

# Liam Wells

## Integrated Manufacturing Operations Architect Manager, Refining and Chemicals

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### SUMMARY

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Manufacturing **operations** architect and consulting leader with 14 years delivering integrated **manufacturing systems** for **refining** and **chemicals** organizations. Leads client work from executive discovery through process modeling, functional architecture, integration design, testing, and implementation governance. Connects plant operations, engineering, HSSE, maintenance, IT, OT, software vendors, and enterprise teams around practical iMOM strategies. Hands on experience with ISA 95, ISA 88, MES, SCADA, LIMS, PLM, ERP, process integration, user stories, acceptance criteria, and test scenarios. Supported more than eight plant and multi site implementations while guiding senior stakeholders through design decisions, delivery risks, and priorities. Mentors consultants and engineers, builds reusable methods, and helps client teams improve visibility, standardization, and operational decisions through reliable manufacturing solutions.

### EXPERIENCE

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#### Manufacturing Operations Solution Architect

Redwood Process Advisory 📅 September 2023 - Present 📍 Chicago, IL

Leads architecture workstreams for refining and specialty chemicals clients, connecting iMOM strategy, process design, systems integration, testing, vendor coordination, and consultant development across concurrent programs.

- Shaped iMOM roadmaps connecting production, engineering, HSSE, maintenance, quality, and enterprise planning needs.
- Modeled current and future processes with **ISA 95** and **ISA 88** across three multi site programs.
- Produced MES, SCADA, LIMS, PLM, and ERP blueprints clarifying **data flows** and **transaction handoffs**.
- Converted executive requirements into use cases, specifications, user stories, **acceptance criteria**, and **test scenarios**.
- Coordinated IT, OT, engineering, operations, cybersecurity, and vendors through design reviews and issue resolution.
- Mentored six consultants and engineers on architecture quality, requirements, and client communication.

#### Senior Manufacturing Systems Consultant

Prairie Ridge Industrial Consulting 📅 June 2020 - August 2023 📍 Houston, TX

Led client facing functional design and delivery work for refinery modernization programs, aligning plant workflows, laboratory operations, maintenance coordination, **environmental reporting**, and enterprise integration.

- Led functional design for two refinery modernization programs spanning **production**, laboratory, maintenance, and reporting.
- Mapped dependencies across DCS, **SCADA**, MES, **LIMS**, maintenance platforms, and ERP for reliable reporting.
- Facilitated plant workshops that aligned operating practices with standardized ISA 95 **future state** processes.
- Authored requirements, interface definitions, **user stories**, and test packs for system integrators.
- Managed analysts, engineers, and vendor specialists across scope, risks, decisions, and deadlines.
- Created discovery templates and architecture checklists that improved consistency across later engagements.

#### Manufacturing Systems Consultant

GulfLine Manufacturing Solutions 📅 January 2017 - May 2020 📍 Baton Rouge, LA

Delivered manufacturing integration consulting for refining and chemical processing sites, translating production, laboratory, material, and equipment workflows into testable system designs.

- Delivered **MES** integration **consulting** for production tracking, quality data, material movements, and operational visibility.
- Designed data flows linking plant systems with LIMS, maintenance applications, historians, and **ERP** transactions.
- Translated batch, **continuous process**, and laboratory workflows into ISA 88 and ISA 95 requirements.
- Developed test scenarios for production, quality release, genealogy, **equipment status**, and **exception handling**.
- Resolved interface issues by tracing source data, timing, ownership rules, and recovery behavior.
- Guided junior consultants on traceability, workshop facilitation, documentation, and manufacturing terminology.

#### Process Systems Engineer

Ironwood Automation Group 📅 July 2014 - December 2016 📍 Lake Charles, LA

Supported control and manufacturing application upgrades in refining and chemicals facilities, connecting process operations with SCADA, historians, laboratory systems, and production reporting.

- Supported plant upgrades connecting process operations with SCADA, **historian**, laboratory, and production systems.
- Documented equipment, process, and **information flows** that clarified automation and reporting boundaries.
- Configured interfaces moving production and **quality** data into reporting and planning workflows.
- Built test cases for alarms, equipment status, **batch** events, **laboratory** results, and production records.
- Investigated control signal mismatches and coordinated corrections with automation and application teams.
- Supported site cutovers by validating fixes, tracking issues, and updating handoff documentation.

### Junior Process Systems Engineer

Bayou Process Technologies 📅 July 2012 - June 2014 📍 Beaumont, TX

Supported supervised refinery and chemical plant automation projects through workflow documentation, interface testing, data quality analysis, controlled records, and site delivery support.

- Documented process workflows, control data points, operator interactions, and reporting needs under supervision.
- Prepared tag mappings and interface records connecting SCADA and historian data with plant reporting.
- Executed supervised tests for signals, equipment states, laboratory transfers, and production handoffs.
- Traced data quality issues across source systems, middleware, and reporting outputs for corrective action.
- Maintained controlled design documents and change records supporting review readiness and field implementation.
- Supported engineers across site projects while building practical **IT** and **OT** coordination skills.

### PROJECTS

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#### Refinery iMOM Architecture Blueprint 📅 2024

Created a reusable architecture approach connecting ISA 95 processes, plant applications, enterprise platforms, and vendor interfaces for refinery transformation programs.

#### Chemical Manufacturing Integration Framework 📅 2022

Built a practical integration framework for MES, SCADA, LIMS, maintenance, and ERP data flows supporting production and quality decisions.

### LEADERSHIP & AWARDS

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- Manufacturing Architecture Practice Mentor, Redwood Process Advisory, 2024 to Present
- ISA Chicago Section Professional Member Recognition, 2023
- Client Delivery Excellence Recognition, Prairie Ridge Industrial Consulting, 2022

### EDUCATION

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#### Bachelor's Degree in Industrial Engineering

Texas A&M University 🎓 GPA: 3.5 📅 2012 📍 College Station, TX

*Coursework: Operations research, manufacturing systems, process control, engineering management*

### CERTIFICATIONS

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- AVEVA System Platform Certified Developer 📅 2022
- ISA 95 and ISA 88 Manufacturing Systems Certificate Program 📅 2021

### TECHNICAL SKILLS

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- **Manufacturing Standards:** ISA 95, ISA 88, iMOM
- **Manufacturing Platforms:** MES, SCADA, LIMS
- **Enterprise Platforms:** PLM, ERP, maintenance systems
- **Automation Systems:** DCS, historians, control systems
- **Architecture Methods:** Functional blueprints, process models, information flows
- **Requirements Methods:** Functional specifications, user stories, acceptance criteria
- **Testing Methods:** Test scenarios, integration testing, user acceptance testing
- **Integration Design:** Interfaces, data mappings, transaction handoffs
- **Industry Operations:** Refining, chemicals, batch processing
- **Operational Functions:** Production, engineering, HSSE, maintenance
- **Consulting Delivery:** Workstream leadership, vendor coordination, client workshops
- **Development Tools:** AVEVA System Platform, configuration, interface testing

### SKILLS

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- iMOM
- SCADA
- IT and OT integration
- User stories
- ISA 95
- LIMS
- Process integration
- Test scenarios
- ISA 88
- PLM
- Functional architecture
- Vendor coordination
- MES
- ERP integration
- Requirements engineering

**PROFESSIONAL AFFILIATIONS**

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- ISA Chicago Section, Member, 2023 to Present
- Redwood Process Advisory, Manufacturing Architecture Practice Mentor, 2024 to Present

**LANGUAGES**

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- English (Native)
- Spanish (Intermediate)

**ADDITIONAL INFORMATION**

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**Work Status** : Authorized to work in United States. No sponsorship required.

**REFERENCES**

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AVAILABLE ON REQUEST