ALEXEI KALIADINE, P.ENG.

Engineering Manager

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Professional summary

Mechanical Engineering Manager with 12+ years of experience in CAD modeling, finite element analysis (FEA), product development, testing, cross-functional leadership, and manufacturing process optimization.

- Proven, technically involved leader focused on design for manufacturability (DFM), cost optimization, and cross-departmental collaboration between engineering, production, and management
- Skilled in mechanical design for rotating machinery, hydraulic systems, prosthetics, and welded structures.
- Proficient in FEA (structural, modal, fatigue, CFD, thermal) and GD&T (metric/imperial ASME Y14.5).
- Experienced in root cause analysis (RCA), troubleshooting, corrective actions, and practical implementation of continuous improvement strategies in production and engineering environments.

Skills

CAD Software:	SolidWorks (12+), AutoCAD (5+), DraftSight (3+), Rhinoceros (2+), Catia (2+), ANSYS Design Modeler (5+), SpaceClaim (2+)
CAE / FEA:	ANSYS Workbench / Mechanical (12+), ACP Composite (3+), Fluent (3+), Modal (3+), Star-CCM+ (3+), SolidWorks Simulation (2+), Simerics CFD (1+)
Engineering Tools:	Microsoft Excel (macros incl.) (12+), MathCAD (5+), Visual Studio / C++ (2+)
Project / ERP Tools:	Microsoft Project (2+), SolidWorks PDM (3+), Global Shop ERP (3+)

Professional experience

Daltec Process Fans **2022-01 – present**

Industry: Industrial and Process Fans

Position: Engineering Manager (since 2022-12)

- Led a team of 7 engineers and designers, actively contributing as a Lead Mechanical Engineer and mentoring new hires.
- Oversaw 30+ concurrent engineered-to-order (ETO) and build-to-order (BTO) projects from $10K to $1.5M, ensuring on-time, on-budget delivery.
- Achieved closure of about 10 projects monthly, each with an average duration of 3 months, demonstrating strong project management.
- Improved project efficiency by reducing overdue backlog by 80% and halving customer approval documentation time from 8 to 4 weeks.
- Held regular meetings with customers and suppliers to maintain strong relationships and ensure timely fulfillment of requirements.

Position: Mechanical Engineer

- Successfully completed 50+ projects involving component selection and sizing (bearings, motors, couplings, dampers) and engineering calculations, including FEA for strength and natural frequencies.
- Streamlined pre- and post-processing in ANSYS, reducing analysis time by 50% while maintaining 100% accuracy, resulting in zero warranty claims on designed fans.
- Reviewed and prepared 3,000+ manufacturing drawings for sheet metal parts using laser cutting, forming, and welding.
- Produced 100+ engineering reports for internal and customer issues.
- Conducted 10+ ANSI/AMCA 210 fan performance tests to ensure quality and compliance.

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METIZ Production **2018-10 – 2022-01**

Industry: Prosthetics

Position: Engineering Department Lead (since 2020-08)

- Managed and mentored a multidisciplinary team of 5 engineers, fostering professional growth and team efficiency.
- Balanced new product development with support of high-mix, low-volume manufacturing.
- Streamlined communication between R&D, production, and quality assurance, reducing response time to incoming requests to <3 days.
- Coordinated engineering workflows, test planning, and equipment utilization, preventing production downtime.
- Delivered presentations to 10+ international partners, aiding in business development and technical sales support.

Position: Senior Mechanical Engineer

- Developed an advanced FEA method to evaluate stiffness and fatigue strength of carbon fiber prosthetic feet, cutting new product design time from 2 years to 1.
- Led design and implementation of 3 specialized test benches compliant with ISO 10328 and ISO 22675, enabling cyclic strength testing of prosthetic ankle-foot devices in aqueous environments.
- Designed 50+ jigs, fixtures, and tooling for polymer molding and polyurethane casting processes.
- Collaborated on 8 innovative patented products distributed to 30+ countries worldwide.
- Created 500+ technical documents, assembly procedures, inspection sheets, and work instructions.

National Research Center “Kurchatov Institute” **2013-10 – 2018-10**

Industry: Heavy Engineering

Position: Research & Development Engineer

- Developed solid, mathematical, and finite element models for icebreaker and underwater vehicle hulls to support strength analysis (explosions, impact, fire) and dynamic fluid simulations with added mass.
- Contributed to a simulation-based training system for watercraft crews, including control logic and UI development.
- Spent 6 months on-site at an Indian shipyard as part of an international project to equip a training facility.
- Member of the award-winning team in an international competition on Arctic and offshore exploration.
- Prepared and delivered 50+ technical reports, internal presentations, and scientific papers.

Membership in professional organizations

2025 – Present	P.Eng. (PEO) – Licence 100571447
2023 – Present	Technical Review Committee Member, ANSI/AMCA Standards 207 / 208 / 210

Education / Selected Training and Certifications

2007 – 2013	Master’s degree in Hydromechanics, Hydraulic and Hydropneumo automation Faculty of Power Engineering Moscow State Technical University named after Bauman, Moscow, Russia
2020 – 2025	Simerics CFD, ANSYS Mechanical & ACP Composite PrepPost
2023 – 2025	AMCA Fan Laws, Leadership Effectiveness, WHMIS & Workplace Safety