Closing the MEMS Sensor Product Life Cycle Gap from Development to Production

Located in Northern Ohio, SMART Microsystems opened a new facility with over 15,000 square feet of ISO 6 (class 1000) and ISO 5 (class 100) cleanrooms. This state of the art facility, furnished with flexible equipment capabilities for assembling a high mix of materials and products, creates a turn-key solution for microelectronic package assembly of MEMS sensors. From prototyping all the way through market entry, SMART Microsystems is a single supplier, reducing the total cost of product development. Prototype development and manufacturing capabilities include dicing, die attach/flip chip, vacuum solder reflow, wire bonding (ball and fine/heavy gauge wedge with both wire and ribbon) and encapsulation (adhesive dispense, lid seal and parylene coating). Environmental life testing capabilities at SMART Microsystems include HAST, thermal shock, thermal/humidity cycling, high temperature storage and accelerated UV durability. Advanced inspection equipment is comprised of an acoustic microscope, 3D X-ray, interferometer and a scanning electron microscope (SEM).

Equipment capabilities at SMART Microsystems deliver manufacturable and sustainable solutions. As a certified ISO-9001 manufacturer, SMART Microsystems incorporates design-for-manufacturing into the initial stages of development—this decreases process iterations and reduces time needed as the product moves into volume production. By working concurrently with the customer’s design team and suppliers, SMART Microsystems is able to implement process specifications, design-to-cost goals, and on-time delivery objectives efficiently, reducing overall time and cost. SMART Microsystems applies this approach to aerospace, industrial, medical, and other markets and supports the package format—QFN, DIP, TO-can, chip-on-board, flip chip, or custom housings—that is needed for the application. In all situations, incorporating manufacturing objectives early reduces the development time and cost, enabling SMART Microsystems to scale-up quickly, support volume production, and meet quality assurance requirements.

SMART Microsystems is located near Cleveland, in a Midwest manufacturing hub. Nearby access to an international airport allows for fast and easy transportation to support medical, aerospace and other markets that require the high-value, low-volume applications for MEMS sensors. With a focus on MEMS package assembly and a certified ISO-9001 status, SMART Microsystems creates the turn-key solution for customers. Accomplishing the full life cycle requirements of MEMS sensor products, SMART Microsystems takes a design from prototype, through qualification, to volume production at the lowest overall development time and cost.

More information about SMART Microsystems services can be found at www.smartmicrosystems.com. 