

Manufacturer Instruments Implements Facility Monitoring and Control System (FMCS) for Its Wafer Fab Facility — RandD1 Phase 2

A leading designer and manufacturer of analog, digital signal processing and chip technologies needed to update its safety system to double the number of tools and gas cabinets.

Main Objective

The customer required system updates to double the number of tools and gas cabinets.

Customer Results

The FMCS provides continuous monitoring and control of the cleanroom environment, utilities plant and life safety system for the RandD1 semiconductor wafer fabrication facility. The FMCS was designed and installed using proven reliable technology and practices for the semiconductor manufacturing industry.

The FMCS design comprehends the specific requirements of a wafer fabrication facility. Using cost-effective solutions, the design addresses areas such as human safety, system uptime, equipment safety, operability and maintainability. The high-criticality systems consist of three Triconex triple modular redundant (TMR) controllers. One existing TMR monitors and controls the utility plant, while the other TMRs monitor and control the life safety system. The TMRs communicate with the SCADA system via Modbus protocol.

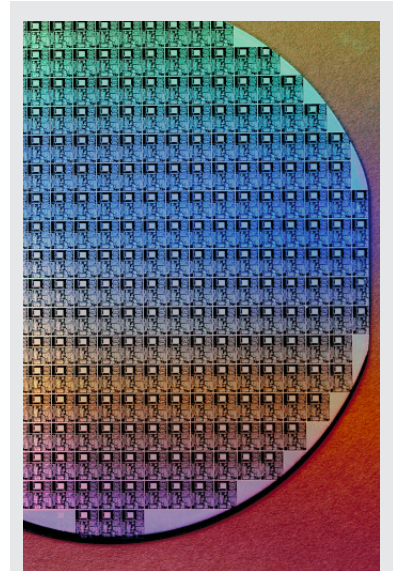
Application Description

■ Processes Monitored and Controlled by the Upgraded System

- Building Evacuations
- Toxic, Flammable, Pyrophoric, Solvent and Hydrogen Gas Detection
- Multiple Toxic, Flammable, Pyrophoric and Corrosive Gas Cabinet Interfaces
- Multiple Manufacturing Tool Interfaces

Applications

- Gas Monitoring and Shutdown
- Building Evacuation
- Historical Data Archival and Retrieval
- Report Generation
- Alarming and Auto-paging



System Configuration

■ HMI:

- Intellution FIX 32
- 2 SCADA Nodes
- 11 View Nodes

■ NETWORK:

- Modbus
- Ethernet

■ PLC:

- Triplicate PLC (Triconex)
- Above in addition to PHASE I equipment.

■ I / O Count

AI	584	AO	0
DI	306	DO	136

MAVERICK Technologies, LLC

265 Admiral Trost Road | P.O. Box 470 | Columbia, IL 62236 USA

+1.618.281.9100 | Fax +1.618.281.9191

www.mavtechglobal.com



engineering | systems integration | consulting