



Press Release

SGInnovate Completes Investment in Deep Tech Startup NDR Medical Technology

Investment marks an important milestone for Singapore's MedTech startup scene

10 April 2018, Singapore: [SGInnovate](#) today announced that it has completed an investment in Singapore-based [NDR Medical Technology](#) (NDR), a startup that is amongst the few pioneers in the world that combines Artificial Intelligence (AI), robotics and computer vision for surgical procedures. Preparatory work is underway for the system to go into pilot clinical trial and commercial application is expected to launch in the first quarter of 2020.

As the first early-stage MedTech startup to receive SGInnovate's direct investment, NDR has developed a proprietary smart robotic guiding system known as Automated Needle Targeting (ANT). The system uses AI and image processing to help surgeons visualise the 3D location of the target lesion in the patient's body. By combining the precision adjustment and guiding technology of ANT with the surgeon's skill and dexterity, surgeons are now able to achieve bull's eye for needle alignment and positioning to target lesions.

"A system that brings AI and a high-precision surgical tool together is a powerful combination. Doctors have told us this system can raise the efficacy of surgical procedures to improve the clinical outcomes and lives of patients," said Steve Leonard, Founding CEO, SGInnovate. "In addition, the underlying technology NDR has built can be applied in other industries. As SGInnovate, our mission is to enable deep tech startups to build from Singapore for the world."

Conventional surgical control systems rely on electronic and mechanical sensors as well as pre-programmed coordinates to perform lesion targeting and this often requires manual intervention by surgeons. ANT represents a marked improvement as it combines both hardware and software for automated needle positioning, achieving an accuracy of up to ± 1 mm. AI based algorithms also allows the system to use training data to continually improve the accuracy of how lesions are targeted.

Over time, the system has the potential to drastically reduce the risks of surgery and shortens the learning curves for surgeons to perform advanced minimally invasive surgeries as compared to invasive surgeries using conventional procedural methods. Patients can also look forward to faster recovery times and lower risks of unwanted side effects.

"We would like to thank SGInnovate for believing in NDR's pursuit in AI Robotics. Surgeries will be automated in the foreseeable future, and data is the key to this medical advancement. With our AI-driven robotics system, surgical procedures will be more precise and surgeons will enjoy greater productivity in the operating theatre." said Alan Goh, co-founder and CEO, NDR Medical Technology. He added, "AI robotics is disruptive and will empower surgeons to perform extraordinarily."

ANT will complement existing imaging modalities like C-Arm fluoroscopy, CT-scan and ultrasound. It can process 2D images to create 3D targets with precision in minimally invasive applications such as lesion biopsy and ablation treatment. NDR is currently working on the deployment of ANT for CT scans and ultrasound imaging. The company plans to expand the use of ANT into other medical applications such as orthopaedics and anaesthesia in the near future.

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About SGInnovate

At SGInnovate, we believe that Singapore has all the resources and capabilities needed to tackle 'hard problems' that matter to people around the world. As a part of the robust startup ecosystem here, our mission is to enable ambitious and capable individuals and teams to imagine, start, build, and scale globally-relevant technologies. With the support of our partners, SGInnovate's priority is to work with deeply-technical founders that have research-originated IP at the core of their company. We back these entrepreneurs through equity-based investments, access to talent, and support in building customer traction. We are prioritising our efforts around Artificial Intelligence, Robotics and Blockchain. These technologies represent impactful and scalable answers to global challenges. SGInnovate is a private-limited company wholly owned by the Singapore Government. For more information, please visit www.sginnovate.com

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