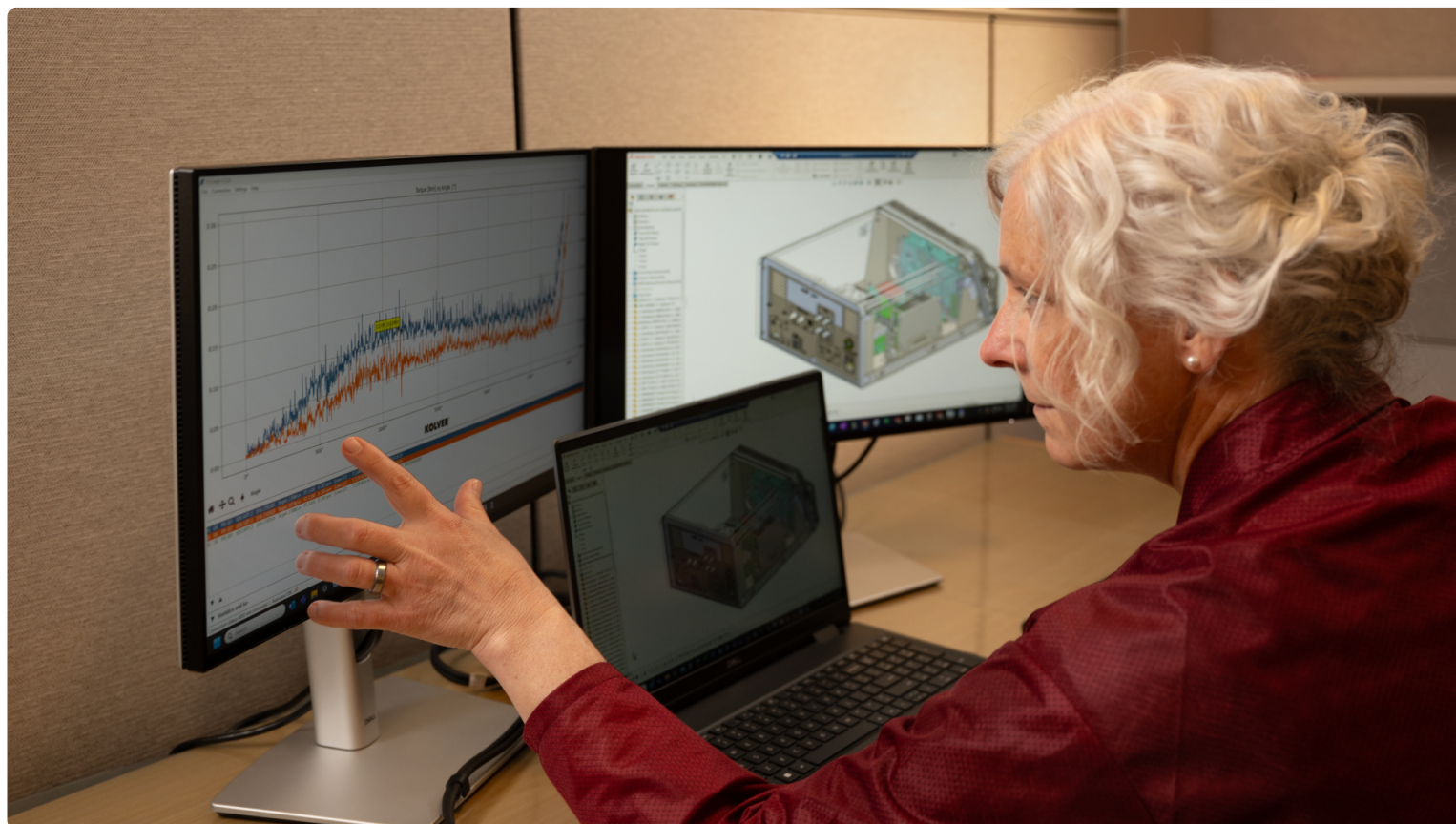


Design & Engineering > [Mechanical](#)

Design & Engineering: Mechanical

SCROLL TO: [Industrial Design](#) [3D Modeling](#) [DFM/DFA](#) [Molded Plastics](#) [Formed Metals](#) [Fluidics](#) [Electromechanical Systems](#) [Rapid Prototyping](#) [Thermal Management](#)

[Safety and Compliance](#)



Functional Systems Designed for Manufacture

Our mechanical engineering team specializes in collaboratively designing electronics to develop electronic equipment for repeatable quality and efficient manufacturing across various products, including capital equipment, handheld devices, and wearables. With expertise in 3D CAD design, prototyping, and manufacturing, we handle everything from component design and material selection to thermal management and motion integration, ensuring high-value solutions throughout the entire product lifecycle.

Industrial Design

- Ergonomic & User-Centered Design
- Usability and User Experience
- Concept Sketching and Ideation
- Aesthetic and Functional Refinement
- Brand Alignment

3D Modeling

- Parametric and Feature-Based Modeling
- Function, Fit, and Tolerance Analysis
- Advanced CAD Systems (SolidWorks, AutoCAD)
- Custom Component Design
- Assembly Design
- Structural Simulation and Analysis
- Technical Drawing Generation
- Revision Control and Documentation Management

DEM/DFA

DESIGN & ENGINEERING (<https://www.enercontechnologies.com/engineering/>)

- Component Design for Manufacturing
- Design for Assembly; Part Count Reduction
- Assembly Process Simplification
- Tolerance Analysis and Capability Studies
- Inspection Criteria
- Geometric Dimensioning & Tolerancing
- Cost-Effective Material Selection
- Supplier Collaboration

Formed Metals

- Sheet Metal Design and Fabrication
- Cast Metal Components
- Material Selection
- Weight Reduction and Structural Optimization
- Surface Treatments and Finishes

Electromechanical Systems

- Mechanical & Electronic System Integration
- PCBA & Wiring Integration
- Bearings, Belts, Pulleys and Shaft Assemblies
- Precision Motor Control
- Sensor and Actuator Incorporation
- Servo Systems and Linear Actuators
- Motion Control and Robotics
- Closed-Loop Control Systems

Molded Plastics

MANUFACTURING (<https://www.enercontechnologies.com/engineering/manufacturing/>)

- Plastic Component Design
- Enclosures
- Injection Molding and Alternative Molding Processes
- Material Selection
- Complex Geometries (thin wall, bosses, ribs)
- Surface Finish and Texturing
- Tooling Design and Qualification
- Inspection Criteria

Fluidics

- Valving, Manifold, and Pump Integration
- Flow Control Design
- Fluid Measurement and Sensing
- Mixing and Dispensing Systems
- Tubing and Connector Solutions
- Sealing and Leak Detection

Rapid Prototyping

- Concept Iteration
- In-house 3D Printing (SLA, FDM)
- In-house Machining
- Quick Turn Assemblies
- Early Concept Iteration & Refinement
- Form, Fit and Function Testing

- Heat Sink Sizing Design
- Fans and Ducting
- Thermal Interface Materials
- Passive and Active Cooling Solutions
- Thermal and Airflow Modeling
- Thermal Testing and Validation

- IEC 60601-1, UL 94, ISO 13485, and Other Regulatory Standards
- Ruggedized Enclosure Design
- Ingress Protection
- Environmental Considerations and Testing
- Risk Assessment and Safety Considerations
- Product Marking and Labelling

Learn more about additional product engineering capabilities we provide





DESIGN & ENGINEERING

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