

# SMART

MICROSYSTEMS

Your Microelectronic  
Package Assembly Solution  
for MEMS Sensors



[smartmicrosystems.com](http://smartmicrosystems.com)

**SMART Microsystems** creates turn-key solutions for microelectronic package assembly challenges to move your MEMS sensor technology from development to production. With an engineering team experienced in manufacturing and state-of-the-art facilities, SMART Microsystems accelerates the transition of your new MEMS sensor product to the market.

## CAPABILITIES

Microelectronic package assembly is a key part of the manufacturing process for MEMS sensor products. Our core capabilities and expertise support development, testing, and manufacturing of designs provided by our customers. For niche applications, package assembly solutions offer more flexibility, faster lead times, and lower cost than system on chip approaches.



SST 5100 vacuum reflow system



One of three ISO 6 (class 1000) cleanroom areas

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## TEST AND INSPECTION

Acoustic Microscopy  
3D X-ray  
Interferometry  
Scanning Electron Microscopy

## DICING

Wafer Saw  
Wafer Inspect  
Die Sort

## DIE ATTACH / FLIP CHIP

Epoxy Die Attach  
Solder Flip Chip  
Vacuum Solder Reflow

## WIRE BONDING

Fine Gauge Wire/Ribbon Bonding  
Heavy Gauge Wire/Ribbon Bonding  
Gold Ball Bonding

## ENCAPSULATION

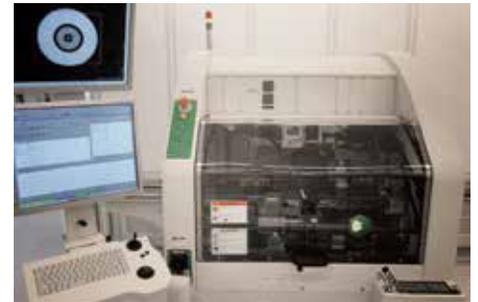
Adhesive Dispense  
Lid Seal  
Parylene Coating

## ENVIRONMENTAL LIFE TEST

HAST  
Thermal Shock  
Thermal/Humidity Cycling  
Accelerated UV Durability  
High Temperature Storage



Sonoscan acoustic microscope



Datacon die attach system



Hesse Mechatronics fine gauge wedge bonder



Nordson Asymtek dispense system

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## SERVICES

### ▶ PROTOTYPE DEVELOPMENT

As a turn-key solution, SMART Microsystems builds early proof-of-concept samples as well as feasibility studies to help you avoid challenges that appear early in process development. SMART Microsystems engineering team's expertise in MEMS sensor products has solved many of these challenges.

### ▶ ENVIRONMENTAL LIFE TEST

SMART Microsystems' environmental life testing identifies reliability issues early in your MEMS sensor product development. As part of a turn-key solution, reliability study, or on an as-needed basis for overflow/bandwidth, SMART Microsystems can solve your issues before they become a problem in the field.

### ▶ MANUFACTURING SERVICES

With the SMART Microsystems investment in state-of-the-art facilities and an experienced team, we are able to scale-up manufacturing quickly, support low-volume production, and meet your quality assurance requirements.

## MARKETS

### ▶ INDUSTRIAL CONTROLS

Automation systems and industrial process activities are well-positioned to take advantage of MEMS, sensors, and machine vision – collectively known as the Internet of Things.

### ▶ MEDICAL

The human body is a dynamic system where MEMS-based sensor solutions enable monitoring human health in athletics, personal fitness, wellness, home health care.

### ▶ AEROSPACE

Planes, jets, and drones are intricate, innovative machines requiring high-performance sensors that are compact and low-cost.

## CERTIFICATIONS

**ISO9001**  
CERTIFIED



## SMART PACKAGE ASSEMBLY SOLUTIONS

**SMART Microsystems** focuses on micro-electronic package assembly of MEMS sensor products to accelerate your time-to-market.

**SMART Microsystems** is a **turn-key solution** for microelectronic package assembly with state-of-the-art facilities for prototyping, environmental life test, and manufacturing services.

**SMART Microsystems** is a **certified ISO-9001 manufacturer** that implements process specifications, design-to-cost goals, and on-time delivery objectives for your projects.

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## ABOUT US

SMART Microsystems is located in Elyria, Ohio about 20 miles west of Cleveland. The business was launched in 2011 and moved into a brand new facility in 2013, where we occupy over 15,000 square feet of space including 5,000 square feet of ISO 6 (class 1000) and ISO 5 (class 100) cleanrooms. With excellent technical leadership, our highly experienced team will bring your new MEMS sensor products to the market.



Call us today at **440-366-4203** or visit our website at [smartmicrosystems.com](http://smartmicrosystems.com) for more information about SMART Microsystems capabilities and services.