BioSpectrum
the business of Bio & Health Sciences
ASIA EDITION

# NTU Singapore and Delta Electronics set up S$24 million corporate lab for advanced robotic technologies

07 June 2023 | Company results

**Collaborative robotic systems are set to become a staple as businesses transit into Industry 5.0 around Healthcare sector**


Nanyang Technological University (NTU Singapore) and Delta Electronics, global provider of IoT-based Smart Green Solutions, have established the S$24 million Delta-NTU Corporate Lab for Advanced Robotics, continuing their close collaboration in research & development for advanced technologies.

The lab, supported under Singapore's National Research Foundation's Research Innovation and Enterprise (RIE) 2025 plan, will develop over three years next- generation technologies aimed at overcoming labour shortage challenges for the manufacturing and intralogistics - the logistical flows of goods and materials that take place on a company's site – industries.

Collaborative robotic systems are set to become a staple as businesses transit into Industry 5.0. Such systems include human-touch inspired robots that can adjust their grip to pick up a range of materials to operate in a dynamic environment like hospitals and warehouses.

The joint lab was launched on 7th June in a ceremony attended by Minister of State for the Ministry of Trade & Industry, Mr Alvin Tan; NTU President Professor Ho Teck Hua and Delta Electronics Chairman, Mr Yancey Hai.

Professor Ho said: "This corporate lab with Delta Electronics proves that NTU's research activities are industry relevant. The lab creates opportunities for us to translate our research into impactful, real-world innovations.This is in line with the **NTU 2025** strategic vision, to harness the power of digital and advanced technologies to support the discovery."

Yancey Hai, Chairman, Delta Electronics, Inc.**,** underscored: "long-term cooperation with NTU following the success in the field of cyber- physical systems, especially as our new joint Delta-NTU Corporate Lab for Advanced Robotics has earned the support of Singapore's RIE 2025 initiative. We intend to leverage Delta's smart manufacturing prowess and autonomous mobile robot know- how, as well as our Delta-NTU R&D talent to develop essential technologies for the next-generation of autonomous mobile robots. The innovation milestones of this lab will help multiple industries solve key

challenges, enhance Singapore's long-term resilience, and improve the quality of life of its citizens."

**Deepening collaboration:**

The establishment of the joint lab marks a new phase of the partnership between NTU and Delta Electronics.

In 2016, the Delta - NTU Corporate Laboratory for Cyber-Physical Systems was launched with a focus on using cyber-physical systems to build technological capabilities for use in Smart Manufacturing and Smart Learning. In 2018, the lab was expanded to accommodate more research activities.

The first chapter of the collaboration has achieved success. Over the five years, the team filed 17 patents, of which 8 have been issued, and submitted over 200 papers to journals and conferences. It also supported more than 140 NTU research staff and graduate students, as well as scientists and engineers from the Delta Research Centre in Singapore.

Tzi-cker Chiueh, General Director of the Delta Research Centre, said: "We have secured various patents through our collaboration with NTU Singapore. These achievements demonstrate the high potential for commercialization of the technologies we have developed together. Some of these patents relate to 3D mapping and localization for automated guided vehicles, human tracking and re- identification, and robotic arm manipulation techniques. This intellectual property will serve as a solid foundation for this new lab, and thus, we look forward to working together to meet the complex needs of several industries."

Co-Director of the Delta-NTU Corporate Lab for Advanced Robotics, Associate Professor Andy Khong, said: "Encouraged by the strong foundation laid in NTU's initial collaboration with Delta Electronics, we are now ready to deepen the partnership by moving into research & development for advanced robotics. The joint research team aims to develop cutting-edge solutions that can address real-world challenges in a sustainable manner, in line with NTU's Sustainability Manifesto which aims to strengthen global partnership for sustainable development."