



Our Company

4a engineering GmbH is a leader in the development of specialized testing and simulation solutions for material characterization and battery applications. We use our decades of know-how in the field of characterization and modeling of a wide variety of materials to generate, for example, material data for vehicle crash simulations for many well-known OEMs and Tier 1 suppliers.

Lead Software Engineer .NET (m/w/d)

Shape the architecture and future development of innovative software solutions for materials testing and simulation.

Traboch | Full-time | Up to 20% Remote Work

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Your Responsibilities

- Further develop and modernize our established, proprietary software platform
- Plan and manage test programs and test data
- Acquire measurement data from test rigs, instrumentation systems, and high-speed cameras
- Analyze measurement data, including Digital Image Correlation (DIC)
- Generate Finite Element (FE) models automatically
- Optimize material models for leading FE solvers

Tech-Stack

- Languages: VB.NET (core application), C# (additional modules)
- Platform: .NET Framework 4.8, Windows Forms (x86)
- UI: Telerik UI for WinForms, legacy COM and ActiveX components
- Data Storage: Microsoft Access databases
- Integrations: Measurement systems (NI DAQmx), high-speed cameras, USB and TCP-connected devices
- Simulation: Interfaces to LS-DYNA, ABAQUS, PAM-CRASH, RADIOSS, and LS-OPT
- Licensing: FlexLM
- Tools: Visual Studio, Git, Azure DevOps

Scope of tasks

- Technical Ownership: Gain deep expertise in the software and serve as the go-to expert for architecture, design, and code quality.
- Architectural Modernization: Assess the existing architecture, define a target vision and roadmap, and drive the modernization journey step by step.
- Platform Evolution: Lead the modularization of the application, separate UI, business logic, and data access layers, migrate to modern .NET technologies, and replace legacy components.
- Quality & Engineering Excellence: Establish automated testing, CI/CD pipelines, reproducible builds, code reviews, and comprehensive documentation.
- Product Development: Design and implement new features in close collaboration with our materials testing and simulation experts. This includes integrating new measurement hardware and data formats.
- Technical Leadership & Mentoring: Provide technical guidance to developers, structure development activities, and foster knowledge sharing across the team.
- AI-Driven Software Engineering: Leverage AI tools such as Claude Code and GitHub Copilot for code analysis, refactoring, testing, and documentation. Define best practices and governance standards to ensure the effective and responsible use of AI within the development team.

Your Profile

- Proven experience in leading the architecture and evolution of complex desktop software applications.
- Strong expertise in analyzing existing software architectures and defining modernization strategies and roadmaps.

- Deep understanding of software modularization, separation of concerns (UI, business logic, and data access), and migration to modern .NET technologies.
- Hands-on experience with automated testing, CI/CD pipelines, reproducible builds, code reviews, and software documentation.
- Solid software development skills with the ability to design and implement new features in close collaboration with domain experts.
- Experience integrating hardware interfaces, measurement systems, and complex data formats into software solutions.
- Strong technical leadership and mentoring skills with the ability to guide developers and promote knowledge sharing across teams.
- Practical experience using AI-powered development tools such as GitHub Copilot or Claude Code for code analysis, refactoring, testing, and documentation.
- Excellent communication skills and the ability to balance technical excellence with business requirements.
- Fluent in English; German language skills are an advantage.

Preferred Qualifications

- Background in mechanical engineering, materials science, or finite element (FE) simulation
- Experience with numerical methods and optimization
- Experience integrating measurement systems and hardware, such as NI DAQmx, cameras, and USB- or TCP/IP-connected devices
- Experience with COM interoperability and migrating away from legacy ActiveX components

Benefits

- flexible working hours (flexitime, home office option)
- discounted lunch and free catering of fresh fruits and vegetables, as well as coffee
- ongoing training
- employee events
- company doctor
- weekly fitness classes & monthly yoga class
- company daycare for employees' children
- free parking and electric vehicle charging for private cars



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We are looking forward to your application!

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We offer a monthly gross salary in line with the market (Austrian IT & Consulting Collective Agreement), depending on individual qualifications and professional experience, of at least 4000 EUR (based on 40 hours per week)



I N P H Y S I C S W E T R U S T