

Engineering Services

Tailored solutions for your
innovation needs,
transforming concepts into
functional technology

Services across
diverse engineering
areas such as SW &
HW development,
regulatory compliance
and RUO-CE Marking



Examples of Our Work

Project	Client	Solution
Automated Optical Inspection System	Research Institution	High-speed image processing for defect detection
Environmental Sensing Platform	Renewable Energy Company	Air quality and environmental data collection system
Precision Motion Control Device	Semiconductor Manufacturer	High-accuracy linear stage for nano-positioning
Liquid Handling Robotics	Biotech Lab	Custom microfluidic integration for precision dispensing
Thermal Control System	Aerospace Client	Active temperature stabilization with Peltier elements
High-Throughput Spectroscopy System	Materials Science Lab	Fully automated spectral analysis with advanced optics

Core Engineering Capabilities

Optical & Electromechanical Systems

- Computerized optical microscopy systems
- Automated optical inspection (AOI)
- Precision motion control: Linear stages, motors
- Temperature control: Thermometers, Peltier actuators
- RH Control: Hygrometers, mass flow controllers
- Fluid dynamics: Microfluidics, flow meters

Instrumentation & Software Development

- Digital acquisition systems
- Autofocus solutions: Laser-based optics
- Piezoelectric actuators for precision movement
- Surface characterization & modification systems
- Custom firmware and embedded system development

Software & Simulation Expertise

We leverage industry-leading tools for engineering design, simulation, and automation:

- Embedded Programming: C++, Python, MATLAB
- Control & Data Acquisition: LabVIEW, MultiSIM
- 3D Design & CAD: SolidWorks, Inventor, AutoCAD
- Finite Element Analysis (FEA): ANSYS, COMSOL
- Optical Design & Simulation: Zemax



Engineering Services

Liquid Handling and RUO-CE Marking



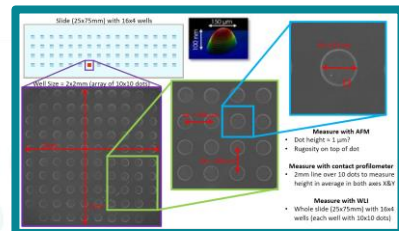
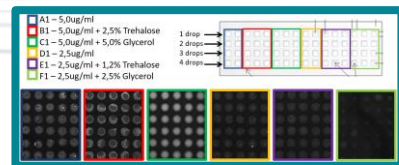
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Instrumentation: Liquid Handling Systems

At Mecwins, we provide high-precision liquid handling solutions for biosensing, microarraying, and microfluidics, ensuring accurate, automated, and repeatable liquid manipulation from picoliters to milliliters.

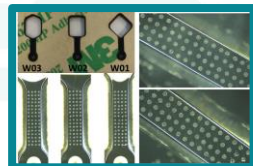
Liquid Handling & Spot Printing

Our automated systems support biosensor functionalization, reagent dispensing, and microarray printing, enabling non-contact, high-throughput, and ultra-low volume applications with minimal sample loss and evaporation.



Microarraying & Microfluidics

We specialize in custom microarray printing, lab-on-a-chip integration, and liquid handling robotics, offering precise droplet control and optimized fluidic workflows for research, diagnostics, and industrial automation.



Regulatory Compliance & CE Marking

We provide support to achieve RUO-CE Marking by ensuring compliance with:

- Electromagnetic Compatibility (EMC) Directive (2014/30/EU)
- Low Voltage Directive (2014/35/EU)
- RoHS (2011/65/EU & 2015/863) – Restriction of Hazardous Substances



Why Work with Us?

- **Experience Across Multiple Industries:** Biotechnology, aerospace, semiconductors, and renewable energy.
- **End-to-End Product Development:** From prototyping to full-scale production.
- **Access to Advanced Facilities & Engineering Expertise:** Delivering cutting-edge solutions with reliability and speed.

Mecwins S.A.

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mecwins

Do you have an engineering challenge? Let's turn it into a solution! Contact us to discuss your project.