



The systems approach

When Dave Tudor travelled to Hampshire to meet Adrian Crockford, operations director at Eastleigh-based CEM, Intercole Sub-Contract Services, he discovered not only a company offering a well developed range of manufacturing services, but also an organisation well-versed in systems engineering and software design and development to bring an added dimension to its portfolio of skills not commonly found in the CEM marketplace.

Like many CEM's Intercole offers a comprehensive one-stop solution for the manufacture of electronics based equipment. This includes procurement, SMT and through-hole assembly, wiring, box work, test and other support services such as design, production engineering and software.

These services are provided to a variety of market sectors, including medical, automotive, instrumentation, process and manufacturing – indeed anywhere a need for electronics assembly is required.

Sold on software

Intercole was one of the first organisations in the UK in the 1980s to acquire TickIT accreditation for software production, now incorporated within its ISO9001:2000 QA system. This was a DTI initiative to harmonise the standards for documenting, producing and testing software and today Intercole still undertakes software development for key customers particularly in the nuclear and aerospace industries.

"Although we are primarily an established CEM, our expertise in systems engineering means that we can often empathise with our customers in understanding the whole picture in terms of product functionality," Adrian says. "This in turn means that we can assist customers not only with the hardware side of development and production, but also the software side as well by offering development and programming of microprocessor devices through to higher level system programming based on languages such as Visual Basic, „C" and LabVIEW. Even if a customer does its own software programming, we can offer a code walkthrough service so that code integrity can be verified independently."

Added value

Intercole has a deep heritage in electronics manufacturing. The company began some 40 years ago, and in the early days was purely a manufacturer of its own range of specialised monitoring and control systems. Following the extension of its range of services into the subcontracting sector, the company has been established for many years as a prominent player in the CEM marketplace with a diverse and loyal customer-base.

"Perhaps where we do offer slightly different services is in the areas of test and software development," Adrian advises. "Where we can really offer expertise is with the design and manufacture of bespoke test rigs, fixtures and equipment in support of the manufacturing services we offer so that a real operating environment can be simulated. In the markets we operate in and at the volumes undertaken we find that our customers really need assurances that their products will operate in the intended environment for which they were designed – a detailed functional test in other words."

Another activity that Intercole is happy to carry out on behalf of its customers is supply chain management. As Adrian reveals, and as any manufacturer knows, the sourcing and supply of parts and formulation of BoMs can be a real headache. "When we first started offering manufacturing services, many of our customers chose to free-issue product to us," he says, "but gradually we began taking on these functions on their behalf. We use a variety of established UK distributors such as Micromark, Anglia, EBV, RS and Farnell and to be honest, we'd rather look after the supply chain ourselves. It means we can keep a tight rein on things, use our own suppliers and generally take more control. Some customers using specialised parts still prefer to free-issue product, but I would say that 98% are happy for us to take on the responsibility."

Turnkey trends

Regarding manufacturing capability, Intercole is both versatile and capable. UK manufacturing in general is geared around low-to-medium volumes and Intercole fits squarely into this category. "The definition of low-to-medium is a grey area, but it's true that we're not in the same market as the low-cost manufacturing countries," Adrian explains. "We can offer prototyping through to small and medium batch volumes, but we also have the capability of producing product in quantities of the low thousands, so unless volumes really take off, we believe that we can compete head-on with low-cost manufacturing countries without many of the logistical and communication problems that this brings."

Adrian is seeing a definite upturn in the amount of turnkey manufacturing business that Intercole is winning. "I think it would be true to say that the majority of our work is still with PCB assembly, but more and more customers are asking us to take on the whole process from design to final shipment to the end-user," he remarks. "We've seen a shift with several of our key customers from situations where we would make the assembled board and the customer would undertake the final build, to an environment where we do everything from start to finish. It seems to be a developing trend."

Opening doors

The backbone of Intercole's customer-base is drawn from small to mid-size companies and the many entrepreneurial organisations and individuals that abound in the UK, but it is equally able to service the requirements of larger players such as BAE Systems, Thales, British Energy and Ford – something it has demonstrated successfully over the years.

Irrespective of the type and size of customer, Intercole operates an „open-door" policy where customers are encouraged to pop in, see their products being manufactured and get round a table to iron out any problems. This approach is far from unique in the UK, but Adrian views this side of the business as being something that customers really appreciate. "Manufacturing in low-cost countries is now an accepted part of everyday life," he says. "In many ways it can offer unparalleled advantages – for customers wanting product manufactured in high volumes at a really attractive price, it can be a real asset. In most cases, quality is good and if you can find a good supplier, low-cost manufacturing can give you a real competitive edge."

"In our line of work however, we find that this isn't always the case. The main problem with manufacturing offshore in my opinion is with logistics. Problems can be difficult to sort out and lead-times can be excessively long. Our „open-door" policy is something we actively encourage. We have several customers who drop in regularly, sit round a table with us to discuss any relevant issues and forthcoming production and generally consider our factory as an extension of their own facility. Obviously with manufacturing taking place over the other side of the world, this wouldn't be possible."

Adrian concludes with some positive thoughts about UK manufacturing. "Many CEMS, despite fierce competition, continue to grow year-on-year and this has been the case for us," he states. "We've either been very lucky or where doing something right and I'm a firm believer it's the latter. Although we are winning new clients, many of our customers have been with us for many years and I believe that's testament to the professional and friendly way in which we do business."



Reprinted from EM&P April '07