




<b>ACMIT</b> <b>Austrian Center for Medical Innovation and Technology</b>	
<b>Hauptstandort</b>	Wiener Neustadt, Niederösterreich
<b>weitere Standorte</b>	Steyr, Oberösterreich
<b>Thematische Schwerpunkte</b>	R&D for instruments, robots and sensor-systems for surgical minimal invasive procedures
<b>Success Story Kurzversion</b>	
<i>New interventional robot system supports microsurgical interventions</i>	
The prototype of an interventional robotic system for biopsy procedures, tumor or pain treatment is currently being developed by the start-up company iSys Medizintechnik GmbH. Accuracy and efficiency of the intervention should be improved with the new robot system. Development of the prototype is performed in close cooperation with the COMET competence center "Austrian Center for Medical Innovation and Technology" (ACMIT).	
<b>Success Story Langversion</b>	
Careful interventions via the skin, in the surgical jargon also called "percutaneous interventions", are applied in micro-invasive fields of biopsy and pain and tumor therapy. The precise adjustment of the needle to the target, for example a tumor or organ, by support of intra-operative imaging is thereby the basic condition for a successful surgical intervention. To date surgeons have only insufficient technical aids at their disposal.	
In order to enhance precision and accuracy of such interventions in the future, a new robotic assistant is being developed by a newly established company iSYS Medizintechnik GmbH. Core of the assistance robot are two robotic positioning modules. These modules are carrying a needle guiding tube holder, into which instruments can be introduced precisely. Using this sort of „third hand“, the physician is able to position the needle or the instrument faster and with higher accuracy. Insertion of the needle is intentionally still made manually by the surgeon.	
<b>Improvement of treatment results</b>	
Apart from an improvement of the treatment results, a clear reduction of the radiation dose for both patient and physician can be expected using the first robot generation. Future joined ACMIT iSYS developments will introduce robot generations which can support virtual pre-operation planning by computer tomography and magnetic resonance tomography. This will further enable automatable treatment steps and even new medical applications.	
<b>Supported by ACMIT</b>	
The development of the prototype takes place in close co-operation between ACMIT, iSYS Medizintechnik GmbH and medical partners. ACMITs role includes performing technical research and development services and translating requests of its medical partners into technical solutions. Beside the hardware development of electromechanical components, software development according to medical standards and proper User-Interface is also within ACMITs responsibilities.	
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