About Portal Instruments

Portal Instruments is redefining how advanced injectable therapies are delivered.

Founded on MIT research, Portal develops innovative drug-delivery platforms that enable patients to self-administer complex biologics safely, comfortably, and reliably. Our lead platform, PRIME Nexus®, is a reusable, software-tunable drug-delivery system designed to support high-viscosity and large-volume injectables, with both needle-assisted and needle-free delivery options depending on therapeutic needs.

Portal partners with biopharmaceutical companies and key players in the medical device ecosystem to integrate our delivery platforms into drug–device combination products that improve patient experience, reduce cost of goods, and support successful commercialization. Guided by human-factors science, rigorous engineering, and real-world usability, Portal is building the next generation of patient-centric drug delivery solutions.

Role Information

Title: Senior Systems Engineer
Reports to: VP of Engineering
Location: Hybrid (Primary location: Boston/Cambridge, MA)

Position Overview

This role is a critical part of Portal's mission to advance PRIME Nexus® toward commercialization. You will work cross-functionally with engineering, quality, regulatory, manufacturing, and external partners to help scale a novel drug-delivery platform that directly impacts patient experience and therapeutic success.

This is an opportunity to take ownership, solve complex problems, and contribute meaningfully at a pivotal stage of Portal's growth.

The Senior Systems Engineer will support the SW, Electrical Engineering, and Mechanical Engineering teams with designing, building, documenting and testing software controlled electromechanical systems.

What You'll Do

Your Impact

- Work closely with software, electrical and mechanical engineers to design, build, document and test electronics systems for next generation electromechanical autoinjectors and related test setups
- Evaluate component and system performance by developing, executing, and documenting verification and validation plans. Evaluate the feasibility of meeting external partner needs.
- Collaborate with cross-functional engineering and manufacturing teams to meet product launch goals

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Key Responsibilities

- Partner cross-functionally to translate requirements into practical, compliant solutions
- Support MRD / PRD development, documentation and lifecycle management
- Support Risk Management documentation (RMF workbook, dFMEAs, pFMEAs, uFMEA) development
- Evaluate component and system performance by developing, executing, and documenting verification and validation plans
- Reliability Engineering / test fixture / test plan development
- Engage with internal and external stakeholders, including vendors and partners

What We're Looking For

Required Qualifications

- Experience with interdisciplinary engineering with a degree related to Mechanical, Electrical, or Software Engineering.
- 5+ years of experience in medical devices, biotech, pharma, or a regulated industry
- Experience working within quality systems (e.g., ISO 13485, design controls)
- Ability to work effectively in a fast paced, collaborative environment
- Experience with soldering, test, measurement setup and basic lab equipment (oscilloscope, DMM, DAQ, etc.)
- Experience with mechanical fabrication for prototypes: machining, and 3D printing
- Proven analytical, reporting, and documentation skills
- Familiarity with ECAD tools such as Altium for schematic capture and PCB layout
- Familiarity with CAD tools such as Solidworks for mechanical design
- Experience with microelectronics and embedded systems
- Experience programming in Python, C and C++
- Experience automating test setups and data acquisition.

Preferred Qualifications

- Experience with drug-device combination products
- Exposure to human factors engineering, usability, or patient centric design
- Experience supporting products through development, validation, or commercialization
- Strong communication skills and comfort working cross functionally

Working at Portal Instruments

Portal offers the opportunity to work on meaningful technology with real patient impact, alongside a highly collaborative and mission-driven team. We value innovation, accountability, transparency, and thoughtful problem-solving—and we believe great work happens when people feel supported and empowered.

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Benefits & Perks

Health & Wellness

- Medical plan options including PPO HSA and HMO HSA eligible plans
- Competitive dental, orthodontic, vision, and accident insurance
- Flexible Spending Accounts (medical, dependent care, commuter)
- Employee Assistance Program with counseling, financial tools, and legal resources

Financial & Protection

- Stock options
- 401(k) with Roth and traditional options
- 100% company-paid short- and long-term disability
- Company paid life and AD&D insurance
- Paid Family and Medical Leave

Rest & Recharge

- 20 days of vacation annually (encouraged to use)
- 13 company observed holidays
- Periodic company-wide holiday shutdowns
- Sick time separate from vacation

Additional Perks

- Daily lunch (Cambridge office)
- Casual dress code
- On site bike room, lockers, and showers (subject to availability)
- Happy hours and company sponsored events
- Annual volunteer opportunities and donation match program

Inclusion & Equal Opportunity

At Portal, we believe all employees should feel they belong, contribute, and thrive. We know that diverse teams create better solutions for diverse patients, and we encourage applicants from all backgrounds to apply.

Portal Instruments is an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, ethnicity or national origin, sexual orientation, gender identity or expression, genetics, military service, age, family status, or disability.

How to Apply

Please submit a resume (and cover letter if applicable) to careers@portalinstruments.com. Candidates will be contacted if their background aligns with Portal's needs.