

www.schurter.com

“Many medical applications use an LCD controlled by internal electronics. To limit emission, a shielding film can be placed in front of the screen.”

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**Sealed harness solutions in stock**

Powell Electronics is now stocking ModICE modular connector enclosures with SHS harness connectors from Cinch Connectivity Solutions. Available from stock for immediate delivery, the range provides sealed packaging solutions for rugged electronic control modules.

The Cinch 1.5mm SHS system is used as the base interconnect technology for ModICE connector enclosures. These sealed rugged I/O connectors are designed to function in extreme environmental conditions commonly found in commercial and off-road vehicles and industrial equipment.

Cinch ModICE connector enclosures are available in three sizes and with four header configurations: 18, 30, 48 and 60 I/O. Resistant to most industrial fluids, the products are sealed to IP67 and IP69K and remain sealed even when the harness connectors are not mated. Further details include a current capacity of 10A at 85°C, a contact resistance of less than 10mOhm, an insulation resistance of over 1,000MOhm, and an operating temperature range of -40 to 125°C. ME headers with integrated RF ports, headers with integrated ferrite filtering, as well as blank headers are also available.

www.powell-electronics.eu

**New bussing options support data comms**

Schurter has introduced a new version of its NR010 series NEMA 5-15R receptacles featuring insulation displacement contacts (IDC) terminals for bussing insulated wires perpendicular to the pin-axis. The new version completes the range with both vertical and horizontal bussed wire options. All three terminals, L, N and E can be bussed, or variations thereof, leaving the line terminal independent. This allows for the application of maximum load to each outlet according to UL rating 15A, 125V, or for extending functionality to each outlet.

The NR10 series addresses demand for increased packaging density in data communication and storage equipment, as well as increased ambient temperatures. It boasts a wide operating temperature range of -25 to 150°C.

www.schurter.com
Small connectors deliver automotive quality

Hirose Electric has developed a 1mm pitch wire-to-board connector that can be used safely for automotive applications due to its heat resistance and robust design.

The new GT50 series meets increased demand for wire-to-board connectors caused by the shift to electronic vehicles. These applications require smaller, lighter connectors due to limited mounting space. Heat resistance and the ability to withstand vibration are also essential.

GT50 connectors offer a small size, featuring a 1mm pitch and 5.97mm height. Lances on both the contacts and housing support high retention force during cable pulling. In addition, GT50 boasts sufficient locking strength and PCB peel strength for robust connections.

Heat resistant material and crimp contact design ensure heat resistance of 125°C. A stabilizer also ensures high vibration resistance.

www.hirose.com/eu

Lead-free high current portfolio expanded

Würth Elektronik ICS has added a new bushing variant with a 6mm diameter to its LF PowerBasket surface-mount series of lead-free Powerelements products.

The LF PowerBasket SMD power supply terminals are multi-pluggable and are ideal for use in wire-to-board and board-to-board connections. Compared to conventional systems, the contact blade design is said to reduce insertion and extraction forces. A position tolerance of up to 0.6mm ensures several contacts can be plugged in at the same time. This offers a considerable advantage for three-phase connections.

Powerelements products feature a high current carrying capacity of up to 160A at 20°C. Operating temperature range can be up to 150°C and even up to 170°C for short periods.

LF PowerBasket SMD high current contacts are also manufactured without any lead additive using a punching and bending process. This ensures they are unaffected by impending changes to exemption 6c of the RoHS Directive.

www.we-online.com/ics

SPE solutions facilitate IIoT

Yamaichi Electronics offers a new series of connectors for industrial single pair Ethernet (SPE) according to IEC 63171. The new Y-SPE series includes both IP20 and M12 sockets with IP67 protection for PCB mounting in accordance with IEC standards 63171-2 and -6.

Designed to offer efficient data transmission from the sensor to the cloud, these single pair Ethernet products meet the increasing communication requirements of machines and devices in the production environment. They are particularly suitable for systems with cable distances over 100m.

Due to its large range and uniform communication level, single pair Ethernet is key in the transition to IIoT and Industry 4.0. Transmission takes place via only two contacts, making it possible to build smaller connectors than the previous RJ45. Only one pair of cables is needed, which also saves space, raw materials, weight, and money.

To ensure the supply of power, SPE offers Power over Data Line (PoDL) with a limit of approximately 60W. Alternatively, for components that require more energy, Yamaichi can provide hybrid connectors and customer-specific designs.

www.yamaichi.de
Connectors must endure extreme conditions, especially in aerospace and military applications. Often subjected to rapid temperature changes or constant vibrations, impacts and signal interference, they must be robust enough to continue operating reliably and safely to ensure users have 100 per cent trust in the product.

Take the D38999 connector for example. This military-specification connector was originally designed in the 1970s and is now on its third-generation. The main reason the D38999 connector soared to popularity is that it offers a higher contact density than predecessors—128 contacts compared to only 19 for 5015 connectors. It comprises a few basic components: hard outer shell; neoprene rubber insert with holes to house pins or contacts; and sometimes a backshell for additional shielding and durability. One benefit of D38999 connectors is the customisation options such as different shell types, materials, finish and insert arrangements. This appeals to customers, particularly in industries often requiring bespoke solutions, such as military and aerospace.

Military applications are seeing growing need for shielding and durability, with electrical connectors expected to be in service for decades. With life spans between 500 and 1,500 mating cycles, D38999 connectors can last for up to 30 years depending on application.

Many aerospace and military customers require custom components and D38999 connectors facilitate this since backshells and contacts...
are easily customisable. For example, backshells can be aluminium, stainless steel or composite. Newer composite options are popular because they are lightweight and offer high performance in harsh environments. They are also REACH compliant and QPL qualified for military use.

Customisation options are also driving popularity in other industries such as industrial, marine and automotive. For every new application, new additions or changes can be made to enhance the robustness and reliability for that industry. Simply choose a reliable connector supplier to meet the application’s demands and, where necessary, provide guidance on the best solution.

PEI-Genesis provides an extensive range of D38999 connectors from Amphenol, ITT Cannon, TE Deutsch, Souriau Eaton and Conesys. It stocks large volumes of component parts and can build millions of connector types while offering lead times of just 48-hours from order placement.

The company can offer standard solutions or work with customers to create something bespoke for their specific application using its in-house design team. PEI-Genesis also supplies D38999 accessories such as protective caps, backshells, contacts, nut plates for receptacles and tooling.

www.peigenesis.com
ECCO Connectors offers readers a behind-the-scenes tour of a circular connector’s birth including demand, order, build, shipping and delivery in just a few days.

Circular connectors are a unique commodity, often required last minute with delivery ASAP. The following story focusses on a 5015 series mil spec style connector.

The process starts with the end customer AGS, an aircraft test and measure OEM which supports aircraft maintenance operations and often lacks visibility regarding their customer’s demand for tools and equipment. Given recent and continuing increases in freight and commercial air travel, AGS needs to replenish its products in the field at much faster rates. It looks online to find material available at authorized distributors and identifies two sources for the exact SKU it needs.

After choosing its desired source, the company places an order for the required quantity of an MS3102E22-19P. The order is transmitted to the distributor via email and confirmed. With a quick turn requested, the distributor’s system breaks out the top-level assembly into its various sub-components where a pick ticket and production order are generated.

The required material is then picked and delivered to the operator’s workstation where it is cleaned and inspected. If all components pass first level inspection the operator follows the work instructions.

The assembly process begins with applying adhesive to the contacts, outer shells and insulators/inserts, which are allowed to air dry. Several sub-tasks follow, including insulator insertion into the outer shell (pneumatic press) and insertion of contacts into the insulator (arbor press). These insert/shell subassemblies are then oven cured for a specific duration, at a calibrated temperature.

Once cured, the parts are moved to QC for inspection and pressure tested to ensure/confirm resilience to fluid penetration. After passing inspection and testing requirements, they are moved to marking to add the finished part number, date code, manufacturer and mint mark to each part produced.

Because of their high reliability, circular connectors are used in aerospace, transportation, medical and harsh industrial applications.
The parts are oven cured again to ensure marking permanence.

These subassemblies are then combined with the remaining components to produce the 'top level assembly'. The finished connectors are sent to secondary QC where a separate operator inspects the finished parts regarding assembly and marking. Once completed and stamped with final QC inspection, the parts head to packaging, along with the certificate of compliance and associated shipping documents.

Finally, the connectors are boxed and shipped to AGS Next Day Air given the customer's immediate need. An invoice is generated on shipment and its corresponding tracking number is automatically sent via email to the buyer. This entire process, from start to finish, has taken less than two-days.

Because of their high reliability, circular connectors are used in aerospace, transportation, medical and harsh industrial applications. They come in different sizes and pin configurations that make it difficult to stock all possible variations: thus, the need and benefit for partnering with qualified, authorized, value added connector specialists who can stock the various components, take an order and quickly assemble them into a specific finished good.

ECCO’s warehouse acts like a big puzzle box with thousands of puzzle pieces to be put together at a moment's notice to solve customers’ quick delivery material demands. In this case AGS got what it needed fast, assembled by a high-quality staff.

www.eccoconnectors.com


Our CoreHC product family, Card Edge Contact systems, and Gen-Z solutions offer high-density interconnects with lower insertion and return losses at densities as high as 2.5 mm. CarlisleIT leads the way with high-performance interconnect solutions by offering unmatched signal integrity for today’s faster and more complex communication systems operating up to 70 GHz.
Welcome to the first of three Electronic Component Show previews building up to the one day event at the Kassam Stadium, Oxford on Thursday 19 May 2022

WHEN – Thursday 19 May 2022
WHERE – Kassam Stadium, Grenoble Road, Oxford, OX4 4XP
WHY – 2,000 free car parking spaces; free entrance; free educational seminars; free soft drink, tea and coffee refreshments; 70 exhibitors supporting design, purchasing and manufacturing requirements
WHAT TO DO – ECS 2022 registration is now open at electronic-component-show.co.uk/register/

Following the postponement of ECS 2020 due to the pandemic, the ECS 2022 exhibition and seminar programme are back, offering visitors attending the one-day event the opportunity to meet with 70 exhibitors.

The range of exhibitors provides an ideal opportunity for manufacturers to explore new or alternative suppliers for their design and supply chain requirements. ECS offers visitors access to quality exhibitors on their UK doorstep, with excellent accessibility to Oxford.


The supporting seminar series will provide educational insights catering for design engineers, manufacturing engineers and purchasing professionals.

www.electronic-component-show.co.uk
Relays, terminal blocks, enclosures and more

Switchtec’s attendance at ECS will include Hongfa relays, Euroclamp terminal blocks and the CEM series of modular DIN rail mounted enclosures.

Designed to meet demand for simple, customisable off-the-shelf enclosures, the CEM series has been developed for OEMs/equipment manufacturers and features internal supports/guides for easy PCB installation. PCBs are held firmly, even when heavier components, such as relays or transformers, are used.

The CEM range is available in 17, 22 and 35mm and is designed to maximise internal capacity allowing use and mounting of a higher number of components. Using the 22 and 35mm versions it is possible to mount two PCBs and by selecting one of two versions, PCBs can be mounted vertically or horizontally for the best application solution.

This customisable enclosure range can be manufactured in different colours and to customers’ specifications. Holes can be drilled for component access; terminals can be blanked if not needed; and housing bodies can be printed with customer designs.

The CEM range is manufactured as standard from grey self-extinguishing polyamide 6.6 UL94V0 material.

Switchtec is a UK franchisee for electromechanical, electrical and electronic components. Using its 40-years’ experience, the company focuses on addressing customers’ business needs with knowledgeable technical support, supply chain management and cost avoidance.

www.switchtec.com

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ECS Exhibitor Insights

Investing in UK manufacturing

Visit DVR’s stand to discover how the company is investing in its people, facility, machinery and services, all for the benefit of its customers.

Over the past three years, DVR has invested over £3 million in new equipment and services, enabling the company to work with blue-chip organisations. DVR’s website illustrates how far the company has progressed. The modern 40,000ft² bespoke facility is only the start. The equipment list is high calibre, with DVR boasting some exclusive machinery not available elsewhere in the UK.

Investments don’t stop there. Without investing in people DVR would be unable to progress. Thus, the company has employed a dedicated in-house trainer which ensures both the equipment and employees are at the forefront of the business. This future-proofs DVR and helps towards sustainability in electronics assembly long term.

DVR now offers a low-cost, fast turnaround PCB assembly manufacturing service for all new electronic designs required at the pre-production benchtop stage. This is not designed to replace production assemblies, but to complement design engineers and their need to rapidly test new and innovative electronic concepts. This service offers engineers the opportunity to have their concept produced professionally and quickly.

Service developments don’t stop at electronics assembly. DVR has dedicated in-house design engineers who develop projects for customers across a range of applications. DVR is proud to partner with London Underground on projects that monitor train movements on the underground. Other London Underground projects include development of LED lights as a direct replacement for traditional filament bulbs. DVR now has a dedicated LU design team.

DVR now offers a low-cost, fast turnaround PCB assembly manufacturing service for all new electronic designs required at the pre-production benchtop stage.

www.dvr-ltd.co.uk

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Harwin’s connector products are proven to perform in extreme conditions, with shock, vibration and temperature range rigoursly tested.

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Engineer to Engineer - Harwin won’t let you down.

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WWW.ELECTRONIC-COMPONENT-SHOW.CO.UK
Cyber secure memory

Discover how Nexus challenge the way engineers think about data access, data storage and security by introducing them to products that address the pain points that most widely available products do not.

Nexus Industrial Memory is showcasing some of the industry’s most secure embedded memory solutions including Flexxon’s X-PHY solid state drives, recently selected by Lenovo for its all-in-one AI cybersecurity laptops. The SSDs are proving popular in embedded systems as security is implemented in the drive’s firmware, which monitors for threats in real-time and locks down the moment a threat is detected. Nexus will be running demonstrations simulating cyber-attacks on the X-PHY.

Also on show will be a wide range of Flexxon’s memory ICs, cards and modules. Flexxon’s solutions include ICs (such as SLC NAND flash and eMMC ICs), SSDs (including SATA II and III, PATA, PCIe NVMe) and standard form factor removable memory drives and cards.

The industry’s most secure removable memory drive technology will also be shown. Atek’s Datakey CryptoAuthentication memory tokens are ideal for the transfer of passwords, security keys, certificates, sensitive data or system configuration files. The tokens employ Microchip CryptoAuthentication high-security hardware ICs, which feature: a unique, non-changeable 72-bit serial number (set by Microchip); a 512-bit one-time programmable zone; a random number generator; and a SHA-256 hash algorithm for data encryption.

Nexus is an added value distributor which supports engineers in applications where a memory solution needs to be designed into a new product or to upgrade/evolve products when legacy memory solutions start failing or become susceptible to cyberattacks.

www.nexusindustrialmemory.com

Flexxon’s X-PHY solid state drives (SSD)

ATEK’s Datakey CryptoAuthentication memory tokens
ECS Exhibitor Insights

Dedicated to performance interconnect

Push-pull connector manufacturer, Lemo UK, will be using its ECS stand to showcase its portfolio of precision engineered connection solutions.

Lemo’s products are manufactured at its state-of-the-art facilities in Switzerland. The company will be using its ECS attendance to display a selection of its UK manufactured cable assemblies produced at its 42,000ft² purpose built facility in Worthing, West Sussex.

Connectors are also assembled on site which helps with current lead time issues inherent in the global supply chain. A show first will be the new high power M series designed to meet the demands of increased power consumption across many sectors.

Visitors can also explore examples of IEC60601 compliant plastic connectors aimed principally at the medical market. These include increased creepage and clearance features to enhance user safety.

Fibre optic connectors will also be on display, including the SMPTE standard broadcast connector which has stood the test of time in demanding environments.

Lemo’s M series offering includes Cat 6A and hybrid variants and is ideal for defence and aerospace applications where density and mass are important.

Staff will be on hand to answer visitors’ questions and offer technical, sourcing and logistics advice covering a diverse range of applications.

www.lemo.com

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Explore contract manufacturing services, face-to-face

Southampton based contract electronics manufacturer Esprit Electronics invites visitors to its stand to explore their production requirements over a free coffee and cake.

Managing director Laurie Sigournay and sales director Russell Otter will be on hand to discuss the company’s customer service focus and how its bespoke, flexible solutions can help OEMs with their contract electronics manufacturing requirements. Even in these unprecedented times Esprit continues to invest in capital equipment to provide the best possible service.

Ahead of visiting Esprit at the show, customers can visit the company’s new website (espitelectronics.com) where they can find information on contract manufacturing services and solutions including PCB assembly, NPI, DfT/DfM, test/inspection, conformal coating and box build.

Esprit provides electronics manufacturing services to UK and European markets including marine, medical, environmental, mobility, industrial, instrumentation, oil/gas, security and communications.

Laurie Sigournay said: “We’re thrilled to be exhibiting at the Electronic Component Show. It’s fantastic that after a prolonged period of cancelled live events we now have the opportunity to listen to some great speakers, catch-up with our customers, and meet some new people again. We honestly can’t wait.”

www.espitelectronics.com

Visit Esprit at stand ECS51
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Reconnect with interconnect

Connector specialist EDAC is proud to support ECS’ inaugural event and welcomes the opportunity to meet face-to-face with purchasing professionals and design engineers.

EDAC, incorporating MH Connectors, is a globally recognised name in the design and manufacture of interconnect components. The company’s products are used in a range of quality oriented applications including medical, industrial and communications networks. EDAC’s wide product range includes D-Sub, USB and waterproof solutions, plus the magnetic jacks series: EDAC Jax.

EDAC Jax are available in single or dual stack multiport options, with spring fingers for better EMI and combining connectivity, signal conditioning and interference suppression—all in one handy part. The range offers an easy integrated solution, letting engineers maximise available PCB space, boost efficiency and reduce noise.

EDAC’s sales and product team will be on the stand to bring together specialist product knowledge and build relationships with key business partners. EDAC products can be customised, developed and delivered worldwide.

Visitors to EDAC’s stand can also explore MH Connectors’ product offering. Acquired by the EDAC Group in 2011, MH Connectors is a popular brand across mainland Europe offering practical and versatile solutions for interconnect professionals.

EDAC will be using LinkedIn and Twitter @EdacEurope to broadcast its pre-show news.

Visit EDAC at stand ECS36

EDAC’s sales and product team will be on the stand to bring together specialist product knowledge and build relationships with key business partners.

Is your electronic contract manufacturing partner meeting your expectations?

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Committed to UK manufacturing

Fermionx will be using its ECS stand to demonstrate its commitment to keeping the UK electronics manufacturing industry moving.

Like many British CEMs, Fermionx adapted quickly to the restrictions and challenges of the past two years, changing our internal processes to better manage the strain of the global restrictions imposed on the supply chain. We focused on our core values to ensure our partners were well supported.

From maintaining customers current build requirements, to supporting customers who are developing and evolving their products, Fermionx has been working hard to identify the best ways of working together without compromising quality.

We never stop learning and never stop looking for ways to continue to deliver the service, partnership and support our customers value. Fermionx supports customers of all sizes, in many industries, across the UK. We work with partners on projects and products that rely on services including design for manufacture, manufacturing capability, component delivery and full product build.

The Fermionx team are looking forward to meeting existing and new partners at ECS. Whether visitors have projects at first build stage, have an established product or are just keen to share how they have managed the last 24-months in manufacturing, we would love to talk to you.

www.fermionx.com
Time to digitalise work, workforce and workplace

John Denslinger argues that in today’s new working world, companies may find agile cultures, built on policies that are intentionally fluid, work best

Digitisation • By John Denslinger

Every day, pundits and so-called experts offer simplistic views of the post-Covid workplace. Most describe it in terse, declarative statements: employees return to office; employees remain remote; or a mix of the two referred to as hybrid. They cite surveys, studies, interviews as rationale for their conclusion. But as the latest Omicron variant demonstrates, the post-Covid world is not behind us at all. Rather, it suggests work related decisions must consider Covid and its’ future permutations as long-term workforce and workplace disruptors. That being the case, successful companies may find agile cultures built on policies that are intentionally fluid work best.

Unfortunately, confusion and challenges still abound everywhere. Political directives, medical guidance, regulatory edicts, media hype rarely sync on the baselines for a safe and secure America. Are vaccine and mask mandates reasonable and enforceable? Are lockdowns and gathering restrictions proven deterrents to community spread? How does one safeguard personal health and still respect individual rights? How many shots constitutes vaccination? According to CDC stats, 77 per cent of the US population age five and over received at least one vaccination. Is that sufficient coverage for containment? Challenged from all sides, courts are now weighing-in with mixed rulings. No wonder companies thinking ahead are embracing digital strategies for the workforce and workplace.

Transitioning one’s view of how work is accomplished traditionally to one that is seamlessly digital may be a hallmark decision to post-Covid survival. A digital strategy is where it starts but involving both employer and employee remains fundamental to digital optimisation. If concerns from either side are neglected the entire approach may fail. A Deloitte Insights Tech Trends 2021 article published earlier this year, suggested companies should ask themselves three basic questions:

- Work—what can be automated?
- Workforce—who can do the work?
- Workplace—where is work done?

Fortunately, work can be transformed today applying several existing technologies like AI, cloud, edge computing, robotics and a host of collaborative tools. Similarly, tomorrow’s workforce can be energised by variety and continual investment in talent development. External resources (freelance, contract labour, Gig workers) will expand the workforce ushering in the era of advanced digital teamwork. And, then there is the workplace. The digital workplace becomes virtual, no longer limited by time and distance.

Borrowing a well-known phrase ‘the genie is out of the bottle’ the pandemic permanently altered the nature of work. Employees want jobs that accommodate individual preferences for flexibility and mobility. Employers still want development, productivity and measurability. Digitalisation bridges both. Digitalisation allows work to be accomplished by a satisfied workforce from any desirable workplace productively.

In the end, it’s data, data, data. Collecting, analysing and disseminating data ensures organisational productivity, employee inclusivity, professional development and recognition, streamlined communications, efficient work processes and continued innovation. The beauty of digitalisation is the absence of traditional boundaries to work, workforce and workplace.
### Buyers' Guide

**Manufacturer**

- Golledge Electronics Ltd
- IQD Frequency Products
- Jiltech Quartz
- Kyocera
- Microchip
- Murata
- Silicon Laboratories
- TXC Corporation
- 3M
- Alliance Memory
- Vishay
- Skyworks
- Silicon Laboratories
- Semtech
- Qorvo
- ON Semiconductor
- NXP
- Nordic Semiconductor
- Nexperia
- Monolithic Power Systems (MPS)
- Maxim Integrated
- Intel
- Infineon
- Diodes Incorporated
- Cree, Inc.
- Cirrus Logic
- Central Semiconductor
- Analog Devices Inc.
- TXC Corporation
- Silicon Laboratories
- Murata
- Microchip
- Jauch Quartz
- Cinch Connectivity Solutions
- FCI / Amphenol
- HARTING
- Hirose Electric
- Huber+Suhner
- ITW McMurdo
- JAE Electronics
- Molex
- Phoenix Contact
- Polaimco
- Postmanic
- Rudisil
- Samtec
- Soutiau
- Soutiau
- TE Connectivity
- Worth Elektronik

**Distributor**

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**Website**

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### ICs & SEMICONDUCTORS

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- Analog Devices Inc.
- Broadcom Limited
- Central Semiconductor
- Cirrus Logic
- Cree, Inc.
- Diodes Incorporated
- FTDI
- Infineon
- Intel
- Maxim Integrated
- Microchip
- Macron Technology
- Monolithic Power Systems (MPS)
- NXP
- Nordic Semiconductor
- ON Semiconductor
- Power Integrations
- Qorvo
- Renesas Electronics
- ROHM Semiconductor
- Semtech
- Silicon Laboratories
- Skyworks
- STMicroelectronics
- Taiwaselectronic
- Toshiba
- Vishay
- Xilinx

### HEATSINKS

- Alliance Memory
- Analog Devices Inc.
- Broadcom Limited
- Beta Technology
- Intel
- Infineon
- Microchip
- Qorvo
- Renesas Electronics
- ROHM Semiconductor
- Samsung

### INTERCONNECTION

- JIC
- Amphenol
- Cinch Connectivity Solutions
- FCI / Amphenol
- HARTING
- Harwin
- Hallemann Tycon
- Hirose Electric
- Huber+Suhner
- Intellisocket (Europe) Ltd
- ITrum McMuDo
- JAE Electronics
- Molex
- Phoenix Contact
- Polaimco
- Postmanic
- Rudisil
- Samtec
- Soutiau
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- TE Connectivity
- Worth Elektronik

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<td>Distributor</td>
<td>Telephone</td>
<td>Website</td>
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<td>No. of Lines for Principal</td>
<td>Stock Value for Principal</td>
<td>Minimum/Order Value</td>
<td>% Lead Free for Principal Range</td>
<td>No. of Technical Support Staff</td>
<td>Total No. of Staff</td>
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<td>Mouser Electronics</td>
<td>01494-427500</td>
<td><a href="http://www.mouser.co.uk">www.mouser.co.uk</a></td>
<td>Y</td>
<td>1,800</td>
<td>N/A</td>
<td>0 €</td>
<td>N/A 50 2,500+ Y</td>
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<td><a href="http://www.mouser.co.uk">www.mouser.co.uk</a></td>
<td>Y</td>
<td>4,700</td>
<td>N/A</td>
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<td>4,700</td>
<td>N/A</td>
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<td>4,700</td>
<td>N/A</td>
<td>0 €</td>
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<td>5,500</td>
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<td><a href="http://www.mouser.co.uk">www.mouser.co.uk</a></td>
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<td>1,150</td>
<td>N/A</td>
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<td>Global Supply Services</td>
<td>01904 436 488</td>
<td><a href="http://www.globalsupply-services.com">www.globalsupply-services.com</a></td>
<td>Y</td>
<td>8,000</td>
<td>£800,000</td>
<td>£100 100% 3 11 Y</td>
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<td>1,850</td>
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<td><a href="http://www.mouser.co.uk">www.mouser.co.uk</a></td>
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<td>13,650</td>
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<td>1,750</td>
<td>N/A</td>
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<td>01494-427500</td>
<td><a href="http://www.mouser.co.uk">www.mouser.co.uk</a></td>
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<td>250</td>
<td>N/A</td>
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<td>N/A</td>
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<td>01992 510000</td>
<td><a href="http://www.emithermal.com">www.emithermal.com</a></td>
<td>N</td>
<td>800</td>
<td>N/A</td>
<td>£20 100% 13 200 Y</td>
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<td>Sunon</td>
<td>G.English Electronics Ltd</td>
<td>0208 655 0999</td>
<td><a href="http://www.gelec.co.uk">www.gelec.co.uk</a></td>
<td>Y</td>
<td>3,500</td>
<td>£1,000,000+ £0</td>
<td>100% 10 28 Y</td>
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<td>Sunon</td>
<td>Thermax Ltd</td>
<td>01684 566163</td>
<td><a href="http://www.thermax.co.uk">www.thermax.co.uk</a></td>
<td>Y</td>
<td>3,500</td>
<td>£450,000 £100</td>
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<td>Best Windings</td>
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<td>0044 (0)1394 448424</td>
<td><a href="http://www.bestwindings.co.uk">www.bestwindings.co.uk</a></td>
<td>N</td>
<td>300</td>
<td>N/A</td>
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<td>Bourns</td>
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<td><a href="http://www.mouser.co.uk">www.mouser.co.uk</a></td>
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<td>4,900</td>
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<td>Y</td>
<td>3,150</td>
<td>N/A</td>
<td>0 €</td>
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<td>01494-427500</td>
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<td>Y</td>
<td>1,300</td>
<td>N/A</td>
<td>0 €</td>
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<td>Y</td>
<td>30</td>
<td>N/A</td>
<td>0 €</td>
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<td>N/A</td>
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<td>N/A</td>
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<td>30</td>
<td>N/A</td>
<td>0 €</td>
<td>N/A 50 2,500+ Y</td>
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<td>N/A</td>
<td>0 €</td>
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<td>N/A</td>
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<td>Manufacturer</td>
<td>Telephone</td>
<td>Website</td>
<td>Turnover</td>
<td>Location</td>
<td>Employees</td>
<td>Number of Surface Mount Lines</td>
<td>Approvals</td>
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<td>CarrierTech</td>
<td>+44 (0) 1435 653655</td>
<td><a href="http://www.carrierTech.com">www.carrierTech.com</a></td>
<td>£3.5m</td>
<td>UK &amp; Far East</td>
<td>72</td>
<td>10</td>
<td>AS9001, ISO9001, IPC-A-610 Class 5, S1-STO-D01</td>
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<td>Custom Interconnect Ltd</td>
<td>01264 321321</td>
<td><a href="http://www.customconnect.co.uk">www.customconnect.co.uk</a></td>
<td>£8.6m</td>
<td>Avebury (Hampshire)</td>
<td>110</td>
<td>6</td>
<td>AS9100, ISO1483, ISO9001, IPC-A-610 Class 5</td>
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<td>Electronic Technologies Ltd</td>
<td>01262 897722</td>
<td><a href="http://www.etek.co.uk">www.etek.co.uk</a></td>
<td>£7.5m</td>
<td>SE</td>
<td>50</td>
<td>2</td>
<td>AS9100, ISO9001, ISO14001, IPC-A-610 Class 5</td>
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<td>GMB Electronic Designs Ltd</td>
<td>01620 474188</td>
<td><a href="http://www.gmbelectronics.co.uk">www.gmbelectronics.co.uk</a></td>
<td>£4.6m</td>
<td>Hampshire</td>
<td>60</td>
<td>2</td>
<td>GMDOL (ISO1464, IPC-A-610 Class 4, TTT-U21)</td>
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<td>Icon Electronics Limited</td>
<td>01473 440800</td>
<td><a href="http://www.iconelectronics.co.uk">www.iconelectronics.co.uk</a></td>
<td>£6.5m</td>
<td>Hampshire</td>
<td>70</td>
<td>5</td>
<td>AS9100, GMDOL, BS EN 61340-5-1: 2014, AES, IPC-A-610 Class 1</td>
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<td>Inca Electronics Ltd</td>
<td>01782 751000</td>
<td><a href="http://www.incaelectronics.com">www.incaelectronics.com</a></td>
<td>£15m+</td>
<td>SE</td>
<td>2,000</td>
<td>10</td>
<td>AS9100, ISO1483, ISO14001, ISO9001, &amp; JATF16949</td>
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<td>Industrial Electronics Wiring Ltd</td>
<td>+44 (0) 1903 696555</td>
<td><a href="http://www.ieewire.com">www.ieewire.com</a></td>
<td>£5.5m</td>
<td>Swindon, UK</td>
<td>60</td>
<td>2</td>
<td>ISO9001:2015, IPC-A-610 Class 5</td>
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<td>Levelmark</td>
<td>01622 378370</td>
<td>jelliecon.com</td>
<td>£1.9m</td>
<td>UK</td>
<td>90</td>
<td>5</td>
<td>AS9100 (ISO9001-2008, IS9001-2015, IPC-A-610 Class 5, TTT-U21)</td>
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<td>AEP TECH ELECTRONIC SYSTEMS</td>
<td>01923 977771</td>
<td><a href="http://www.aep-tech.co.uk">www.aep-tech.co.uk</a></td>
<td>£5m</td>
<td>SE</td>
<td>45</td>
<td>2</td>
<td>AS9100 (ISO9001-2008, IPC-A-610 Class 5, TTT-U21)</td>
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<td>NTT Group</td>
<td>01755 746700</td>
<td><a href="http://www.ntt.co.uk">www.ntt.co.uk</a></td>
<td>£1.5m</td>
<td>UK/China</td>
<td>110</td>
<td>18</td>
<td>ISO9001 in Class 3, ISO9001:2015, 15481, 18001, ISO14001, SCI21</td>
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<td>MTEK (Resource) Ltd</td>
<td>01282 415377</td>
<td><a href="http://www.mtek.co.uk">www.mtek.co.uk</a></td>
<td>£2.4m</td>
<td>SE</td>
<td>50</td>
<td>4</td>
<td>AS9100, IPC-A-610 Class 5, TTT-U21, MAMM, 56220, Certified IPC Trainer</td>
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<td>Peterson</td>
<td>01533 833424</td>
<td><a href="http://www.peterson.com">www.peterson.com</a></td>
<td>£50m</td>
<td>E-Midlands</td>
<td>350</td>
<td>8</td>
<td>AS9100, ISO9001, TTT-U21, ISO1483, ISO14001, TTT-U21</td>
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<tr>
<td>TCIKEL TECHNOLOGY PLC</td>
<td>+44 (0) 12261700</td>
<td><a href="http://www.tcieltechnology.com">www.tcieltechnology.com</a></td>
<td>£13.5m</td>
<td>SE</td>
<td>131</td>
<td>7</td>
<td>ISO9100, ISO4001, IPC-A-610 Class 3,</td>
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<td>Tonga Limited</td>
<td>01532 366984</td>
<td><a href="http://www.tonga.co.uk">www.tonga.co.uk</a></td>
<td>£1.05m</td>
<td>Derby</td>
<td>110</td>
<td>6</td>
<td>ISO 1901, ISO 13483, ISO/9001, IP 610, 620, 771/1721</td>
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<tr>
<td>ASI Circuits</td>
<td>01462 894152</td>
<td><a href="http://www.asi-circuits.co.uk">www.asi-circuits.co.uk</a></td>
<td>£7m</td>
<td>M</td>
<td>SML Y 4-10 Y N/A N/A Y Y Y</td>
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<td>Cambridge Circuit Co Ltd</td>
<td>01221 423300</td>
<td><a href="http://www.cambridgecircuit.co.uk">www.cambridgecircuit.co.uk</a></td>
<td>£9m</td>
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<td>SML Y 4-16 Y Y Y Y Y Y Y</td>
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<td>DL DataPrint Circuit Boards</td>
<td>01921 1077800</td>
<td><a href="http://www.dl-dataprint.co.uk">www.dl-dataprint.co.uk</a></td>
<td>£10m</td>
<td>UK, Europe, Asia</td>
<td>SML Y 4-18 Y Y Y Y Y Y Y</td>
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<tr>
<td>ESI Circuits Ltd</td>
<td>+44 (0) 1421 391740</td>
<td><a href="http://www.esi-electronics.co.uk">www.esi-electronics.co.uk</a></td>
<td>£5m</td>
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<td>SML Y 4-34 Y Y Y Y Y Y Y</td>
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<td>Saje Circuit Industries Ltd</td>
<td>01343 627455</td>
<td><a href="http://www.saje-circuits.com">www.saje-circuits.com</a></td>
<td>£3m</td>
<td>MB</td>
<td>SML Y 4-20 Y N/A N/A Y Y Y</td>
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