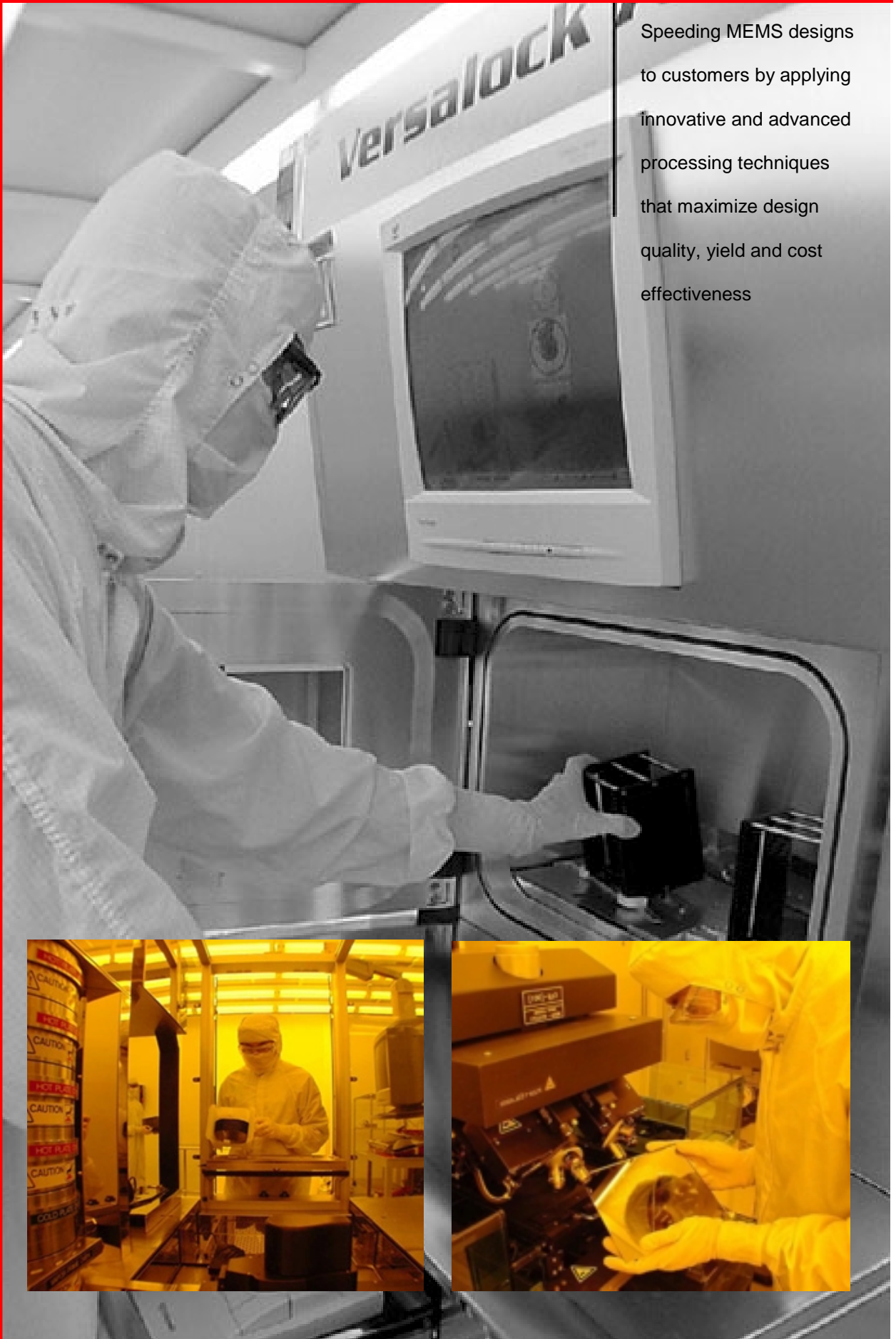


Speeding MEMS designs to customers by applying innovative and advanced processing techniques that maximize design quality, yield and cost effectiveness

AEROSPACE



MENU OF SERVICES

- Design
- Simulation
- Process Development
- Prototyping
- Volume Production
- Testing
- Packaging

CAPABILITIES

Photolithography

- Single side alignment
- Double side alignment

Coat/develop

- Spin coat
- Spin develop

Wet etch

- Anisotropic KOH
- TMAH
- Electrochemical etch stop
- BOE/HF
- Metal etch
- RCA1 and RCA2 clean
- Piranha clean
- Solvent clean

Metalization

- Sputtering
- E-beam
- Electroless Nickel

Reactive ion etching (RIE)

- Oxide
- Nitride
- Silicon (including Deep RIE)
- Photoresist

Wafer-to-wafer bonding

- Glass frit bonding (Glass frit screen printing/glazing)
- Pyrex thin film anodic bonding
- Eutectic bonding
- Fusion bonding

Furnace operations

- Dry and wet oxidation
- Surface doping
- Metal annealing
- Low pressure CVD films
- TEOS

Plasma enhanced CVD

- Silicon dioxide
- Silicon nitride

Precision dicing

Inspection

- SEM
- EDAX
- XY measurement
- Z measurement
- Particle
- Ellipsometer
- FTIR spectrography

MEMSplus!™ Services

Complex or precise MEMS product developments require more than a clean room, processing equipment, and skilled operators. At Honeywell Redmond, we specialize in processing techniques that:

- speed time to production volume
- maximize device yield
- lower cost per device
- insure consistency of product quality
- allow us to quickly master novel and complex designs

That's why we call it MEMSplus! Service. Your design gets more than just MEMS foundry service.

By using a team approach, Honeywell provides each design the benefit of our collective MEMS expertise and advanced processing techniques. We advise on design optimization for ease of production and apply "Six Sigma" improvement tools at all phases of product development.

Honeywell Redmond offers comprehensive MEMS expertise, making us an ideal partner for accelerating your MEMS design development to market. Services range from single process steps in our MEMS foundry to full turnkey product development from design concept through production processing, test and packaging.

MEMS PROCESSING SPECIALTIES

Process Specialty	Description	Benefit
Deep reactive ion etch (DRIE) through wafer manufacturing process	Precise across wafer and wafer-to-wafer uniformity in vertical sidewall profiles for through the wafer etching of complex and delicate features.	Improved device yield Lower per device cost High quality complex features
Precision wet silicon etching	Wet etch specialties include multi-stage etches, front and back side processing and combinations of wet and dry etching.	Lower per device cost High quality complex features
Patterning delicate and complex structures	Volume production process control for patterning in cavities of etched devices.	High quality complex features
Multiple wafer bonding	By applying special processing and tooling, we achieve high alignment accuracy for multiple wafer bonding.	Improved device yield Lower per device cost
Front and back side processing	Excellent manufacturing control for precise front and back side registration and processing through multiple etch and deposition stages.	Volume production of complex devices High quality complex devices
Packaging	Our on-site thick film hybrid packaging line combined with special processes and tooling provide an effective next level integration for the micromachined device.	Improved time to market High quality device packaging

For more information, please call 888 206 1667 or FAX 425 883 2104.

Visit www.memsservices.com

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Honeywell