

BRINGING
YOUR MEMS
TO MARKET

WHY MICRALYNE

THE MICRALYNE ADVANTAGE IS BASED ON OUR **TRACK RECORD**, **OUR TEAM**, AND **OUR RESPONSIVENESS**, WHICH ALLOWS US TO SUCCESSFULLY COMMERCIALIZE OUR CUSTOMERS' PRODUCTS, BRINGING THEIR MEMS TO MARKET.

OUR TRACK RECORD

As an industry innovator and leader, Micralyne has a reputation of offering unparalleled MEMS product development and commercial volume manufacturing.

MICRALYNE FACTS

- Have worked with approximately 300 companies since 1982
- Quality system externally validated by Tier 1 instrumentation companies
- Online and real-time systems for monitoring process control

WHAT IT MEANS TO YOU

- You can trust our experience in successfully transferring projects from development into manufacturing
- Our proven quality and process control systems reduce the risk for your project

OUR TEAM

Micralyne's customer relationships are built upon excellent communication and responsiveness, the basis for establishing a level of confidence and trust in our team.

MICRALYNE FACTS

- Talented people resources with advanced degrees in several fields
- Proven team project management approach
- Sustained multiple long-term customer relationships of over a decade

WHAT IT MEANS TO YOU

- We have the technical and analytical ability to overcome your development challenges
- Effective communication allows projects to run smoothly
- We focus on building a sustainable relationship

OUR RESPONSIVENESS

Thanks to a unique blend of highly responsive service from a knowledgeable team with a manufacturing track record, Micralyne enables customers to bring their MEMS to market efficiently.

MICRALYNE FACTS

- Project managers are flexible to address development challenges immediately
- Efficient customer ramp-ups to volume production

WHAT IT MEANS TO YOU

- We overcome challenges in a timely and collaborative fashion
- Your MEMS products are brought to market quickly once ready for production

TECHNICAL CAPABILITIES

MICRALYNE'S CORE CAPABILITIES INVOLVE THE INTEGRATION OF A VARIETY OF MICROMACHINING TECHNOLOGIES TO CREATE HIGH VALUE MEMS DEVICES. THESE CAPABILITIES INCLUDE:

SUBSTRATES

- 4" or 6" silicon, SOI
- 4" or 6" (round or square) glass
- Miscellaneous substrates

BONDING

- Glass-glass fusion bonding
- Silicon-silicon fusion bonding
- Glass-silicon anodic bonding
- AuSn solder eutectic bonding
- AuSi eutectic bonding

LITHOGRAPHY

- Mask aligners
- Back to front alignment
- Cassette to cassette loading
- Automatic track coating/developing
- Manual coaters & developers

PLASMA DEPOSITION

- PECVD oxide/nitride/oxynitride/a-Si
- Dual wafer load lock system
- Dual frequency capability

PLASMA ETCHING

- Batch top etching of nitride & oxide
- Cassette to cassette oxide etchers

DEEP REACTIVE ION ETCHING

- Bosch & Cryo processes

FURNACES

- Pyrogenic thermal oxidation
- Annealing

WET ETCHING

- Silicon anisotropic etching
- Dielectrics & metals

METAL DEPOSITION

- Sputtering
- E-beam evaporation

ELECTROPLATING

- AuSn solder alloy
- Au plating

MICROFLUIDICS

- Etching of channels, weirs, wells
- Structural components & ports
- Embedded layers

WIRE BONDING

- High-speed automatic wedge Al/Au

DICING

- Standard silicon dicing
- Quartz dicing
- Standard glass dicing
- Silicon/glass stacked dicing
- Glass/glass stacked dicing
- Alumina dicing

TEST & CHARACTERIZATION

- Scanning Electron Microscope
- Thin film stress measurement
- Line width measurement
- Sheet resistance measurement
- Optical profiler
- Surface profilers
- Film thickness measurements
- CV measurements
- Wire bond pull test
- Electrical test – probe station
- Automated visual inspection
- Real time measure & data acquisition

WORKING WITH MICRALYNE

MICRALYNE APPLIES ITS MEMS EXPERTISE TO TRANSFER RELIABLE AND REPEATABLE FABRICATION PROCESSES INTO VOLUME PRODUCTION. THIS ENABLES CUSTOMERS TO CREATE A PRODUCT THAT CAN BE SUCCESSFULLY COMMERCIALIZED WHILE MEETING PERFORMANCE AND COST TARGETS.

HOW TO WORK WITH MICRALYNE

Micralyne primarily works with customers in three ways:

1. Full custom development and OEM manufacturing of products
2. Custom fabrication based on standard processes (Micragem™)
3. Direct transfer of an existing process to volume manufacturing

INFRASTRUCTURE FACTS

- State-of-the-art, 50,000 ft² microfabrication facility
- Class 10 to Class 1000 clean room infrastructure
- Dedicated bays for etching, deposition, bonding, furnaces, photolithography, and wet processing
- R&D, testing, characterization, assembly, and inspection capabilities
- Flexible facility for a mix of product lines and quick expansion

TRANSFER TO MANUFACTURING



Micralyne is one of the largest independent MEMS foundries in the world.

MICRALYNE TODAY

MICRALYNE DEVELOPS AND MANUFACTURES MEMS DEVICES FOR LEADING COMPANIES IN THE COMMUNICATIONS, ENERGY, LIFE SCIENCES, AND TRANSPORTATION INDUSTRIES. MICRALYNE HAS PRODUCED MEMS SOLUTIONS FOUND IN:

- Lab-on-a-chip devices for drug discovery
- Sensors for automotive control systems
- Precise measurement sensors for oil and gas exploration
- Implantable drug delivery devices
- Optical switching components in telecommunication networks

MORE INFORMATION

Whether you are new to MEMS or require an OEM manufacturing partner for an existing high volume MEMS product, Micralyne is the solution.

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