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Silurus Software, with **more than 45 expert colleagues** across 6 countries, provides unique expertise, especially in the field of **medical device software development**.

From our **offices in Budapest and Singapore**, we support our partners in developing systems that **comply with strict regulatory requirements**, while flexibly adapting to individual needs.

Our **lead experts have over 20 years of professional experience,** and our **company has been operating in the medical software market for more than 8 years**

SILURUS SOFTWARE

IN NUMBERS

ESTABLISHED IN

2017

COUNTRIES

6

MANAGEMENT WITH

20+

YEARS OF MEDTECH SOFTWARE EXPERIENCE

PROFESSIONALS

45+

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OUR SERVICES

SOFTWARE DESIGN

Development of detailed architecture and system designs for healthcare software

DEVELOPMENT

Full lifecycle development of complex healthcare software

TESTING

Comprehensive testing of our high-quality medical software

QUALITY ASSURANCE

Applying quality assurance systems in accordance with relevant standards

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MEDTECH

- **Medical device development** (methodologies, regulatory requirements: FDA 21 CFR Part 820, ISO 13485)
- **Medical Imaging Device development** (SW)
- Medical **Imaging Platform SW development**
- **Oncology** (Treatment Management, Treatment Planning SW)
- Medical **imaging and communication standards** (DICOM, HL7, IHE)
- **HIS/RIS, OIS**

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AI APPLICATIONS

- **AI Algorithm Hosting Cloud Platform:**

scalable microservice architecture for medical research institutes to deploy imaging algorithms without expensive hardware investment - radiotherapy smart dose calculations, AI image segmentation

- **Endoscopy AI Analyzer:**

prototype tool for real-time image and video analysis, offering contouring and diagnosis assistance for medical professionals

- **Medical Records Analyzer:**

prototype system that parses patient records to identify health concerns, suggest screening tests, and recommend personalized preventive measures

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MEDICAL IMAGING

- We have acquired extensive expertise **in DICOM standards, medical imaging systems,** and **PACS integration**
- We offer efficient solutions for **capturing, processing, and displaying high-resolution medical images**
- We understand the critical requirements of **building reliable imaging software that physicians can depend on** for accurate diagnosis
- We provide effective solutions for **storing complex DICOM data structures in databases,** and develop flexible data models that adapt to evolving standards

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PATIENT JOURNEY MANAGEMENT

- We develop software solutions that support the **entire radiotherapy patient pathway** within hospital systems
- Our solutions cover **patient administration, admission, diagnostic processes, personalized treatment planning, structured follow-up, and automated notifications**
- Our **patient pathway tracking system ensures that new technologies are seamlessly integrated into existing clinical workflows,** significantly improving the efficiency of care deliveryand the quality of healthcare services

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QUALITY MANAGEMENT AND REGULATORY COMPLIANCE

- A **multi-layered testing strategy ensures compliance with MDRand FDA regulations**
- We have extensive experience in **handling sensitive patient data within international healthcare systems**. We apply **advanced anonymization techniques that preserve the utility of data** for medical analysis while meeting the data protection requirementsof various countries

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HOSPITAL SUPPORT

- Our **service team provides immediate on-site or remote support to hospital staff**, while more complex cases are routed through our incident management system to our engineering teams, who deliver swift solutions to ensure uninterrupted hospital operations

- Our **engineers follow a strict, documented investigation processing compliance with medical device regulations.** Once the root cause is identified, they also carry out the necessary repairs or system corrections

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MANAGEMENT TEAM

PÉTER TÖRÖK
FOUNDER AND CTO

DR. LINDA SZÁNTÓ
CEO

ANDRÁS TÖRÖK
HEAD OF SINGAPORE OFFICE

TAMÁS FODOR
HEAD OF SOFTWARE ENGINEERING

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APPENDIX

CLIENT CASE STUDIES

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Medical Image Processing - Algorithm Hosting Platform

Client	**Major European Medical Imaging MNC & International Research Institutions**
Project duration	**30 months**
Silurus Resources	**1 dedicated development team**
Project details	We've developed a sophisticated cloud-based platform for hosting and executing medical image contouring algorithms in radiotherapy planning. Our scalable microservice architecture, built on Azure, provides the infrastructure for deploying and running complex contouring algorithms developed by medical institutions, universities, and research facilities. The platform serves as a robust execution environment, enabling medical facilities to utilize advanced contouring algorithms without investing in expensive local hardware. Through strong partnerships with leading universities and research institutions, we've created a flexible hosting environment that supports various contouring algorithm implementations. Our platform handles the computational demands of these algorithms, manages data flow, and ensures seamless integration with existing hospital systems, all while maintaining healthcare-grade security and privacy standards. This platform significantly reduces infrastructure costs and implementation complexity for healthcare providers, while ensuring high performance and reliability for critical treatment planning processes. The result is more efficient resource utilization and faster access to advanced contouring capabilities in radiotherapy departments.

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Medical Integration Solutions - Healthcare Communication and Imaging Systems

Client	**Global leader in medical imaging & radiation oncology technology**
Project duration	**48 months (ongoing)**
Silurus Resources	**1 integrated development team with team lead and lead developer**
Project details	We've built comprehensive systems for handling DICOM files - the standard format for medical imaging. This involved creating robust parsers that can interpret complex DICOM data structures, implementing efficient storage solutions in databases, and developing flexible data models that adapt to evolving standards. Our systems maintain compatibility with the latest DICOM specifications while ensuring backward compatibility with legacy systems. In the oncology field, we've developed critical communication solutions bridging radiotherapy treatment machines with patient management systems. This has involved implementing both DICOM and HL7 protocols to ensure seamless data flow between different components of the treatment process. Our solutions enabled automated transfer of treatment plans, patient positioning data, and treatment delivery information, significantly streamlining the workflow in radiotherapy departments. The systems handle the complex requirements of treatment preparation, verification, and management. We've also specialized in PACS (Picture Archiving and Communication System) integrations, creating interfaces between various hospital systems. Our solutions ensure secure and reliable communication channels for transferring sensitive patient information, while maintaining data integrity and accessibility. These systems that can handle large volumes of imaging data while providing fast access to critical patient information when needed.

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Medical Software Quality Assurance and Regulatory Compliance

Client	**Global leader in medical imaging & radiation oncology technology**
Project duration	**7 years (ongoing)**
Silurus Resources	**10 specialists integrated across multiple functional teams**
Project details	We provide software lifecycle management solutions for medical systems, with a particular focus on quality assurance and regulatory compliance. This with detailed test planning and strategy development in the project initiation phase. Our DevOps infrastructure leverages Azure build and release pipelines to implement robust CICD processes. These pipelines include automated dll and exe signing for enhanced cybersecurity, ensuring the integrity and authenticity of deployed software components. We've developed sophisticated automated regression testing frameworks that execute test suites and generate comprehensive reports through Azure pipelines, providing immediate feedback on software quality. Following industry best practices, we implement multi-layered testing strategies encompassing unit testing, integration testing, and system-level validation. This includes SMOKE testing for rapid verification of critical functionalities, automated UI testing for consistent user experience validation, and comprehensive non-functional testing covering performance, security, and reliability aspects. Our processes are designed to maintain compliance with EU MDR (2017/745/EU) and FDA regulations, incorporating regular validation and verification cycles. We maintain detailed documentation throughout the development lifecycle, ensuring traceability from requirements through to test results and deployment verification.

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Hospital Technical Support and Field Service Management	
Client	**Global leader in medical imaging & radiation oncology technology**
Project duration	**7 years (ongoing)**
Silurus Resources	**10 specialists integrated across multiple functional teams**
Project details	**Customer Support Workflow** Our field service team provide immediate on-premises or remote assistance to hospital staff. The technicians handle most routine issues and system interruptions in real-time, minimising impact on patient treatment schedules. When field service encounters issues beyond immediate resolution, we activate our structured complaint management system. This ensures minimal disruption to patient care while a permanent solution is developed. **Investigation and Resolution Process** Our teams follow a rigorous, documented investigation process that adheres to medical device regulations and quality protocols, including comprehensive data collection from the affected site, detailed analysis of system logs and user workflows , documentation of the investigation process, root cause analysis, and development and validation of permanent solutions **Quality Improvement Integration** Investigation outcomes feed directly into our quality improvement process. Whether the issue requires a system fix or presents an opportunity for product enhancement, findings are integrated into our product development cycle. This systematic approach ensures that customer experiences directly influence product improvements. Our infrastructure is designed to minimise treatment disruptions while maintaining the highest standards of safety and quality.

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