

Manufacturing Process Engineer

Pragmatic Manufacturing Process Engineer with experience in optimizing production processes, enhancing efficiency, and driving product quality improvements. Specialize in developing and implementing lean engineering strategies and advanced data analytics to reduce downtime and process defects. Demonstrated ability to create and maintain SOPs and troubleshoot guides to minimize errors and rework. Dedicated to driving continuous improvement, adeptly applying methodologies to achieve substantial cost savings and operational excellence.

Areas of Expertise

- Root Cause Analysis
- Process Optimization
- Supply Chain Management
- CAD/CAM and Simulation
- Solution Development
- Data Analysis and Statistical Modeling
- Quality Control Planning
- Account Strategy
- Inventory Management

Technical Proficiencies

Software & Tools:	Microsoft Office, Minitab, AutoCAD, Creo, CATIA, ANSYS, SQL, Power BI, SolidWorks, and Tableau.
Process Improvement:	8D,5S, DMAIC, Value Stream Mapping, Statistical Process Control, Design of Experiments (DOE), PPAP, Kanban, PFMEA, DFMEA Overall Equipment Effectiveness (OEE), Pareto Analysis, Process Capability Analysis, and BOM Generation, Kaizen, Continuous Improvement, Total Productive Maintenance.
Production & Inventory Control:	Just in time (JIT), MRP, EOQ, Inventory management, and SAP ERP

Experience Highlights

The University of Texas, Arlington, TX Research Assistant Volunteer	July 2024 —Present
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Acquired knowledge in optimization, systems engineering, supply chain management, and quality control. Specialized in manufacturing systems, ergonomics/human factors, and advanced analytics/operations research. Sharpened critical thinking and innovative problem-solving skills, applying theory to practical challenges.

- Designed detailed 3D room layouts using SolidWorks for a direct-to-chip liquid cooling system projects.
- Assisted in vendor management and supply chain coordination, ensuring timely procurement and delivery of components.
- Set up and optimized racks for air-cooled heatsink systems, enhancing the overall project efficiency and effectiveness.

Cheran Agro Tech, Coimbatore, Tamil Nadu, IN Manufacturing Process Engineer	Sep 2020 —April 2022
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Optimized manufacturing processes through lean engineering strategies with SAS, MES, and FMEA, enhancing assembly line efficiency. Developed BOMs, routings, and process flow charts to streamline production, reduce costs and align with KPIs. Reduced downtime and improved product quality with Power BI and data analytics. Developed quality reports with Excel and Minitab. Led cross-functional teams and utilized SolidWorks and AutoCAD to pump design and launch 2 new products into the market.

- Increased assembly line efficiency by 12% and reduced defects by 4.3% through strategic lean engineering initiatives.
- Reduced errors and rework by 20% with effective SOPs and QCP based on thorough root cause analysis.
- Achieved 20% reduction in process defects and launched two new products through the development of operational efficiency- and product quality-improving approaches.
- Resolved issues with non-conformance materials valued at \$8,550 by managing quality notifications and dispositions in SAP.
- Enhanced profitability and reduced costs by 5% by implementing effective procurement management plans integrating Six Sigma methodologies to optimize outcomes.
- Conducted time and motion studies to identify inefficiencies, leading to process optimizations and cost reductions.

Shanmuga Precision Forgings Pvt. Ltd, Thanjavur, Tamil Nadu, IN

Industrial Engineer Co-op

Tracked and evaluated quality data, executing specific corrective measures to decrease manual assembly and machine-generated scrap. Created and updated comprehensive process documentation, like work instructions, PFMEAs, and control plans, to ensure consistent processes and rigorous compliance with safety and quality standards.

- Achieved 9% reduction in production costs through time studies and process mapping, enhancing operational efficiency.
- Increased floor space utilization by 12% by modernizing plant layouts with AutoCAD, optimizing workflow and resource allocation.
- Improved productivity by 12% through collaboration with teams to implement lean manufacturing principles, Time and Motion Studies, Value Stream Mapping resolve production issues, and train operators.

Academic Highlights

The University of Texas, Arlington, TX

Industrial/Engineering Management Student

July 2022 —May 2024

Course work: Introduction to Systems Engineering, Advanced Engineering Economy, Introduction to Probability and Statistics, Engineering Management, Production and Inventory Control System, Project Management, Quality Systems, Global Supply Chain Management

- Led and completed capstone projects and thesis work by conducting application-oriented research.
- Mastered programming, statistical analysis, and engineering software through coursework and dynamic group projects.

Projects:

Quality Improvement Initiative for Diesel Engine Oil Consumption Reduction

- Implemented the DMAIC method to reduce engine rejections due to high oil pressure buildup by 26%.
- Enhanced engine quality by cutting oil consumption from 0.9 to 0.5 liters per 1000 miles.

Baseline Project: Designing Novel Laptop with Strategic Problem Solving

- Led academic project and guided a 12-member student team to develop an innovative laptop design proposal.
- Achieved projected boosts in POS, ROS, and NPV through strategic problem-solving outlined in the proposal.

Hypothesis Testing with Chi-Square Goodness of Fit Test

- Evaluated data fit theoretical distributions using the Chi-Square Goodness of Fit Test.
- Evaluated the conformity of datasets to Normal and Exponential distributions using statistical inference.

SoS Topic Analysis & SysML Diagram Development for Cellphone Company

- Analyzed telecommunications Systems-of-Systems (SoS), focusing on interrelated systems.
- Created SysML diagrams for the phone company, detailing system architectures and interactions within the SoS framework.

Education

Master of Science in Industrial/Engineering Management

The University of Texas at Arlington, Arlington, TX

July 2022 —May 2024

Bachelor of Technology in Mechanical Engineering

SASTRA University, Thanjavur, Tamil Nadu, IN

June 2016 —May 2020

Certifications

Certified Six Sigma Green Belt (CSSGB)

Certified SolidWorks Associate (CSWA- Mechanical Design and Additive Manufacturing)

Supply Chain Operation and Logistics certificate from Rutgers University