

Elie Abikhalil

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Profile

Objective: I aim to add value by using my 12 years of experience in lean manufacturing, innovative process improvement, and team leadership.

Education

2007-2012: University of Cincinnati, College of Engineering and Applied Science, Cincinnati, OH
Bachelor of Science in Mechanical Engineering (June 2012)

Senior Design Projects:

- Evaluation and Modification of Decay Heat Removal inside a Denatured Molten Salt Reactor (DMSR), Department of Mechanical Engineering, School of Dynamics Systems, Cincinnati, OH (May 2012)
- Automotive Design, Department of Mechanical Engineering, School of Structural Dynamics, Formula Society of Automotive Engineers: designed, tested, and built chassis for 2012 Bearcats Racing car, Cincinnati, OH (May 2012)

Work Experience

December 2017 – Present: Tree Town USA, Houston, TX

Industrial Engineering Manager:

- Led 5-Year Strategic Plan to reduce production hours by 25% per equivalent unit produced and sold over a 5-year period while increasing pay to the contributing employees.
- Reduce production cost by 30% while increasing production and sales by 10% year over year.
- Institutionalized and managed the new industrial engineering department by developing and implementing optimal, cost-effective lean manufacturing processes and methods in accordance with product specifications and quality standards.
- Led and managed key Master projects company-wide and coached and mentored on project management principles to successful completion of projects.
- Recommended and implemented improvements to production processes, methods and controls; also coordinated manufacturing launch for new or revised products. The priorities included process improvement, problem resolution, project management and employee training.
- Performed research, design and development of manufacturing processes, including production flow, manufacturing methods and production equipment.
- Initiated Lean Manufacturing principles to the company. Led continuous improvement projects to increase productivity and reduce waste by 25%.
- Designed, developed, tested, sourced, and cost-justified various tools, machinery, and equipment for recommended manufacturing methods.
- Provided analytical and reliable assessment to recommend changes, and developed quantitative and qualitative analyses of current and proposed states. Performed product/process analysis for cost reduction, quality and efficiency improvement.
- Facilitated the launch of new/revised processes/equipment, including establishing goals, training field employees and evaluating results.
- Effectively implemented recommendations through well-developed implementation programs and audits accordingly.
- Scheduled small, quick fix projects when requested that can easily reduce labor and/or material costs.
- Provided projects status updates and reported all assigned projects to Senior Leadership in a timely manner.
- Conducted appropriate motion and time study observations to create key performance indicators.
- Trained employees to carry out and sustain final recommendations
- Prepared and maintained detailed layouts of farm buildings and equipment.
- Developmental role in annual CAPEX and related expense budgets.

October 2018 – Present: Houston Community College, Houston, TX

Engineering Professor – Lean Manufacturing, Six Sigma, and Project Management:

- Developed the course syllabus and learning materials within college and departmental guidelines.

- Reviewed and utilized innovative methodologies, techniques, and delivery methods to improve the quality of instruction by assessing students based on the Nine Types of Learners (Visual, Kinesthetic, Auditory, Stress, Ease, Scribble, Trust, Teach, and Copy)
- Introduced the topics of Lean Manufacturing, Six Sigma, and Project Management in a new way that resonated with new students and faculty professors by bridging the gap between old practices and new advanced technologies.
- Set up workshops to provide hands-on training to accompany learning materials.
- Extended workshop training to corporate student prospects.
- Moderated and facilitated Networking meetings and opportunities to engage students and professionals in new ideas, concepts, and implementation within Lean Manufacturing.
- Evaluated students to measure their progress toward achievement of stated course objectives and inform them of their progress in the course in a timely manner.
- Retained accurate student records and submit related reports and forms within requested timelines.
- Reviewed, evaluated, and recommended student textbooks and learning materials.
- Taught courses at a variety of times and locations in response to institutional needs.

February 2013 – July 2017: National Oilwell Varco, Conroe, TX

LEAN Manufacturing Engineer – Downhole:

- **Drill Shop Project:** Set up Deephole Boring process in-house for Dubai and Conroe, TX plants and eliminate additional cost incurred by outsourcing the operation to third party vendors allowing the company to buy raw material directly from the mill. Lead time reduced from 14 days turnaround to 45 minutes and travel distance shortened from 168 miles roundtrip to 300 feet single piece flow. Estimated savings of \$10 Million annually for both Dubai and Conroe operations. Managed Capex of \$5.32 Million to purchase, set up, and release 4 drilling machines to production. Project was in complex legal status with vendor when appointed to me and I managed to turn it around keeping the company's best interest in mind. Return on investment was 6 months.
- **CNC Machine Shop Operations:** Improvised, adapted and designed standard tooling on Mazak and DMG Mori CNC machines. Performed such typical operations as turning, facing, boring, threading; machine compound angles, multiple angles. Performed advanced set-ups with indicating, leveling, clamping, and blocking. Inspected and maintained parts and tooling. Performed 5S setups and created the "Island of Excellence" for an ideal workstation that was rolled out and implemented throughout the shop. Performed operator preventive maintenance (checked oil levels, fluids levels, software upgrades, crane inspection, etc...) and kept machine and work area both clean and safe. Lifted, cut, loaded and secure raw stock into machining equipment. Achieved cycle times that met or outperformed the planned times set by the engineering department. Assisted Process Improvement Team with updating cycle and lead times that generated hard dollar savings and reduced shop rates.
- **Conroe Excellence Project:** Revised and updated the as-built plant floor layout, performed and supervised the creation of the design layout and detail drawings, worked with team to identify improvements, estimated savings of \$1.87 Million annually, direct contact with contractors and vendors to implement the layout requirements estimated at \$2.17 Million in budget, provided consultation on minor projects within Conroe Excellence scope of work, decreased the return on investment from 16 months to 13 months using LEAN techniques and simulation software, improved on processes in the motors department estimated at \$511,370 annually, produced the project implementation sequence in a Gantt chart to keep track of progress and deadlines and to document the efforts and results, created MOC (Manage of Change) reports to comply with all NOV Company and HS&E procedures and policies, created JHA (Job Hazard Analysis) to reflect operation changes to relocated machines.
- **Grapples and Shredder Bits Project:** Consolidate and bring in-house the manufacturing of grapples fishing tools (basket, spiral, and spear) and shredder drill bits to Conroe. Machines, processes, and operations acquired from NOV facilities in Edmonton, Canada, Singapore, Houston, TX and Willis, TX. Lead time reduced from 90 days to 4 days using lean methodologies and techniques. Created current and future ideal state value stream maps. Presented budget and timeline for successful completion of project. Created and led the cross-functional team with subject matter experts in distinct roles from safety, supply chain, operations, production, sales, planning, manufacturing engineering, programming, and maintenance. Set up training manuals and standard work. Trained on 5S and standard work. Created preventive maintenance program for machines and operators' checklist duties to upkeep the machines and run at 95% utilization around the clock. Project total cost was \$3.162 Million and ROI was 10 months. Market share for these product lines jumped from 25% to 65% based on lead time reduction and availability of high mix low volume products in a pull system.

- Work Center Productivity – Air Center Facility: Improved productivity of critical work centers from baseline to 80% through setup time reduction and implemented LEAN techniques (layout improvements using 5S and spaghetti maps, quick changeover using SMED), produced standard work instructions using setup checklists, improved direct labor utilization to increase productivity, efficiency. Throughput was increased by \$197,568 annually. HS&E incidents were reduced significantly upon completion which yielded a TRIR below 1.25 overall.
- Designed the Standard Visual Management Board to be utilized across NOV Downhole Manufacturing as a tool to record critical data concerning machine performance and job order variances.
- Designed and optimized the layout and storage system to store 1600+ steel pipes needed to run the Conroe Manufacturing plant. The savings were estimated at \$1 Million dollars for storage on-site
- Attended and completed CoachLab®, Manage My Career, Managing for Performance, and Time & Outcome Management training classes at the NOV University

August 2012 – February 2013: National Oilwell Varco, Conroe, TX

Product Line Engineer I – DOWNHOLE:

- Gained an understanding of the knowledge required, techniques used, and software available (Pro/E and SolidWorks) to support the Company in bringing new and improved equipment designs to the market. Conceptualized mechanical design solutions using RCDM (Roller Cone Design Modification). This included:
 - Application-matched drill bit / drilling tools design
 - Design Solid and Mechanical Modelling work in ProE/Creo 2.0
 - Computational Fluid Dynamics with ANSYS – Fluent
 - Finite Element Analysis with ANSYS
 - Computational FEA based drilling models
 - Post-Drilling Bit Forensics (Dull Grading)
 - Engineering Project Management
 - One-on-One Field Sales/Engineering interaction
 - Teamcenter and PDMLink Experience
 - Provide engineering support on mechanical equipment
 - Perform and/or supervise creation of design layouts and detail drawings
 - Perform tolerance studies and check design documentation
 - Research and specify purchased component parts
 - Create component and system level test plans and test fixtures
 - Create engineering reports documenting design efforts and results
 - Work with operations to identify product improvements
 - Knowledge of ASME and API engineering standards and procedures
 - Knowledge of AutoCAD and Pro/E with proven experience
- Gained an understanding of the range of tools that NOV Downhole manufactures. Disassembled, inspected, and reassembled Drilling Motors, repaired and serviced Roller Cone Drill Bits to better understand the designs and improve on any deficiencies found
- “Momentum” Program: Year-long development program for entry-level engineers in order to get the full spectrum of the drilling industry and use a wider base of knowledge for future engineering projects.
 - Out-of-Office rotations in complementing engineering positions:
 - Drilling Technology Foundation (Conroe, TX)
 - Product Line Engineer (Conroe, TX)
 - LEAN Manufacturing Engineer (Houston, TX)
 - Service Center Engineer (Rosenberg, TX)

March 2012 – August 2012: The Kroger Company, Cincinnati, OH

Facility Engineering Project Manager:

- Project manager of the KCSD (Kroger Center Store Design), KPNR (Kroger Personal Needs Re-invention), KBAR (Kroger Baby Aisle Re-invention, and KPAR (Kroger Pet Aisle Re-invention) for 25 stores remodels at \$1.3 Million in budget.
- Project manager of the new minor capital rollout installation of Rational Deli ovens at \$800,000 in budget

September 2009 – March 2012: The Kroger Company, Cincinnati, OH

Facility Engineering Intern:

- Project Manager of the Sidney, OH Kroger pharmacy drive-thru kiosk installation at \$200,000 in budget

- Revised project manuals, due diligence reports, revised construction plans at 65%, 90%, and 100%, direct communication with vendors and general contractors, attended construction meetings, performed quality control walk-thru and punch lists.
- Member of the engineering construction teams for 7 within-the-wall remodels ranging from \$1 to \$5 Million in budget, 4 New Stores ranging from \$16 to \$20 Million in budget, 2 Expansions ranging from \$8 to \$10 Million in budget, and 12 Fuel Centers ranging from \$300,000 to \$1 Million in budget.
- Performed 15 store As-Built surveys.
- Managed construction projects through web-based portfolio, project management solution and procurement management software and websites. Proven Experience with e-Pro and SiteFolio.
- Direct contact with Kroger GNX team to conduct projects biddings.
- Attended Kroger Midwest Regional quarterly construction seminars.

Volunteer Activities

August 2012 – Present: Our Lady of the Cedars, Maronite Catholic Church, Houston, TX
Church Volunteer: assist with fundraising activities and organize annual festivals in support of the community.

January 2012 – May 2012: University of Cincinnati, College of Engineering and Applied Science Thorium Energy Alliance Group, Cincinnati, OH
Group Member: Organized fundraising event and lead the team to participate in the 4th Thorium Energy Alliance conference in Chicago, IL and present the capstone project.

May 2008 – June 2012: University of Cincinnati Student Branch of the American Society of Mechanical Engineers
Voting Member: Provide a communication channel between the American Society of Mechanical Engineers and the engineering students at the University of Cincinnati. Organized quality programs and activities, attended regional and national conferences and exhibits, gained access to technical journals, books, and publications

January 2005 – June 2006: University of Cincinnati Clermont College Learning Center, Batavia, OH
Team Member: Tutored students in Math and Science approximately 20 hours per week

Awards/Honors/Licenses:

- Drone Pilot Certification from the Department of Transportation – Federal Aviation Administration to operate Unmanned Aircraft Systems. Certificate #: 4249726 issued on April 2019
- Named Top 10 Green Belt Six Sigma Engineers to Make a Difference at NOV: Corporate Process Development January 2015
- NOV Green Belt Six Sigma Certificate: Corporate Process Development. December 2014
- NOV Yellow Belt Six Sigma Certificate: Corporate Process Development. November 2014
- Lean Knowledge Certificate: Recognition of Lean Knowledge, Bronze Level, Society of Manufacturing Engineers, American Society of Quality, and the Shingo Prize. January 2014
- NOV Lean Bronze Certificate: Corporate Process Development. January 2014
- Certificate of Achievement: NOV Downhole Momentum Program – Roller Cone Drill Bits Product Line Engineer. September 2013
- University of Cincinnati Professional Practice Achievement Certificate June 2012
- Placed 11th out of 135 universities worldwide in the Formula Society of Automotive Engineers race at the Michigan International Speedway in Brooklyn, MI. May 2012
- Certificate of Naturalization for U.S Citizenship: February 2010.
- Clermont College Learning Center: Certificate of Appreciation: Fall 2005, Winter and Spring 2006, Certificate of Excellence Spring 2006, Clermont Home Builder Scholarship, Dean's List, HIPPA certified.
- Certificate of Excellence in Advanced Pharmacy Technician Training and Customer Service Skills: The Kroger Company.
- Certificate of Appreciation: Lebanese Red Cross/Civil Defense July 2003

Special Skills

Language Skills: Read, write, and speak English, French, and Arabic fluently

Computer Skills: Proficient with a vast array of programming languages, concepts and technologies, including:

2D/3D CAD:	PLM/PDM:	Simulation/Analysis:	Productivity:
AutoCAD Inventor Fusion 360 NX Pro/ENGINEER PTC Creo SolidWorks SolidEdge	Teamcenter PDMLink	ANSYS Arena MPX Wolfram Mathematica MATLAB Minitab	ORACLE PRIMAVERA JD Edwards Enterprise Insight Unlimited Console Microsoft Office Suite Microsoft Visio Microsoft Project