Our Offer

Our segmentation, registration, simulation, and optimization algorithms are available as command line tools for seamless, customizable integration into target systems.

We specialize in developing tailored software applications based on the SAFIR framework, including the integration of partner-provided algorithms, interfacing with hardware and imaging systems, and researching algorithmic extensions.

To ensure smooth integration that meets partner-specific needs, we offer expert support throughout the process.

Operating under an EN ISO 13485 certified quality management system since 2005, we provide medical device components with comprehensive quality assurance, documentation, and support.

For demonstrations, technical or licensing questions, and further inquiries, contact our experts. We offer customized solutions tailored to your needs.

Further Information
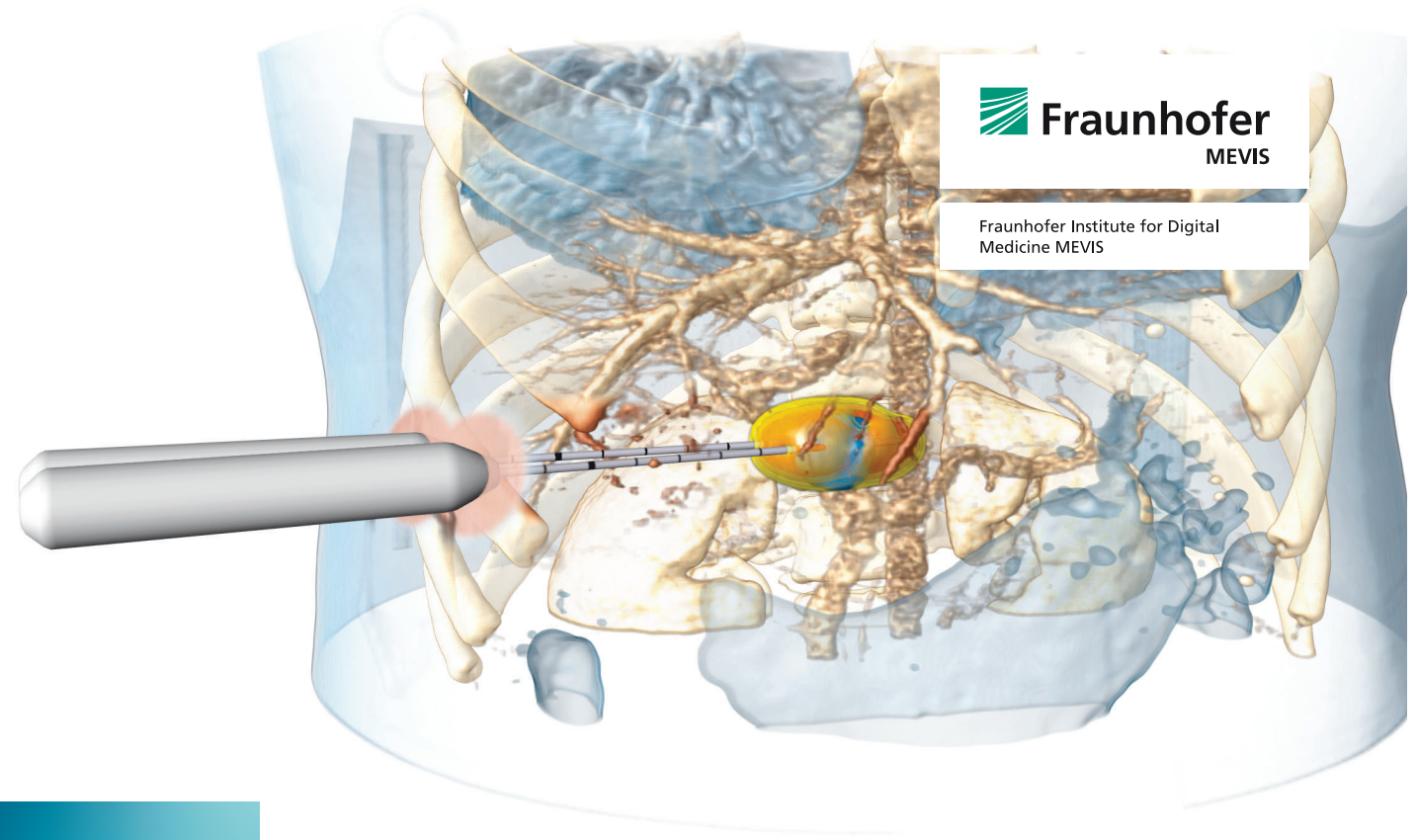
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Fraunhofer Institute for Digital Medicine MEVIS

**Software Assistance for
Image-Guided Interventions**

SAFIR & IGT Algorithms

Solution

SAFIR: A Comprehensive Software Platform for Image-Guided Interventions

SAFIR is a suite of AI-driven algorithms, and a software framework designed for minimally invasive, image-guided interventions. It efficiently supports the entire clinical workflow, from planning and intra-interventional guidance to therapy confirmation.

SAFIR streamlines planning by automating intervention target and risk structure detection, eliminating manual steps like contouring, image fusion, and access path determination. This high degree of automation optimizes clinical workflows.

During intervention, SAFIR integrates planning data with the intra-interventional scenario and connects to imaging as well as navigation systems, or robots for enhanced support and monitoring.

Post-intervention, SAFIR enables efficient therapy confirmation by comparing planned versus actual outcomes.

Benefits

SAFIR is designed to enhance image-guided interventional workflows by seamlessly integrating advanced image processing algorithms into a user-friendly clinical tool.

SAFIR supports the entire image-guided interventional workflow with a single application. It combines reliable intervention planning, with intra-interventional guidance, and therapy confirmation.

As cancer, cardiovascular, and orthopedic interventions rise globally, SAFIR reduces interventional complexity, time-consuming pre-planning, and post-intervention confirmation in one application.

Selected algorithms can be extracted from the framework and easily integrated into third-party systems to enhance workflows there as well.

Validated by leading clinical sites, SAFIR's algorithms are used routinely in clinical practice, offering proven and reliable technology for radiologists.
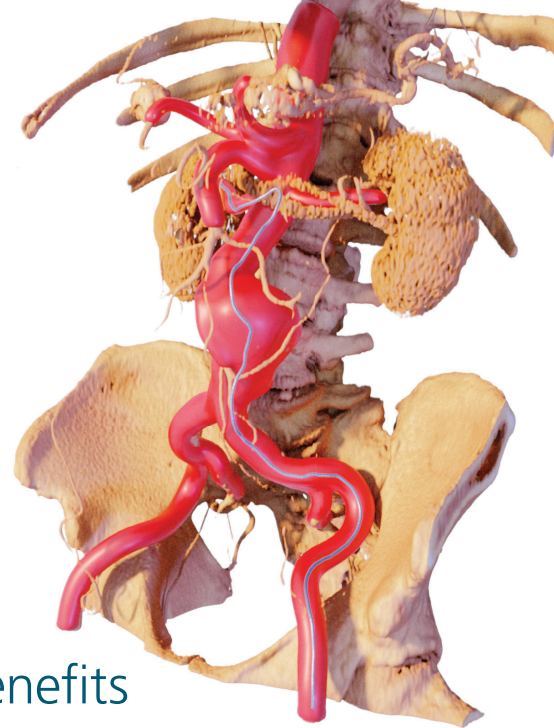
Key Features

Software Framework
SAFIR can be customized to the need of our commercial partners, equipped with EN ISO 62304 compliant documentation, and is ready for interfacing with imaging, navigation, and robotic systems.

Image Segmentation
Target and risk structures can be reliably segmented in pre- intra- and post-interventional images.

Image Registration
Fast, highly accurate multi-modal registration algorithms transfer information throughout the therapeutic workflow. These include rigid, local-rigid, and deformable registration methods that combine image intensities with segmentations.

Advanced Algorithms
Algorithms for optimal treatment proposals, as well as patient-specific treatment prediction enable patient-individual and reliable therapy delivery.