Sean Bordley R&D / NPD / NPI

Experienced in R&D, new product development, and field operations, with a focus on designing, testing, and optimizing robust solutions to ensure enhanced performance, seamless deployment, and reliable real-world maintenance of complex systems.

CORE COMPETENCIES

- Design for R&D & Prototyping: Design, build, and implement custom test fixtures and prototype parts to accelerate iteration and validate system performance.

- Rapid Prototyping & Fabrication: Full-lifecycle development of complex mechanical systems using 3D printing (SLA/FDM), CNC machining, and laser cutting to accelerate R&D iteration.

- Management & Infrastructure: Expert in laboratory expansion, facility design, and space optimization for high-stakes manufacturing and test environments.

- Fleet Health & Field Engineering: Primary technical owner for autonomous fleets, performing root-cause analysis and hardware-software debugging to drive system uptime.

- Operational Documentation: Author of technical SOPs, build instructions, and documentation to operationalize engineering insights at scale.

PROFESSIONAL EXPERIENCE

ENGINEERING CONSULTING | 2022 – Present

Stealth Robotics Startup (Consultant): Architecting the operational framework and technical health protocols for early-stage robotic workcells; establishing rigorous procedural standards to transition prototype assemblies into reliable, production-ready environments.

UC Berkeley Alumni Association (Implementation Engineering): Implementing and refining a CRM to continuously improve engagement and outreach capabilities.

Hayden.ai (Field Operations Engineer): Led R&D testing and hardware iteration by designing custom test setups for camera calibration and performance validation. Scripted automation to accelerate R&D iteration cycles and conducted environmental durability testing to validate prototype resilience. Retrofitted systems to accommodate experimental hardware for sales demos and field validation.

Castelion (Senior R&D Technician): Spearheaded R&D fabrication by designing and implementing custom test fixtures for thermal, pressure, force, electrical, and explosives testing. Developed a 40% scale R&D rocket system with integrated avionics and recovery systems, enabling the company's first successful launch. Managed R&D lab expansion and complex logistics for prototype deployment.

Galvanize Therapeutics (R&D Lab Management Consultant): Directed R&D hardware development by reverse engineering proprietary connectors and reworking cables to meet FDA standards. Managed outside vendors to deliver R&D prototypes and test fixtures with significantly reduced resource requirements. Designed off-site R&D storage solutions and created documentation for prototype traceability.

Toolkit

Engineering & Lifecycle
CAD: NX, SolidWorks, Fusion 360

PLM: Windchill (BOM/ECO Management)

NPI/NPD: Prototype Optimization, Design for Reliability, Quality Control Analysis

Operations & Fleet
Systems: Linux, OSX, Windows

Software: Atlassian Suite (Jira), HubSpot, edGoogle/Microsoft Suites

Field Ops: Fleet Deployment, Root-Cause Analysis, Calibration

Systems
Cloud & Coding: AWS Administration, Vibe Coding

Infrastructure: Networking, Debugging, Remote Access Management

Bench & Lab Mgmt
Electronics: PCB Rework/Debug, Soldering(0201), Multimeter, X-Ray Inspection

Lab Ops: Space Optimization, Asset Management, Safety Compliance, Supply Chain Procurement

Prototyping: 3D SLA/FDM, CNC (3-axis), Lathe, Laser Cutting, Drill Press, Power/Hand Tools

EDUCATION
BACHELOR OF ARTS
UC Santa Barbara

INTUITIVE SURGICAL | Senior NPD Technician / Lab Manager | 2020 – 2022

Facility & Lab Management: Planned and implemented complex lab space layouts to accommodate team growth and maintain COVID-19 compliance standards.

NPD Engineering: Designed prototype and production parts/tools for E-200 Generator testing.

Precision Hardware Rework: Supported multidisciplinary debugging across software, electrical, and mechanical domains. Performed precision PCB rework and soldering down to 0201 sizes.

Operations & Access: Optimized prototype designs for assembly efficiency and managed remote computer system access to ensure continuous team productivity.

COBALT ROBOTICS | Robotics Technician / Manufacturing | 2018 – 2019

Fleet Support & Production: Assembled, programmed, and repaired a fleet of 100+ autonomous robots for commercial deployment.

Infrastructure Design: Designed, built, and organized a complete manufacturing and test facility, including modular test tracks and interactive QA environments.

Process Automation: Developed automated processes for interface management bring up while ensuring hardware and software data security.

Data Security: Implemented comprehensive security frameworks for hardware and software layers, ensuring the integrity of internal systems and the protection of sensitive customer data.

Leadership & Documentation: Mentored and trained the assembly technician team. Authored technical documentation and detailed build instructions for internal use.

FREELANCE ART DEPARTMENT | Lead / Art Director / Props Master | 2010 – 2018

Project Leadership: Collaborated with directors to execute artistic visions for diverse projects while overseeing budgets and progress reports.

Asset Management: Procured, maintained, and oversaw mission-critical property assets, including hardware, vehicles, and custom sets.

Team Management: Led efficient, specialized teams for projects of varying scale and complexity.