Seth Robins

Industrial AI Leader | Production ML, Agentic Systems, IT/OT Integration

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I build the systems that make AI perform in live operations, not just sandboxes. Over 20 years at the intersection of industrial automation (OT), cloud-native pipelines, and cognitive systems — a career forged as an instrumentation technician, refined through process control engineering, and proven in production AI architecture while keeping hard-won industrial context intact. Co-inventor on pending patents for production-deployed AI optimization systems delivering measurable EBITDA impact across live chemical manufacturing operations. The hardest part is not building the model — it is getting it accepted in environments where a wrong setpoint has real consequences. That is the exact problem I solve.

KEY PERFORMANCE INDICATORS

Multi-million EUR— Recurring EBITDA Impact

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

Production-Deployed— Patent-Pending ML Optimization

Live in chemical manufacturing operations, with measurable capacity gains realized in production.

3x— Adoption Growth, Global AI Program

Active user growth sustained across international manufacturing sites, driven by structured change management and human-centered rollout design.

PROFESSIONAL EXPERIENCE

AI/ML Architect (Functional Role)

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 cloud-native data platform 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 — structured change management, capability development programs, and human-centered rollout design. Outcome: 3x+ MAU growth sustained across global manufacturing sites.

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 a major site transition from a legacy process 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

Principal Researcher / Independent AI Practice

Recursive Intelligence

- Applied AI Research & Development Lab: Designed and deployed live production-grade, multi-agent automated pipelines utilizing AWS Lambda and Amazon Bedrock to ingest, clean, and synthesize complex multi-source intelligence feeds autonomously, with continuous operation at scale.
- 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) | OPC-UA | ISA-95 / ISA-88 | Hazardous Area Operations | Emerson DeltaV | Honeywell Experion | Process Optimization | Predictive Maintenance

Systems Architecture

IT/OT Integration | Cloud-to-Edge Architecture | Edge AI / Edge Computing | 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 | SAP Integration | MES | Asset Management | Data Lake Architecture | Data Contextualization

AI & Automation

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

EDUCATION

Professional Certificate, AI & Machine Learning (2024), formal academic grounding for applied AI deployment in industrial environments

Texas McCombs School of Business — University of Texas at Austin

AAS, Instrumentation Technology

Lee College

BS, IT / Software Engineering

University of Phoenix