

Job Description Summary

The Senior Systems Engineer is a strategic technical leader responsible for architecting, integrating, and optimizing advanced Magnetic Resonance Imaging (MRI) systems. This role shapes the future of medical imaging by driving innovation, ensuring system excellence, and influencing product strategy. The Senior Systems Engineer leads multidisciplinary teams, mentors talent, and fosters a culture of collaboration, usability, and continuous improvement. The Senior Systems Engineer translates complex clinical needs into system-level solutions, balancing trade-offs across hardware, software, RF, gradient, and magnet subsystems. They play a critical role in defining system requirements, managing interfaces, and ensuring robust system performance throughout the product lifecycle.

Job Description

Roles and Responsibilities

- **System Architecture & Design:** Define and evolve system-level requirements, interface specifications, and architectural frameworks for next-generation MRI platforms.
- **Integration & Performance Optimization:** Lead integration of hardware, software, RF, gradient, and magnet subsystems. Develop and apply advanced methods for performance analysis, image quality assessment, and trade-off studies.
- **Usability Engineering:** Lead usability studies, workflow analysis, and human factors engineering to ensure MRI systems are intuitive, efficient, and safe for end users. Translate usability findings into actionable system requirements and design improvements.
- **Technical Leadership:** Serve as the principal technical authority for cross-functional teams. Mentor engineers, champion best practices, and guide technical reviews and risk assessments (FMEA).
- **Lifecycle & Compliance Management:** Oversee product development from concept through commercialization and sustaining engineering. Lead system verification/validation, regulatory submissions (e.g., FDA, IEC 60601), and continuous improvement initiatives.
- **Stakeholder Engagement:** Translate clinical and customer needs into actionable system requirements. Collaborate with product management, marketing, service, and external partners to ensure product success and market relevance.

- Innovation & Digital Transformation: Drive adoption of emerging technologies (AI, data analytics, advanced imaging techniques) to enhance system capabilities and clinical outcomes.

Required Qualifications

- Master's or PhD in Electrical Engineering, Biomedical Engineering, Physics, Computer Science, or a related field.
- Minimum 5 years of systems engineering experience in a medical imaging modality, preferably MRI.
- Deep understanding of imaging physics (MRI preferred), system architecture, and clinical workflows.
- Experience in usability engineering, human factors, or user-centered design.
- Proficiency with analysis, simulation, and modeling tools.
- Demonstrated leadership in regulatory compliance, design controls, and safety-critical systems.
- Proven ability to influence product strategy through technical recommendations.
- Broad exposure to hardware, software, and systems design, with technical depth in at least one engineering discipline (Electrical, Mechanical, or Software).

Desired Characteristics

- Hands-on experience with MRI hardware or software development.
- Expertise in MRI system modeling, simulation, or performance optimization tools.
- Familiarity with advanced imaging techniques (e.g., diffusion, spectroscopy, functional MRI).
- Knowledge of signal processing and image reconstruction algorithms.
- Experience working in Agile or hybrid development environments.
- Prior involvement in clinical trials or collaboration with radiologists and technologists.
- Strong background in risk management for safety-critical systems.
- Experience with international regulatory submissions (e.g., CE Mark, MDR).
- Exceptional communication, analytical, and problem-solving skills.

- Self-starter with a proven ability to manage multiple priorities and deliver results.

#LI-VS1

We will not sponsor individuals for employment visas, now or in the future, for this job opening.

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GE HealthCare will only employ those who are legally authorized to work in the United States for this opening. Any offer of employment is conditioned upon the successful completion of a drug screen (as applicable).

While GE HealthCare does not currently require U.S. employees to be vaccinated against COVID-19, some GE HealthCare customers have vaccination mandates that may apply to certain GE HealthCare employees.

Relocation Assistance Provided: Yes