Nicholas Kadunce

OPERATIONS LEADER · AI & DIGITAL TRANSFORMATION · P&L EXECUTIVE

MANUFACTURING EXCELLENCE | AI-POWERED SYSTEMS | FULL-STACK DEVELOPMENT | HIGH-PERFORMANCE TEAMS

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Proven operations leader who builds high-performing teams, architects AI-driven production systems, and delivers measurable P&L results across manufacturing environments. Designed and deployed a full-stack IoT production monitoring platform (JMOS) integrating real-time sensor data, automated OEE analytics, and intelligent downtime classification across 16+ machines. Skilled at translating complex operational challenges into scalable digital solutions, shaping strategy, mitigating risk, and aligning execution with long-term growth.

CORE COMPETENCIES

Leadership & Strategy
High-Performance Team Building · Change Leadership · P&L Accountability · Talent Development · Cross-Functional Leadership · Organizational Design

AI & Digital Transformation
AI-Powered Production Monitoring · IoT Sensor Integration · Automated OEE & SPC Analytics · Full-Stack Dev (Node.js, PostgreSQL, MySQL) · Predictive Maintenance · Real-Time Data Pipelines

Operational Excellence
Lean & Six Sigma · Manufacturing Optimization · Risk Management · Quality Management Systems (ISO 9001) · CMMS Implementation · Supplier & Inventory Management

Strategic Planning & Metrics
KPI Development & Dashboarding · Production Scalability · Financial Forecasting & Modeling · Data-Driven Decision Making · Project & Program Management

PROFESSIONAL EXPERIENCE

JENNMAR

2025 – Present

Plant Manager — Underground Mining & Tunneling Infrastructure Solutions

Reedsville, WV

Lead end-to-end plant operations accountable for safety, quality, production, and financial performance. Architect AI-powered digital systems that automate data collection, surface real-time insights, and replace manual processes with intelligent workflows.

AI & DIGITAL TRANSFORMATION

- Designed and deployed **JMOS**, a full-stack AI production monitoring platform (Node.js, Express, PostgreSQL, MySQL) integrating real-time IoT sensor feeds from 16 machines, automated OEE computation, intelligent downtime detection, and operator-facing classification workflows — eliminating manual data entry plant-wide.
- Engineered an automated downtime intelligence engine ingesting 2.8M+ sensor records, applying statistical cycle-time analysis to distinguish true downtime, and surfacing Pareto-ranked root causes for targeted improvement.
- Built a real-time caching and data pipeline layer with 60-second refresh cycles, enabling instant dashboard response across all clients while processing ~15K daily sensor readings.
- Developed an AI-assisted Best Demonstrated Rate (BDR) system that statistically detects operator performance gains, auto-generates rate-change proposals with full OEE context, and routes approvals to management.
- Implemented automated SPC and defect analytics with real-time control charting, Pareto analysis, and trend detection for proactive quality interventions.
- Created AI-automated daily Operations Performance Reports rendered as SVG visualizations with OEE breakdowns and equipment-level KPIs — auto-distributed to leadership each morning.

OPERATIONAL LEADERSHIP

- Deployed a Daily Operations Dashboard with hour-by-hour tracking and statistically derived targets, increasing output 36.7%.
- Built a Financial Forecaster using 3-month rolling averages for daily projections, strengthening financial oversight and consolidation.
- Implemented FIIX CMMS, shifting maintenance from reactive to planned through disciplined work orders, spares control, and data-driven scheduling.
- Automated incentive-pay calculations and refined Supervisor Standard Work, saving hours weekly and raising accountability.

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PROFESSIONAL EXPERIENCE (CONTINUED)

EOS ENERGY ENTERPRISES, INC.

2023 – 2025

Operations Manager — Battery Energy Storage Systems (BESS) & Module Operations

Turtle Creek, PA

Transformed manufacturing operations through data-driven systems, high-performing teams, and continuous improvement to achieve measurable results in efficiency, quality, and production scalability.

MODULE OPERATIONS (700 BUILDING)

- Built the company's first production dashboards with OEE metrics, automated gap analysis, and KPI control charts enabling real-time visibility and strategic decision-making.
- Transitioned subassembly from batch to one-piece flow, **increasing production 41%** and reducing defects by 22%.
- Reduced equipment downtime by 36% within 2 months through data-driven Pareto analysis and mitigation plans.
- Led and trained a 40-person third-shift team from scratch — became **the highest-performing shift within one month**.

BESS OPERATIONS (200 BUILDING)

- Increased daily BESS production from 0.5 to 2.2 units/day via Yamazumi workload balancing, Takt time alignment, and team-based workflows — a **340% increase**.
- Reduced rework by 66% through data collection, Pareto analysis, and targeted process improvements.
- Integrated an Andon system with automated data collection and control charts for real-time monitoring of quality, downtime, and production metrics.

Quality Engineer — Battery Energy Storage Systems & Module Operations

- Engineered a high-efficiency battery testing routine, **reducing cycle times by 60%** and improving overall production throughput.
- Led defect reduction initiatives achieving a 30% decrease in scrap defects and reducing downstream quality excursions.
- Obtained ISO 9001 Lead Auditor licensure and spearheaded internal audits aligning operations with international standards.

MESSER AMERICAS

2022 – 2023

Regional Production Engineer — ASU Bulk, Tonnage, & Specialty Industrial Gases

Northeast Region, USA

- Led Six Sigma initiatives boosting Krypton/Xenon production by 15%, **increasing annual revenue by over $1 million**.
- Drove 15+ system enhancement projects, cutting annual downtime by 25 days and improving daily output consistency by 16%.
- Streamlined production and delivery processes through cross-functional collaboration, reducing average lead times by 30 days.

JOHNSON MATTHEY

2020 – 2022

Production Team Shift Leader II / Process Control Engineer — Clean Air Division

Smithfield, PA

- Increased OEE by over 5% in 2022, achieving **zero lost-time and recordable injuries** across all shifts.
- Led process optimization achieving an 8% cycle time reduction and a 4% decrease in defects.
- Designed a risk management tool, reducing LTY by 25% and downtime by 8 minutes per Work Order.

CERTIFICATIONS & EDUCATION

- **Certified Lean Six Sigma Green Belt (CSSGB)**
  Messer Americas, EMBRACE Training Academy
- **ISO 9001 Lead Auditor**
  Exemplar Global
- **Certified ScrumMaster® (CSM)**
  Scrum Alliance

B.S., Chemical Engineering

West Virginia University — Morgantown, WV

Class of 2020