

Transforming Innovation into Impact.

Fraunhofer Hybrid OR for Usability, Validation, Engineering, and Training

Located in the heart of the Mannheim University Hospital campus, the Clinical Health Technologies department offers an experimental hybrid operating room as a key infrastructure component and technology development platform. This allows for the development and testing of medical technology innovations and processes in a clinical environment. This early work in a realistic scenario facilitates the transfer of developments into actual clinical application.

The hybrid operating room is also made available to companies as part of projects with the Clinical Health Technologies department.

Among other things, the hybrid operating room is equipped with a state-of-the-art, X-ray-compatible operating table, operating room lighting, and a Siemens Artis Zeego system. This enables not only trials on mannequins but also technical testing. It is therefore possible to create scenarios for testing a system or verifying an idea. Specialists with extensive experimental experience can be consulted as needed.

Our service offering

Usability & Design

- User-centered product analysis and human-machine interaction (eye tracking, video analysis, expert interviews)
- Usability testing in a real-world laboratory
- Methodical and systematic process support and agile implementation of solutions (rapid prototyping)

Validation

- Demonstrating technical performance
- Efficiency analysis in a real-world laboratory
- Verification of radiographic compatibility and requirements using standardized test specimens and intraoperative X-ray imaging
- Benchmarking
- Examination using anatomical models

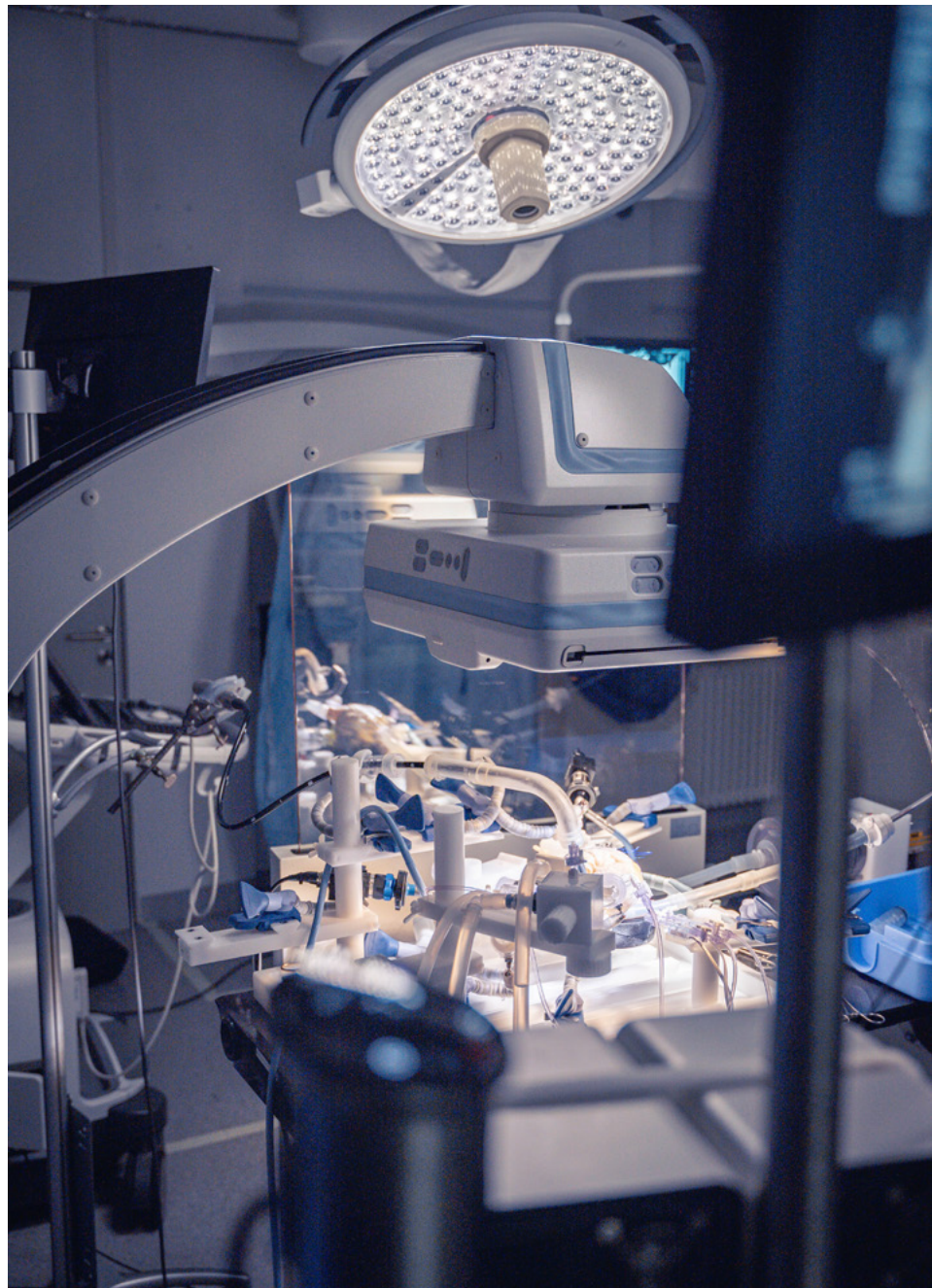
Development support

- Application of co-creation and design thinking methods
- Methodical development of mechatronic and cyber-physical systems (e.g., according to VDI/VDE 2206)
- Fraunhofer technology portfolio
- Technology scouting
- AI data analysis and modern communication standards
- System integration (PACS, HIS, LIMS) and interoperability (FHIR, DICOM)
- Hardware-in-the-loop testing on our own development environment

Training & Education

- Evaluation & Feedback by Key Opinion Leaders
- Training of clinical users on novel solutions
- Connected seminar room for training and analysis
- Live streaming and documentation

Feel free to contact us!



Contact

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