At the forefront of medical technology

Incorporating Artificial Intelligence (AI) with robotics to enhance the reliability of diagnosis.

Being able to expedite the confirmation of cancer and potentially improve clinical outcomes is now possible as a result of the advances brought about by NDR Medical Technology. Powered by AI, NDR’s Automated Needle Targeting (ANT) System facilitates highly accurate and precise needle punctures to specific points in the organs — thereby allowing surgical procedures such as biopsy and ablation to be carried out at an earlier stage.

The beginnings of NDR Medical Technology

NDR Medical Technology was co-founded in 2014 by NTU alumnus Mr Alan Goh (MAE/2005) and Dr Jason Ng.

“In NTU, I was enrolled into Mechatronics after Year 1 and spent a considerable amount of time in the Robotics Research Centre. This, in addition to the curriculum as well as various interactions with the lecturers, provided me with exposure to surgical robotics. Prof Louis Phee (currently Dean of College of Engineering) was my tutor during my undergraduate years, and is now an advisor to the NDR team,” Alan recounted.

Alan started his career in A*STAR after graduation. During his time there, he had developed advanced automation devices for the industry. His co-founder Jason was in the same Engineering team. The duo has since known each other for close to 15 years and worked together on many projects.

After having witnessed a few cycles of economic downturn, Alan realised the need to move into a recession-proof industry with huge opportunities, namely the medical technology industry. Alan always believed that robotic systems would one day have a significant impact on surgical procedures by making it less reliant on individual experience and potentially reducing the risk from human fatigue or judgment. The breakthrough really came about when they were able to incorporate AI with robotic system,

About NTUitive

NTUitive Pte Ltd (“NTUitive” in short) is the innovation and enterprise company of Nanyang Technological University, Singapore (NTU Singapore). It manages the University’s intellectual property, promotes innovation, supports entrepreneurship and facilitates the commercialisation of research.

as such an integration not only enhances the reliability of diagnosis; it also increases overall surgery confidence.

“Ever wondered what NDR stands for? It stands for Nexus Development Research, as we believe translational work has a greater impact on society and economy. Development should always be of utmost importance and leverage upon research. Our aim is to create a commercially viable product with actual usage,” Alan shared.

In 2015, the duo took six months to create a functional prototype and brought it to their previous contacts including doctors, surgeons and clinicians. The medical professionals were amazed at the speed of creating the prototype and that they could already proceed to the next stage — clinical trials. Their invention has since expanded into a platform device that can be used on any organ as long as it involves image guidance.

NTUitive — the first supporter of NDR

“Deep tech requires capital and knowledge, unlike the typical investments venture capitalists would usually make,” Alan shared.

When they pitched their idea to NTUitive, Dr Lim Jui (CEO, NTUitive) — who has a background in anesthesia and surgical intensive care — could easily understand the need for their product.

With the Strategic Research Innovation Fund grant awarded to NDR by NTUitive, the dynamic duo could then expand their team which now comprises mainly of NTU alumni.

What’s next for NDR Medical Technology

The NDR team has since completed functional trials and ventured overseas to obtain validation from clinicians and surgeons in the United States, China, Japan and Europe. As such, the groundwork has been set for the product to be marketed in larger markets abroad in the very near future.

For more information on NTUitive and its complete suite of incubation services, get in touch with them!

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