

Nikolai Kulikov

Senior Design Engineer | Innovative Engineering Specialist | Deep Tech Pioneer

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Work Authorization: United States (EAD / Green Card Pending). No sponsorship required.

Professional Profile

Accomplished engineering specialist with over a decade of experience in innovative design, advanced manufacturing, and complex engineering solutions. A proven leader in the fields of additive manufacturing and deep-tech innovation, with a track record of driving projects from concept to market. Expertise in high-reliability engineering projects for strict regulatory environments, engineering development, and high-tech startups.

Technical Skills & Tools

- CAD/CAE: SolidWorks, AutoCAD, Autodesk Inventor, FEA (Finite Element Analysis).
- Manufacturing: Additive Manufacturing (FDM, SLA), CNC Machining processes, GD&T (ASME Y14.5), Injection Molding.
- R&D: Prototyping, Root Cause Analysis (RCA), Design for Manufacturing (DFM), Material Selection.
- Software: MS Office, PDM/PLM systems.

Career History / Work Experience

Sep 2024 – Aug 2025 | SkyForge Inc., skyforge.zone | CTO

Developed groundbreaking technology that integrates stratospheric ozone injection systems into aircraft operating in the lower stratosphere (11-14 km), enabling airlines to contribute directly to the restoration of the ozone layer with every flight.

Key Responsibilities

- Led R&D.
- Collaborated with scientists and engineers to create and implement efficient, scalable ozone generation systems.
- Identify and implement technology strategies that align with SkyForge's mission to solve critical environmental problems.
- Interact with stakeholders, partners, and regulators to ensure compliance and facilitate collaboration.

Feb 2024 – Present | SynthoShield LLC | Lead R&D Engineer

A startup developing a composite protection and an innovative and patented plasma energy generator using low-temperature plasma and radioisotope energy conversion

Key Responsibilities

- Lead R&D.
- Manage cross-functional teams to deliver high-performance, scalable energy solutions.
- Develop technology roadmap strategies to meet both current and future needs.
- Ensure compliance with industry standards and promote engineering best practices.

Aug 2014 – Jul 2019 | JSC "FRPC Titan-Barricades", publicly-owned establishment cdbtitan.ru | Senior Mechanical Design Engineer

JSC "FRPC Titan-Barricades" is a state-owned enterprise specializing in the design and manufacturing of heavy-duty hydraulic machinery and large-scale automated engineering systems. Staff of over 4,000 employees.

Key Responsibilities

- Lead R&D projects.
- Designed high-performance hydraulic actuation systems and multi-stage heavy-duty cylinders for large-scale mobile industrial machinery, ensuring reliability under extreme environmental loads.
- Developed complex mechanical assemblies and automated control units for heavy equipment, overseeing the full lifecycle from conceptual design to manufacturing and testing.
- Led Root Cause Analysis (RCA) and failure investigation commissions for critical hydraulic subsystems, resulting in improved design durability and reduced maintenance downtime.

Aug 2020 – Jul 2021 | PJSC "766 PTSM", publicly-owned establishment | Senior Mechanical Design Engineer

PJSC "766 PTSM" is an enterprise specializing in the development of advanced robotic complexes, autonomous tracked platforms, and hazardous environment protection systems. Staff of over 500 employees.

Key Responsibilities

- Lead R&D projects.
- Led the mechanical design of autonomous mobile robotic platforms and remote-controlled electromechanical systems for operation in hazardous environments.
- Engineered composite protective enclosures and specialized shielding solutions (including radiation protection) for high-tech automated equipment.
- Managed R&D for mechatronic integration, ensuring seamless operation between mechanical components, sensors, and control interfaces.

Dec 2019 – Jun 2024 | Kulikov Nikolai LLC | Lead R&D Engineer

Development and manufacturing of parts using additive technologies.

Key Responsibilities

- Problem-Solving and Prototyping.
- Designed precision mechanical parts and tooling for prototype manufacturing and small-batch production.
- Conducted testing and performance evaluations, refining designs to ensure efficiency, durability, and reliability under real-world conditions.
- Production Equipment Enhancement.
- Technical process development and documentation.
- Marketing and Promotion.
- Serial Production Setup.
- Client and Partner Relations.
- End-to-End Product Development.

Jan 2023 – Apr 2024 | Seattle Foundation Repairs and BunkerUSA | Senior Mechanical Design Engineer

Seattle Foundation Repair specializes in structural repairs and foundation restoration, while BunkerUSA focuses on the design and development of high-tech underground radiation protection shelters.

Key Responsibilities

- Material and Process Management.
- Equipment and Maintenance Oversight.
- Designed custom solutions for radiation protection shelters.
- Conducted R&D for structural products.
- Client and Project Coordination.
- Patent and Documentation Support.

Education

Sep 2008 – Jun 2014 | Volgograd State Technical University

<https://www.vstu.ru/>

Volgograd, Russia

Master of Science in Mechanical Engineering (Focus: Complex Technical Systems)

Achievements

- EB-1A Extraordinary Ability (Approved 2025, USA).

Awards

- **Deep Tech Pioneer (2024)** – Hello Tomorrow, Paris, France
Recognized for exceptional contributions to deep-tech innovation.

Patents

- **Plasma Power Generator** (Pending Patent, USA, 2025)
- **Stratospheric Ozone generator and injector** (Provisional Patent, USA, 2024)
- **Composite Lightweight Protection Material** (Provisional Patent, USA, 2024)

Personal Interests

- Additive manufacturing
- Deep-tech innovation
- Travel: exploring new locations and cultures