

MosEMS - Redefining Energy Management

Discover MosEMS, a cutting-edge Energy Management Solution (EMS) that sets new industry standards. By blending Edge AI and modern software infrastructure, MosEMS delivers unmatched energy automation and control, orchestrating diverse distributed energy resources (DERs) for reliability, flexibility, and efficiency.

A Comprehensive Energy Management Solution: Its modular architecture expands EMS functions beyond battery system controls, seamlessly integrating circuit-level load management and front-of-the-meter strategies to optimize all available value streams.

Site Control Capabilities



Advanced Battery Energy Management: Enhances energy storage performance and utilization through intelligent battery management, optimizing demand charges, Time-of-Use arbitrage, and PV self-consumption for maximum economic gains and system resilience.



Automated Load Control: Flexibly adjusts circuit-level energy usage to maximize savings and prolong battery life, tailored to unique project requirements and customer priorities.



Economic Optimization: Reduces costs by intelligently managing energy use during peak rates, utilizing all available resources.



Off-grid Resiliency: Seamlessly manages solar PV, load shedding and grid formation for robust off-grid performance.



Virtual Power Plant Participation: Facilitates easy access to VPP programs, with simple opt-in/opt-out device participation controls.

MosEMS Support Services

Comprehensive Project Support:

Tailored to each project's unique needs, MosEMS comes with Molecule's expert services, from initial planning to long-term success, ensuring seamless integration and operation.

- ✓ **Custom Project Planning:** Including SLD drawing review and EMS scoping.
- ✓ **Integration and Commissioning:** Covering hardware integration (PV & ESS Inverters, ATS, Flexible Loads, etc.) and onsite commissioning.
- ✓ **Ongoing Support:** Offering remote technical assistance.

Data & Cloud Services:

- ✓ **Fleet Management:** A white-labeled portal for comprehensive control, including user management, telemetry, and remote debugging.
- ✓ **Compliance Reporting:** Simplified reporting for incentive programs like CA SGIP.

NRTL Certification Support Service:

For OEMs in need of UL certification, Molecule provides a dedicated support service to streamline the certification process.

Modern Software Architecture Advantages



“Molecule's MOS 350 Edge Operating System brings the computing power, security and automation of the cloud to the edge.”

Future-Ready Energy Management

Just like your Smartphone, MosEMS supports Application Stacking.

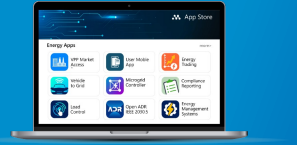
With MosEMS, adding new service offerings and tapping new value streams is as simple as downloading an app.

Examples:

- ✓ Add new capabilities such as load control, VPP market participation, or integrate additional hardware systems (EV chargers, BESS, etc.).

Benefits:

- ✓ Increases DER asset value
- ✓ No reengineering required
- ✓ Redefines “futureproof”



Request a MosEMS Quote

For a detailed MosEMS quote, please contact Info@MoleculeSystems.com.

To expedite the process, include a single line diagram of your project with a short summary of the functional requirements of the EMS solution.

Our team is dedicated to the success of your project, offering dependable and cost-efficient software solutions customized to meet your specific requirements.

Technical Specifications

Operating Modes:

End-to-end Automated Site Control & Device Orchestration

- ✓ Demand Charge Management
- ✓ Time-of-Use Arbitrage
- ✓ Solar Self-Consumption
- ✓ Resiliency
- ✓ Demand Response
- ✓ Automated Load Control

Site Controller Hardware:

- ✓ Spec Sheet - available upon request
 - ✓ Gateway Device
 - ✓ Revenue Grade Meter
 - ✓ CT's

Communications:

- ✓ RS 485 or Ethernet/TCP Networks
- ✓ Modbus RTU / TCP
- ✓ API

Resilience:

- ✓ Autonomous operation for prolonged periods of time with no Internet.
- ✓ Integrated load management for battery maximization

Connectivity:

- ✓ Wired Ethernet
- ✓ Wi-Fi
- ✓ Embedded LTE