



Sainyam Arora



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Quality Systems & Operational Excellence Leader | Quality 4.0 & Digital Transformation | ISO 9001 Certified Lead Auditor

WORK EXPERIENCE

Quality Systems Engineer (Quality Lead — CATACEL SSR)

Savannah, GA

Johnson Matthey, Catalyst Technologies

Nov 2024 – Present

- Established the **Quality Management System (QMS)** for the CATACEL SSR product line from the ground up, achieving 100% compliance with **ISO 9001:2015** and institutionalizing continuous improvement across R&D, operations, and commercial teams.
- Reduced product defect rate to **0.6%** well below the 1% production target — by leading systematic root cause analysis using 5 Whys, FMEA, and CAPA frameworks, eliminating recurring non-conformances across the full production cycle.
- Designed and deployed **digitized BI dashboards** (Power BI / Labware LIMS) for real-time tracking of NCM trends, CAPA status, lab data, and quality KPIs — advancing the site toward **Industry 5.0** digital maturity and enabling data-driven decision-making at all levels.
- Executed a **Layered Process Audit (LPA)** program across manufacturing and R&D, achieving a 78% findings-to-audit rate and a **30% improvement in compliance adherence**; drove Management Review cycles aligning quality strategy with business objectives.
- Initiated **CAPEX portfolio proposals** to upgrade QC capabilities across 2 product lines in Catalyst Technologies, securing leadership approval for lab instrumentation and digital infrastructure upgrades.
- Managed the **gauge calibration system** ensuring **100% measurement accuracy** and MSA integrity; developed SIPOC diagrams, process maps, and document control workflows improving cross-functional traceability.
- Trained organization-wide on QMS principles, digital quality systems, CAPA, and Lean tools; led **5 internal audits** across Savannah site and managed supplier quality engagement to reduce incoming material non-conformances.

Process Quality Engineer

Philadelphia, PA

Johnson Matthey, Clean Air

Jul 2023 – Nov 2024

- Implemented Lean Six Sigma tools and root cause analysis across diesel & gasoline Auto Catalyst production lines, reducing reject rates **below 0.8%** and achieving a **20% reduction in Cost of Poor Quality (COPQ)**, directly supporting JM's sustainability and operational excellence targets.
- Led a comprehensive **Management of Change (MoC)** strategy under JM's 'Keeping it Simple' initiative, projecting a **20% reduction in pallet callbacks** and a **15% decrease in product inspections** through improved End-of-Line HMI usability and operator workflow optimization.
- Optimized quarantine **backlog by 25%** through SAP-driven process discipline and lean lot-dispatch strategies, accelerating production throughput and reducing non-value-added movement for key automotive clients.
- Standardized CAPA reporting across Quality, Production, and Batching teams, achieving **95% on-time closure rate**; integrated 4CP problem-solving techniques for auto-catalyst final disposition analyses serving tier-1 automotive OEMs.
- Maintained and improved Quality Management Systems through **IATF 16949** reviews and Intalex document control software, sustaining 100% compliance through rigorous internal audit cycles.

Emerging Industries Technical Analyst

State College, PA

KCF Technologies, Inc.

May 2022 – Jun 2023

- Engineered an asset deployment monitoring system using vibration and temperature sensors, enhancing predictive maintenance capabilities for turbines and pumps and improving overall operational efficiency by **25%** across multiple industrial accounts.
- Built comprehensive **Power BI Business Intelligence dashboards** to visualize predictive asset failure data, enabling proactive maintenance decisions and **reducing equipment failures by 30%** for power generation clients.
- Contributed to OKR initiatives through rigorous machine health data analytics across multiple accounts, contributing to **\$3.8M in documented cost savings** and **5,700 hours** of recovered operational efficiency.
- Developed customized data analysis solutions for power generation department by leveraging advanced analytics techniques, achieving a **38% reduction in unplanned downtime** and optimized plant performance across the portfolio.

INDUSTRY LEADERSHIP & ENGAGEMENT

Quality 4.0 CMC Lead, ASQ Quality Management Division (QMD)

Nov 2025 – Present

Drive programming at the intersection of digital transformation, data analytics, and modern quality systems. Develop structured content by translating Quality 4.0 concepts into practical applications within manufacturing and process industries. Shape panels, workshops, and forums.

Awards & Recognition Chair | Subject Matter Expert Panel Member, ASQ Lean Enterprise Division Aug 2025 – Present

Lead recognition initiatives for Lean excellence across industry sectors. Evaluate award frameworks including the Wayne Paupst Award and USC Marshall Supply Chain Lean Excellence Award. Serve as SME panelist for professional development and mentoring.

Board of Directors, TEDxSavannah Sep 2025 – Present

Appointed to 13-member Board to execute TEDxSavannah events. Lead the Speaker Committee: mentor speakers in shaping core ideas, storytelling, message development, and stage readiness for large-audience events.

Teaching Assistant & Mentor, Quality Science Education (QSE) Aug 2025 – Present

Mentoring and evaluating undergraduate coursework in global quality frameworks, regulatory compliance, and legal requirements of quality at institutions offering formal Quality Science Education at the undergraduate level.

PUBLICATIONS, PRESENTATIONS & RECOGNITION

- **2026 ASQ Quality Rookie of the Year** — Recognized for outstanding contributions to quality systems leadership, digital transformation, and sustained industry engagement across the ASQ community and beyond.
- Accepted Presenter — **WCQI 2026** (World Conference on Quality & Improvement), ASQ; presenting on Quality 4.0 and digital QMS transformation in advanced manufacturing environments.
- Presenter & Panelist — **MAX Conference** (Manufacturing & Automation Excellence); delivered thought leadership session and panel discussion on Quality 5.0 and sustainable quality systems in modern manufacturing.
- Accepted Presenter — **RAPID+TCT 2025**; presented on quality assurance strategies in additive manufacturing and advanced manufacturing environments.
- Peer-Reviewed Abstract Published — **IEOM Society International**; research paper: "Designing Sustainable Quality Systems in Advanced Manufacturing" contributing to the body of knowledge on sustainable operational excellence.
- **Thought Leadership Articles** — Published extensively on Quality 5.0, AI-driven quality, and operational resilience in manufacturing through The Nexus Engineer platform and professional industry forums.

SKILLS

Quality Systems: ISO 9001:2015 (Lead Auditor), QMS Design & Implementation, CAPA, FMEA/PFMEA, Layered Process Audits, Gauge R&R/MSA, Document Control, JIDOKA, Supplier Quality, Total Quality Management (TQM)

Lean & Continuous Improvement: Lean Six Sigma (Green Belt), DMAIC, 5S, Kaizen, Root Cause Analysis (5 Whys/4CP), SIPOC, Value Stream Mapping, COPQ Reduction, Gemba Walks, Management of Change (MoC)

Digital & Analytics: Power BI, Tableau, Labware LIMS, SAP (ERP/BW), Jira Cloud, Minitab, JMP Pro, Python, Quality 4.0 Digital Transformation, Industry 5.0, Predictive Maintenance Analytics

Software & Tools: Microsoft Office Suite, SOLIDWORKS, ASPEN, MATLAB, Microsoft Visio, LucidChart

Leadership & Strategy: Cross-Functional Team Leadership, QMS Training & Deployment, CAPEX Portfolio Management, Stakeholder Engagement, Management Reviews, Public Speaking, Strategic Planning, Project Management

CERTIFICATIONS

ISO 9001:2015 Lead Auditor (TPECS) — GaMEP at Georgia Tech / Exemplar Global (2025)

ISO 9001:2015 Internal Auditor — GaMEP at Georgia Tech (2025)

Six Sigma Green Belt — IISE (2023), **Lean-Sigma Yellow Belt** — Centre Star (2022)

QMS Concepts & Controls for ISO 9001:2015 — Quality WBT (2024)

McKinsey Forward Learners Path, McKinsey Leadership Academy, Self-Leadership & Team Leadership

Engineering Leadership Development Program — Penn State (2023)

Jira Cloud Admin & Reporting — Skillsoft (2025)

Python for Non-Programmers — LinkedIn (2022)

EDUCATION

The Pennsylvania State University

Bachelor of Science in Chemical Engineering, Minor in Engineering Leadership & Development

Activities: Content Manager, TEDxPSU (2020–2023) | Board Member, Omega Chi Epsilon (OXE) Honor Society (2021–2023)

University Park, PA

Aug 2019 – May 2023