Seth Robins

Industrial AI Architect | OT/IT Convergence Leader | Co-Inventor & Team Lead

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The hardest part isn't building the model, it's getting it accepted in environments where a wrong setpoint has real consequences. Systems thinker with a strong bias toward structure, pattern, and explicit reasoning. A career forged as an instrumentation technician, refined through process control engineering, and proven in data science leadership while keeping 18+ years of grounded industrial context intact. Co-inventor on pending patents for production-deployed AI optimization systems, currently serving a cross-functional team of data scientists and AI engineers delivering significant recurring EBITDA impact across live manufacturing operations. AI that performs in live plants, not just sandboxes.

KEY PERFORMANCE INDICATORS

Multi-million— **Recurring EBITDA Impact**

Delivered through patent-pending AI optimization and architectural frameworks across live manufacturing operations.

Multi-site— **Agentic AI Program Scope**

Leading active agentic AI optimization program spanning global chemical manufacturing sites, coordinating data access, architecture, and deployment across organizational boundaries.

Enterprise-scale— **AI Adoption Reach**

Driven by structured change management, capability development, and human-centered rollout design across international manufacturing sites.

Multi-million $— **Workshop ROI Identified**

Potential annual EBITDA surfaced in a single rapid value discovery sprint, coordinating 5+ cross-functional teams across Engineering, Commercial, and Operations.

3x+— **MAU Growth**

Monthly active user growth with sustained plateaus, driven by global AI adoption programs grounded in cognitive science methodology.

PROFESSIONAL EXPERIENCE

Industrial AI Architect

Jan 2025 – Present

Covestro

- Co-inventor on pending patents for a production-deployed AI optimization system delivering measurable capacity increases and significant recurring EBITDA impact.
- Leading a regional team of four data scientists and one GenAI engineer across multiple concurrent AI/APC optimization initiatives, providing architectural direction, hands-on mentorship, and the petrochemical domain knowledge that closes the gap between what data science produces and what live plant operations will accept.
- Architecting a serverless AWS data mesh to support multi-site AI modeling at scale, negotiating plant data and ERP access across organizational and site boundaries. Covering the industrial data engineering directly: plant data tag contextualization, ETL pipeline design, and CI/CD coordination. Plant-floor context is what makes those data streams interpretable before they go into a model.
- Leading architecture and delivery of a full-lifecycle agentic AI system deployed in live manufacturing operations: automated notifications, work management, risk-based scheduling, and operator guidance. Built on structured plant knowledge with human-in-the-loop capability.
- Owning end-to-end IT/OT integration across the full AI deployment stack. Driving UX/UI design informed by existing control system conventions so that operations teams trained on traditional interfaces actually use it.
- Driving AI adoption strategy across engineering, operations, and maintenance functions. The barriers that keep AI out of live plants are mostly organizational and domain-based. Closing them is most of the actual work.

Industrial Mobility & Intelligent Operations Architect
Apr 2022 – Jan 2025

Covestro

- Architected and delivered intrinsically safe smart device infrastructure integrated with industrial plant Wi-Fi networks for hazardous chemical manufacturing environments, bridging IT, OT, and safety requirements across plant operations teams.
- Led cross-functional deployment of 100+ mobile devices for emergency mustering and incident response, significantly improving site safety readiness and operational response times.
- Equipped turnaround operations with 80+ mobile devices, replacing paper work packages with real-time task execution and live field coordination in an environment where every hour of unplanned delay has a direct production cost.

Process Control Capability Development Specialist
Apr 2019 – Apr 2022

Covestro

- Designed and coordinated global capability development programs reaching ~250 direct and 2,000+ indirect personnel across international manufacturing sites, building qualification-based training infrastructure for process control functions.
- Partnered with operations and safety leadership to develop qualification-based training for safety-critical plant systems including DCS, APC, and Process Safety, ensuring operational competency in an environment where gaps have real consequences.

MES Asset Engineer
Apr 2015 – Apr 2019

Covestro / Bayer MaterialScience

- Led the Baytown site transition from PI Historian to a structured data asset management system, building the tag contextualization layer and asset hierarchy that makes plant data legible for engineering systems and downstream analytics.
- Delivered a portfolio of IT/OT infrastructure projects: network architecture upgrade, server hardening, IT security remediation, and a site-wide move to device-agnostic endpoints. Coordinated resources across multiple business units while adapting corporate global standards to local plant procedures.
- Implemented condition-based maintenance (CBM) and energy efficiency operations programs, developing project cost analysis, use cases, and ROI assessments for each initiative. Trained and qualified local personnel on data asset management practices.

Process Control Technology Engineer / Production Technician
Aug 2007 – Apr 2015

Bayer Technology Services / Material Science

- Served as process control subject matter expert through enterprise-scale DCS migration projects and complex system continuity challenges during major site acquisitions and organizational mergers, maintaining production systems through transitions where most of the surrounding organization was in flux.
- Started on the plant floor as a production technician and worked up into process control technology engineering, building hands-on expertise across DCS platforms, APC systems, advanced instrumentation, and safety-critical control layer design.
- Provided hands-on DCS engineering, troubleshooting, and production support across multi-team chemical manufacturing operations: commissioning tasks, control layer issues at odd hours, and problems nobody else wanted to touch.

Instrumentation Technician
Oct 2006 – Aug 2007

Dow Chemical

- Provided instrumentation design and Allen Bradley PLC support to plant engineering teams at one of the world's largest chemical manufacturing facilities. First job in industrial automation; the stakes of a control system failure were immediately concrete.

INDEPENDENT LEADERSHIP

Founder / Applied AI Researcher
Recursive Intelligence

- Architected a production multi-agent AI research pipeline on AWS (Lambda, Bedrock, DynamoDB) that autonomously analyzes 50+ AI/ML sources every 12 hours and synthesizes structured intelligence briefs via LLM orchestration.
- Publishes applied industrial AI methodology research at recursiveintelligence.io: constraint-aware human-AI collaboration frameworks grounded in cognitive science and tested against live manufacturing realities.

CORE COMPETENCIES

Industrial Stack

DCS Control | Advanced Process Control (APC) | Process Safety Layers | Instrumentation & Controls | SCADA | PLCs (Allen Bradley) | PI Historian (AVEVA OSIsoft) | Hazardous Area Operations | Emerson DeltaV | Honeywell Experion | Process Optimization

Systems Architecture

IT/OT Integration | Cloud-to-Edge Architecture | Agentic Workflows | RAG Pipelines | LLM Orchestration | Knowledge Graph Design | Data Mesh Architecture | Serverless AWS Architecture | Cross-Functional Leadership

Data Governance

Industrial Data Pipelines | ETL Design & Engineering | CI/CD Pipeline Coordination | ERP Data Integration | MES | Asset Management | Data Lake Architecture | Data Contextualization

AI & Automation

Python | AWS Bedrock | AWS Lambda | DynamoDB | Prompt Engineering | Multi-Agent Systems | TypeScript | ML Model Deployment | Setpoint Optimization | Change Management

EDUCATION

Post Graduate Program, AI & Machine Learning (2024) — Texas McCombs School of Business — University of Texas at Austin

BS, IT / Software Engineering — University of Phoenix

AAS, Instrumentation Technology — Lee College