

Gemini Tec provides PCB layout and PCB assembly services for complex surface mount products, providing rapid delivery prototypes and production orders for 1 to 1000 units. Our manufacturing capability includes the most advanced technology available in the UK, providing a higher level of quality and reliability for surface mount products.

Solder Jet Paste Printing

The fastest way to the perfect solder joint

Jet printing is a non-contact, high speed printing system that shoots millions of dots of solder paste onto every pad position. Solder paste can be applied with micrometer accuracy to ensure the optimum volume in the X, Y and Z-axis. By meeting the optimum reflow conditions the highest yield is obtained first time. No matter how complex your SMT products are, nothing comes close to the accuracy and flexibility of solder jet printing.



MY500 & MY600 solder jet printers are in use at Gemini Tec



Five Mycronic SMT machines are in use at Gemini Tec

Rapid delivery made easy

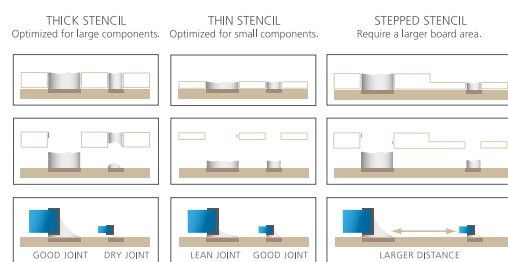
No time is wasted in ordering, changing, cleaning or storing stencils. Process development is conducted in real-time, allowing shorter delivery times with improved yields.

There are no stencil NRE charges for customers to consider, as tooling software is created directly from your ODB++ data. Our production process is technically efficient and provides commercial advantages, suitable for all SMT and complex SMT products.

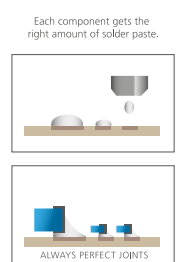
Stencil limitations removed

Traditional solder paste screen-printing has served the industry well, giving GEM's limitless throughput speeds for high volume production, but with a technical compromise. With over 80% of all PCBA defects directly linked to the stencil printing process, solder jet printing removes these limitations and allows for higher levels of capability to be achieved.

COMMON ISSUES WITH SCREEN PRINTING



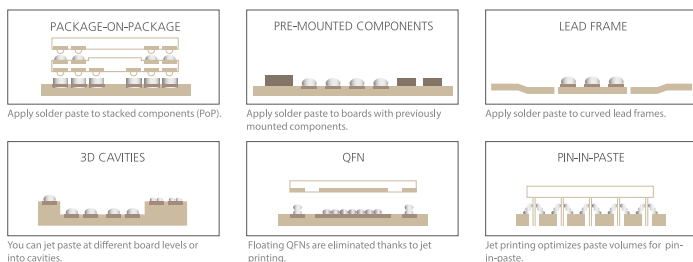
SOLVED WITH JET PRINTING



New capability achieved

The ability to create and control solder paste topography is critical to achieving the optimum reflow conditions first time.

Jet printing allows us to optimise paste volumes for every pad on the PCB. Unlike stencils, 0201 devices can be placed directly next to D-PAK, PoP and BGA devices and soldered with superior accuracy.



At our 1600 m² ESD controlled facility, we have over 40 experienced and dedicated staff providing a full CEM service. Gemini Tec is the only UK CEM with two solder jet printers and currently equipped with five Mycronic SMT machines to supply unrivalled technical capability for SMT production. We produce in excess of 100,000 PCB assemblies a year across 800 unique part numbers, enjoying a reputation for 'right first time' rapid order fulfilment.

Altium PCB layout

Over 37 years experience in producing high-speed layouts with Altium design tools. From schematic capture to PCB layout, aimed at challenging and complex board designs including flex-rigid and HDI technology.



Production Engineering

We optimise customers data for manufacture using BARCO tooling software, including DRC, DFM, netlist check and verification of layer stacks and impedance. SMT placement, AOI inspection, solder jet paste tooling is all produced directly from customers OBB++ data, for speed, accuracy and efficiency.

Surface Mount Assembly with Solder Jet Printing Technology

Five Mycronic SMT machines and two jet printing systems are in operation to build batch sizes from 1 to 1000 units. Placing a range of standard and complex SMT parts including BGA, QFN, PoP, and 0201. Gemini Tec is the only UK CEM using two world-class Mycronic solder jet printers providing high yield and reliable SMT production.



Technology Manufacturing Tools

Comprehensive tools include, Solder jet paste printing, AOI inspection with multi camera capability, real time 3D X-ray, Ersascope camera inspection and ERSA IR placement/re-work. Our IPC certified staff utilise the latest tools to ensure product conformance.

PTH Assembly

Experienced IPC certified operators and trainers are employed to produce a wide range of PCB assemblies, by using hand soldered and wave soldering techniques. We support press fit applications and cable assemblies, working to IPC610A class 2 & 3 and J-STD quality levels.

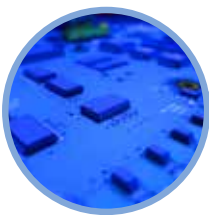


Material Procurement and Kitting

In house teams work with proven supply chain partners, including leading distributors and manufactures, to support the supply of components and printed circuit boards. Common component stock is readily available for use and 'free issue' kits are welcome.

Product Assembly, Test and Validation

Customers can outsource their complete manufacturing, from enclosure assembly and box build. Functional test and validation with customer specific PC based test fixtures and XJTAG boundary scan solutions.



Conformal Coating and Board Cleaning

Conformal coating is applied using a selective spraying process, delivering fast, accurate and low cost solutions. Ultrasonic and aqueous washing techniques are used to deliver products that conform to IPC CH-65A and J-STD 001-D standards.

For over 35 years, Gemini Tec has supported a broad range of customers, providing reliable products for sub-sea, oil and gas, network, telecom, F1, rail, transportation, instrumentation, aerospace, defence, semiconductor and R&D.

Our professional and flexible service is focused on surface mount production for high reliability markets and applications. A forward thinking approach to manufacturing and use of world-class technology, sets us apart from traditional CEM's.