

JOINT NEWS RELEASE

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Schaeffler and NTU Singapore expand research collaboration to focus on robotics, mobility, and Industry 4.0

- *Collaboration to develop smart mobility devices to support Singapore's Smart Nation Vision*

Schaeffler, a leading global supplier for the automotive and industrial sectors, in partnership with **Nanyang Technological University (NTU Singapore)**, today announced the expansion of **Schaeffler Hub for Advanced Research at NTU (SHARE at NTU)** joint lab that aims to accelerate innovation in the areas of future mobility, robotics, and Industry 4.0.

Strategically located in NTU's Academic Building North (ABN), the facility will see researchers from Schaeffler and NTU, including undergraduates, postgraduate students, and PhD candidates across NTU's multiple engineering and technological disciplines apply their knowledge and expertise in key projects to develop applications and components to advance more intelligent industrial manufacturing and operations.

Driving Singapore's digital agenda

With support from various Singapore agencies such as Agency for Science, Technology and Research (A*Star), Economic Development Board (EDB), and National Research Foundation (NRF), the joint lab aims to nurture a collaborative ecosystem by encouraging partnerships in key industrial areas, including new production concepts and advanced manufacturing technologies to support the country's focus on digitalisation and innovation.

This comes as Singapore prioritises its digitalisation and innovation capabilities through various initiatives, such as the Advanced Digital Solutions Scheme¹, which aims to help firms adopt cutting-edge digital solutions such as robotics.

¹ <https://www.imda.gov.sg/programme-listing/smes-go-digital/Advanced-Digital-Solutions>

SHARE's objectives are also aligned with innovation, a core pillar of the **NTU 2025 strategic plan**, to translate knowledge into enterprise that benefits industry and society through partnerships.

NTU President Professor Subra Suresh said: "The Schaeffler Hub for Advanced Research at NTU (SHARE at NTU) rides on the trend of future technologies, where Industry 4.0 has driven new approaches to robotics, mobility, encouraging companies to bring intelligent industrial technology to market. Industry partnerships are a big part of NTU 2025, the University's ambitious five-year strategic plan to tackle some of humanity's grand challenges. The joint lab, which also sees collaboration with government agencies to offer a last mile delivery service, is an example of how SHARE at NTU can translate inventions and creativity into outcomes that enhance economic benefits and quality of life."

Mr Uwe Wagner, Global Chief Technology Officer, Schaeffler Group, said: "At Schaeffler, we have defined six innovation clusters that serve as the basis for offering innovative and sustainable future-oriented technology in growth markets. Our collaboration with NTU is part of our larger SHARE programme, which provides a bridge between academia and our employees to have intensive exchanges and close cooperation in strategic projects. This allows for the development of new technology and insights that enable the transition towards a sustainable and digitalised future."

The Schaeffler SHARE programme comprises a research network with leading global universities. The on-campus concept provides a structured approach focused on applied research in strategically important topics aligned with Schaeffler's strategic roadmap for a fast and thorough transfer of research output into the industry.

Presently, 7 industry-focused projects are being run under three main verticals:

- **Industrial Collaborative Robotics (Cobot):** Creating value-added high-precision sensing and torque-based control in Cobots
- **Industrial Automated Mobile Robot Platforms (AMR):** Development of new AMR concepts as well as modular concepts for more efficient applications
- **Industrial IoT for Smart Factory Applications:** Utilising and supervisory control of Cobots and AMRs in real manufacturing environments

Successful collaboration in driving innovation

The expansion of the collaboration builds on an earlier partnership between NTU and Schaeffler started in 2017 that focuses on joint research and development of smart mobility devices to tackle transportation challenges, which is in line with Singapore's push towards its Smart Nation vision. Schaeffler is also part of the NTU-NXP Smart

Mobility Consortium, which consists of NXP Semiconductors and 12 industry members to advance innovations in smart mobility.

To date, the collaboration between NTU and Schaeffler has seen various successes, which include the implementation of a fully functional **Personal Mobility Device (PMD) prototype**, leveraging Schaeffler's surface technologies to develop small wideband antennas for vehicle-to-everything (V2X) applications, as well as the development of a highly integrated drivetrain for scooters, which was showcased at various events before becoming a Schaeffler product.

In addition, the research and development team at SHARE at NTU recently emerged champions in the Innovation, Hardware, Design and Interfaces category at the 13th International Conference on Social Robotics Robot Design Competition for its **GraviKart robotic push trolley**.

Schaeffler has also partnered with NTUitive, the innovation and enterprise (I&E) company of NTU, to organise the **Schaeffler Innovation Challenge** to tackle the challenges in Singapore's growing urban farming industry via robotics and automation.

The Innovation Challenge this year saw 12 teams comprising students from various faculties pitching their ideas and solutions to overcome some of Singapore's vertical farming industry challenges.

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About Nanyang Technological University, Singapore

A research-intensive public university, Nanyang Technological University, Singapore (NTU Singapore) has 33,000 undergraduate and postgraduate students in the Engineering, Business, Science, Humanities, Arts, & Social Sciences, and Graduate

colleges. It also has a medical school, the Lee Kong Chian School of Medicine, established jointly with Imperial College London.

NTU is also home to world-renowned autonomous institutes – the National Institute of Education, S Rajaratnam School of International Studies, Earth Observatory of Singapore, and Singapore Centre for Environmental Life Sciences Engineering – and various leading research centres such as the Nanyang Environment & Water Research Institute (NEWRI) and Energy Research Institute @ NTU (ERI@N).

Ranked amongst the world's top universities by QS, NTU has also been named the world's top young university for the last seven years. The University's main campus is frequently listed among the Top 15 most beautiful university campuses in the world and it has 57 Green Mark-certified (equivalent to LEED-certified) building projects, of which 95% are certified Green Mark Platinum. Apart from its main campus, NTU also has a campus in Singapore's healthcare district.

Under the NTU Smart Campus vision, the University harnesses the power of digital technology and tech-enabled solutions to support better learning and living experiences, the discovery of new knowledge, and the sustainability of resources.

For more information, visit www.ntu.edu.sg

Schaeffler Group – We pioneer motion

As a leading global supplier to the automotive and industrial sectors, the Schaeffler Group has been driving forward ground-breaking inventions and developments in the fields of motion and mobility for over 70 years. With innovative technologies, products, and services for CO₂-efficient drives, electric mobility, Industry 4.0, digitalisation, and renewable energies, the company is a reliable partner for making motion and mobility more efficient, intelligent, and sustainable. The technology company manufactures high-precision components and systems for powertrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications. The Schaeffler Group generated sales of approximately EUR 12.6 billion in 2020. With around 83,300 employees, Schaeffler is one of the world's largest family companies. With more than 1,900 patent applications in 2020, Schaeffler is Germany's second most innovative company according to the DPMA (German Patent and Trademark Office).
