

Collaboration opportunities

We offer a wide range of opportunities for collaboration with the MIRO Innovation Lab that are tailored to your needs:

- From the idea to the product: strategic development partnership
- Feasibility studies without risk, but with a lot of profit: research cooperation
- Publicly funded research: application and formation of consortia at EU, federal and state level
- Quick help for acute research and development needs: technology development, analysis and optimization
- Technologies in stock: Licensing and transfer of already tested and successfully implemented technologies
- Valuable contacts: Complementary network of industry, research and clinical partners in Europe

Your advantages

- Time and cost savings through early chance and risk analyses
- Access to the latest research results
- Hardware and software development from a single source
- Comprehensive know-how in the entire breadth and depth of robotics
- Experienced research team
- Licensable technologies

Imprint

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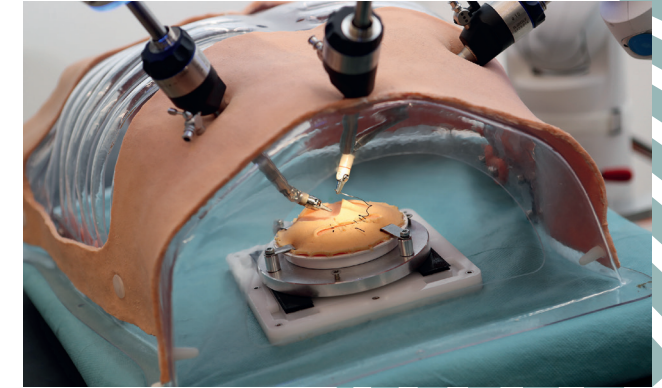
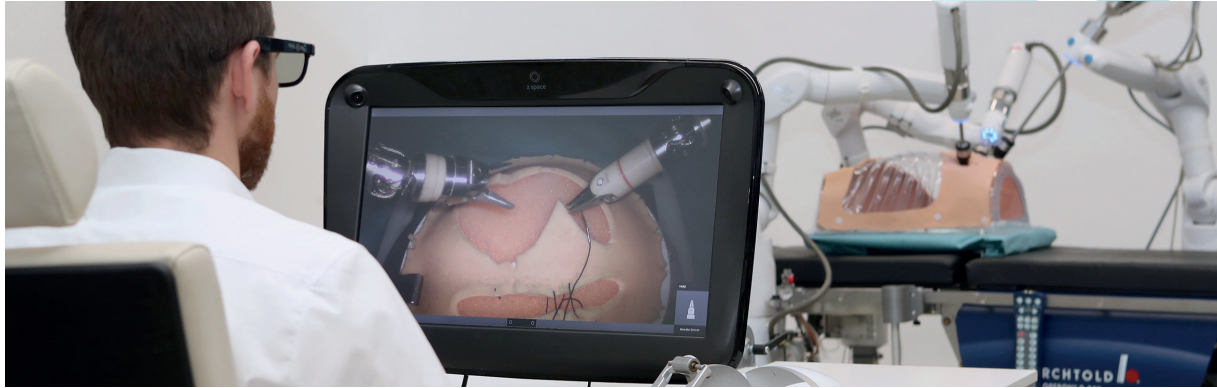
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The MIRO Innovation Lab

Competence Center
for Medical Robotics





Science and business closely linked

Medical robotics is a strong growth market: From diagnosis to treatment, robotic assistance systems are already in use in many medical areas. Due to the increase in robotic applications, patients should be treated even more gently in the future, and doctors and clinical staff should be relieved to a greater extent. The **MIRO Innovation Lab** builds on this point. The Competence Center for Medical Robotics, founded in 2017 at the Institute of Robotics and Mechatronics of the German Aerospace Center (DLR), is funded by the Helmholtz Association and is an interface between industry, research and clinical partners. Our goal is to apply innovative technologies from the field of medical robotics quickly and efficiently.

Innovations for the industry

Robotic developments are lengthy and expensive. In addition to in-depth know-how, an extensive infrastructure of hardware and software is required to develop and implement new applications. We offer tailor-made solutions for collaboration to medical technology manufacturers and suppliers, regardless of the size of the company and the depth of existing robotic expertise. Furthermore, as a local hub in the European network **DIH-HERO** (Digital Innovation Hubs in Healthcare Robotics), we ensure European networking in the field of robotics in healthcare.

Technology transfer from DLR

In order to strengthen the technology transfer, DLR, as a renowned research institution, invests in innovative technologies. One of the greatest strengths of the Institute of Robotics and Mechatronics is the transfer of technologies that were originally developed for use in space to applications on earth and finally to industry and users.

Since the 1990s, the institute has been researching the technology of lightweight robotics - originally for space. This successful development led to the licensing of the technology to **KUKA AG** in 2004. The light weight of the robot arms and the high-performance control allow safe human-robot interaction. This enables the robot to behave in a compliant and safe manner, which in turn is a requirement for applications in medical scenarios. This resulted in the **MIRO®** lightweight robot arm, which was optimised for medical use. MIRO is the core technology of our medical robotics research at DLR, as is the telesurgery system **MiroSurge®**, which consists of two or more MIRO robot arms, depending on the requirements. This development was the basis of a current market success: Technological components of the MiroSurge system were licensed to the company **Medtronic** and can now be found in the new **Hugo™ RAS system** (robotic-assisted surgery).

What distinguishes us

- We are a partner with over 20 years of experience and extensive expertise in the entire spectrum of medical robotics.
- With our own, technically mature MIRO research platform, we can quickly implement and evaluate even complex applications as prototypes.
- We offer flexible and short-term support throughout large parts of the product development process, solutions with a high level of technological maturity, and seamless technology transfer.
- With the help of our network of clinics, science and industry, preclinical studies and user tests are also possible.