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A cleaner future

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INDUSTRY

shown a clean pair of wheels

Well maybe rollers rather than wheels! And Teknek is a company that is on a roll – it is the only contact cleaning company that makes all of its own products, mostly at its HQ near Glasgow Airport. Tim Fryer went to visit...

How many times do we hear the complaint that we Brits fail to make the most of our British inventions? And yet a look back over the 25 years of case studies and technology articles in Electronics Manufacture & Test will reveal that the stereotype is not as true as people imagine. There are plenty of companies in the UK who are developing their own ideas and have emerged as successful manufacturers. Teknek is one of these companies.

Nestling under the wing (as it were) of Glasgow Airport, Teknek was not one of those companies that began with an engineer having a good idea. Instead it started, somewhat less glamorously, as a supplier of consumables to the PCB industry nearly 30 years ago. But in 1984 it began developing its own contact cleaning solutions and it is these that have defined the company's role since.

Only 20% of Teknek's business remains in electronics, but that is not because the electronics market has diminished (quite the reverse on a global level),

it is more a reflection of multiple applications of the company's technology in so many different industry sectors.

The basic objective of the cleaning was the same in 1984 as it is today (with one exception) – to improve process yields. Even before the days of multi-layer boards, dust in the process, attracted by static as all those synthetic materials rubbed together, could make huge differences to end of line yield. Today it is no different, as new MD Steve Mitchell comments: "Electronics is becoming more demanding. A spec of dust becomes more important as the circuits become smaller. Nano-circuits, fine-pitch inks, ESD and silicone-free – there are many interesting challenges for us in electronics today."

Incidentally, the one exception to the use for yield improvement is in the flooring industry, where Teknek's cleaners are used in up-market vinyl flooring for aesthetic reasons.

The technology itself looks simple. For all that there are infinite variations to the system – from small manual devices up to large customised inline equipment – the basic principle is the same. An elastomer roller removes the contamination from the substrate to be cleaned, and in turn the elastomer roller is cleaned by an adhesive roller.

While creating machines to do a myriad of different cleaning applications is not without its engineering challenges,

it is the composition of the elastomers that is the company's unique treasure. But on that subject Mitchell would not be drawn any further except to say that the company is embarking on a more aggressive expansion plan that could involve licensing out its technology to partners or subsidiaries in Asia and America.

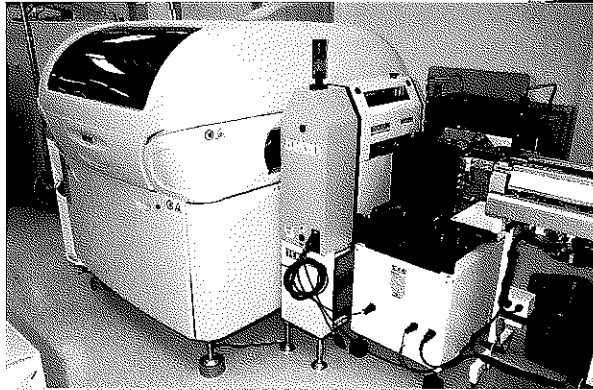
Mitchell is convinced that much of Teknek's success has in fact been down to its commitment to its home environment and making the most of the facilities and talent available. For example, every employee is trained in lean manufacturing which is vital given that the company's business model is similar to many of the contract electronics manufacturers that are Teknek's customers. Because while there is a list of standard products, Teknek also works with many customers to find customised solutions, and this, along with the proprietary technology, is what Mitchell believes has made Teknek a premium brand in the industry.

"Although one of the attractions for me was the improved quality of life over the South East," commented Mitchell, "It is still true that the West of Scotland is not the cheapest place to be. However, with our engineering resource and set-up, our lean manufacturing principles and diverse product portfolio, we believe that we are cost-competitive with Asian

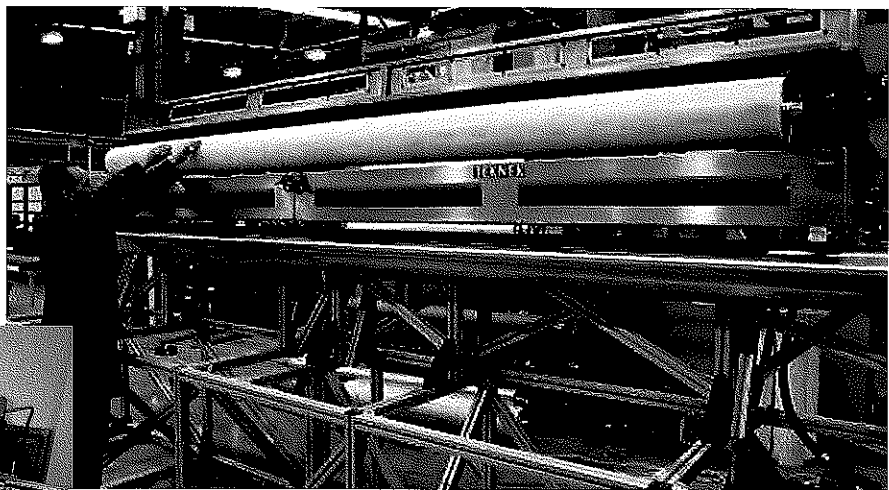


manufacturing. What is more is that we have stated in writing that we are committed to manufacturing in the West of Scotland."

Another novel string to Teknek's bow is its support of an innovative 'product design engineering' degree course run between Glasgow University and the City's world famous School of Art.



"Machines have to do a job, but they must look good and be easy to build. By taking graduates from this course we are looking to see a degree of flair and creativity – we are looking for good industrial design," commented Mitchell. The course takes



about 80% of its content from the University's engineering department, and the remainder is design at the School of Art.

Teknek can now boast over 14,000 clean machine installations, with 90% of current business now coming from overseas, which would not be possible without its network of 40 or so distributors around the world. "We need quality, local support and we need quality machines," concludes Mitchell. "Doing

all our own manufacturing gives us a huge advantage in terms of quality control and companies like Sony and Samsung require products of the highest quality."

This has proved to be an example of the company succeeding because of its British base, not despite it.

Teknek

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Teknek's new "FastPad" will speed up yield improvement.

Teknek, the global leader in Contact Cleaning Technology has introduced the first automatic cleaning station to use sheeted adhesive rolls instead of the traditional large flat pad system.

Easy to use and cost effective, the "FastPad" uses the proven range of Teknek cleaning engines that are capable of removing dry unattached particles down to one micron in size from a wide range of substrates. The unit's small foot print is designed to allow it to be placed (or wall mounted) in a work area where PCBs, SMT boards, LCD's, flat panels are being manufactured.

The operator cleans the substrate using the Teknek DCR (Dust Cleaning Roller) they then place it into the "FastPad" where the adhesive roll starts to rotate automatically and cleans the DCR. No production time is taken to clean the DCR

and the operator is able to continue their process when the DCR is being cleaned. (The traditional system still requires the hand roller to be dragged over the adhesive pad to clean it.) The process time to clean a substrate can be reduced by up to 50%, and the number of repetitive actions required to use the roller is reduced.

The FastPad system ensures that all the surface area of the sheeted adhesive roll is fully utilised - 100% use of the area ensures no wasted pad is thrown away.

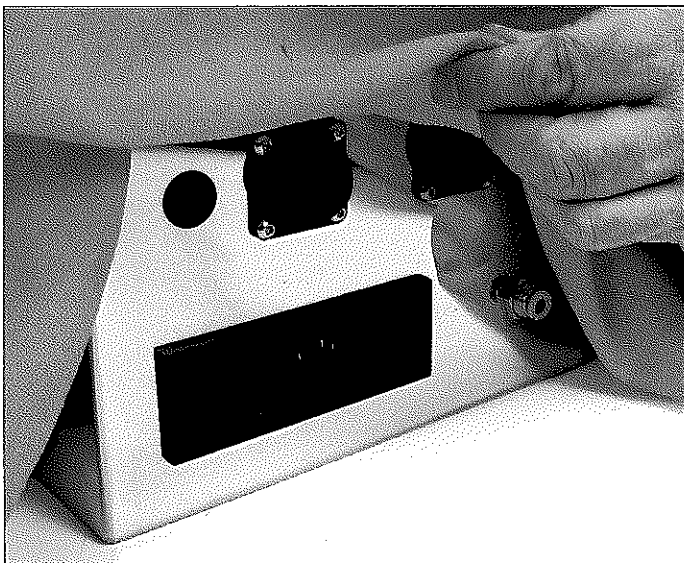
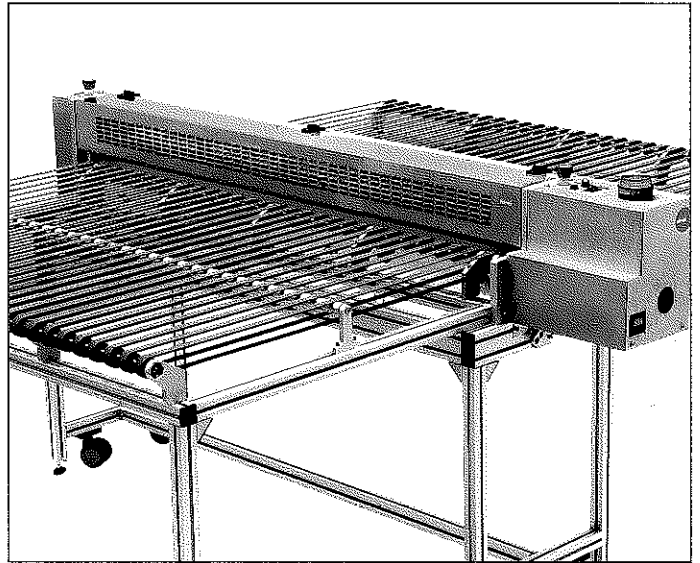
The larger surface area and the thicker coat weight of the sheeted adhesive roll hold more contamination than the pad.



THE LATEST INNOVATIVE PRODUCTS FROM TEKNEK

teknek

The CM10 Clean Machine has been specifically designed to provide double-sided cleaning of large format substrates. The wide range of applications for this machine include graphics, screen printing, LCD manufacture, lamination, packaging and glass manufacturing.



At this year's Productronica, Teknek, the global leader in contact cleaning technologies, will be unveiling the world's most advanced contact cleaning machine for the surface mount sector.

The new Surface Mount Clean Machine introduces many innovative features unprecedented in this industry. Want to find out more... visit Teknek on stand B4 353.

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