

# PROJECT PROFILE CONTROL SYSTEMS AUDIT & DESIGN SEMICONDUCTOR INDUSTRY LEADER

## **Customer Background**

The Client of this project is a leading semiconductor company based in Santa Clara, California. Having maintained over 60% market share for decades, it's a company that is no stranger to innovation. The company's commitment to groundbreaking advancements is a testament to the complex world of semiconductor lithography and etching.

# **Project Background**

Faced with maximizing the uptime of their clean-room, vibration-sensitive facility, the Client wanted to streamline their workflows by supporting frequently fluctuating automation infrastructure. They decided to hire expert help to audit and design optimized solutions to meet this goal.

## **EA Solutions**

Enterprise Automation (EA) executed a thorough audit, employing P&ID analysis, redundancy assessments, network evaluations, and I/O validations to fortify the semiconductor facility's control systems. With over 21,000 I/O points scrutinized, site walks, and panel inspections, the audit yielded crucial insights, providing a comprehensive understanding of the operational intricacies of each of the five facilities.

Through this process, EA identified areas for optimization, including documentation, near-end-of-life components, and unnecessary I/O. Furthermore, they strategically reorganized

redundant I/O across existing Allen Bradley PLCs, maximizing the benefits of redundancy. This design overhaul aimed to minimize the risk of downtime for critical processes such as waste management, compound neutralization, HVAC, and other essential processes in semiconductor manufacturing.

Project Technical Lead Joberto Lee

Jeff Benson



In tandem with the audit, EA was tasked with the design of precision-driven control systems tailored for storing and transferring various types of acid waste products. These designs covered corrosive solvent waste, solvent acid waste, phosphoric acid waste collection, nitric acid waste collection, volatile organic compound solvent exhaust, and the bulk caustic feed system. Each design adhered to stringent industry standards, was thoroughly documented, and aligned with the system redundancy principles defined in the audit.

EA's comprehensive audit and control system expansion of the Client's facility reflects their commitment to ensuring the resilience, efficiency, and future-ready nature of the Client's semiconductor automation infrastructure. This integration of audit precision with innovative designs solidifies EA's position as a trusted partner capable of delivering high-performance solutions, irrespective of the industry's dynamic nature.

#### **Key Insights**

- Engineering Services
- Audited over 21,000 I/O
- 76 systems spanning five buildings
- SOO support
- Corrosive Solvent Waste
- Solvent Acid Waste
- Phosphoric Acid Waste Collection System
- Nitric Acid Waste Collection System
- Volatile Organic Compound Solvent Exhaust System
- Bulk Caustic Feed System

#### **Key Technologies**

- Allen Bradley PLCs
- GE Cimplicity SCADA



#### **Contact us:**



eaintegrator.com



Inquires@eaintegrator.com

(949

(949) 769-6000