

PRESS RELEASE

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MURAB Project

Science and engineering together to improve healthcare in Europe

MURAB (MRI and Ultrasound Robotic Assisted Biopsy) is a European research project about a new robotic assisted biopsy system, it has the ambition to revolutionize the way cancer screening and muscle diseases are researched for patients and has the potential to save lives by early detection and treatment. The project is a collaboration of research, healthcare and business partners working together with a common aim: improving diagnostic techniques with the use of medical imaging combined with robotic technology.

Designed for muscle and breast research, but possibly suitable for other applications, the MURAB project combines the sensitivity of Magnetic Resonance Imaging (MRI) with the accuracy and availability of Ultrasound guided biopsy (US).

MRI identifies the lesions which needs to be biopted, then the information is combined with US scans and localized by an intelligent ultrasound probe able to align the biopsy needle with the lesion. The radiologist inserts the needle manually while the robotic arm keeps it aligned with the lesion. The innovative technique called Tissue Active Slam is able to process the MRI and US information in order to reconstruct a virtual 3D model of the intervention area, ensuring the exact targeting of (small) lesions, which would not be visible under US only.

This new technology based on the precision of robotics will help diagnosis to become easier and faster, larger surgery will be replaced with minimally invasive interventions increasing the safety for the patient as well as the simplicity for the medical operator. Such a procedure has the potential to drastically improve the clinical workflow, lowering healthcare costs and reducing patient discomfort.

“One in eight women will have to deal with breast cancer in their lifetime. Early diagnosis is very important to have a better quality of life and life expectancy. The MURAB project has the ambition to revolutionize the way cancer screening and muscle diseases are researched for patients and has the potential to save lives by early detection and treatment.”

Stefano Stramigioli – MURAB Project leader

The project started in January 2016 and lasts 4 years, it involves 7 partners and it is coordinated by the University of Twente (The Netherlands). The consortium members are technical research institutes as the Universities of Twente and Verona; Clinical partners as the Ziekenhuis Groep Twente (ZGT), Radboud University Medical Center and Medical University of Vienna; Business partners are Siemens and KUKA. This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 688188.

Project Leader: Prof.dr.Ir Stefano Stramigioli (University of Twente)
Project Coordinator: Dr. Françoise J. Siepel (University of Twente)

Email: info@murabproject.eu
Website: <http://www.murabproject.eu/>
Facebook: @murabproject
Twitter: @MURAB_Project



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