JOINT NEWS RELEASE

Singapore, 28 November 2023

NTU Singapore and Nanofilm Technologies International launch S$66 million joint lab for innovation of future nanotechnology solutions

Nanyang Technological University, Singapore (NTU Singapore) and **Nanofilm Technologies International (Nanofilm)**, Asia's nanotechnology solutions leader, today launched the **NTI-NTU Corporate Laboratory** to develop next-generation nanotechnology solutions that will benefit a wide range of industries, from consumer electronics and automotive to the biomedical and clean energy sectors.

Researchers in the S$66 million Corporate Lab will apply their expertise to advance the know-how in four areas:

- **Coating Equipment technologies** that are cost-effective and overcome the challenges of depositing protective and functional coatings at a faster rate and over a large area;
- **Advanced Materials** that form coatings with functional and decorative applications, such as coatings to protect surfaces from wear and tear, corrosion, anti-reflective and anti-fingerprint coatings, and alternative non-stick coatings;
- **Nano-fabrication technologies** that enable fabrication of nanoscale optical and sensory components such as lenses that can be used in augmented and virtual reality devices; and
- **Hydrogen Energy**, with a focus on fuel cell technologies for affordable and sustainable hydrogen energy.

The new Corporate Lab, hosted at NTU's Research Techno Plaza, marks Nanofilm's "homecoming". Founded in 1999 by former School of Electrical and Electronic Engineering associate professor Dr Shi Xu, Nanofilm was spun off research conducted on the NTU Smart Campus.

Leveraging its proprietary technologies and core competencies in research and development (R&D), Nanofilm has established itself as the leading provider of nanotechnology solutions in Asia and recently expanded its offerings into Europe.

Through the Corporate Lab, Nanofilm aims to provide a strong growth platform for the next generation of deep-tech entrepreneurs and researchers who are aligned with the national imperatives outlined in Singapore's Research, Innovation and Enterprise 2025 (RIE2025)[1] plan.

The NTI-NTU Corporate Lab was officially launched today by **Mr Heng Swee Keat, Deputy Prime Minister and Coordinating Minister for Economic Policies**.

NTU President Professor Ho Teck Hua said: "The NTI-NTU Corporate Lab builds on NTU's research strengths in electrical and electronic engineering and materials science, and the successes of Nanofilm. This partnership will create a powerful platform to accelerate the translation of research outcomes and breakthroughs into market-ready solutions, propel local technology forward, and expand NTU's impact on industry and society. The Corporate Lab will also play a pivotal role in grooming skilled talent for Singapore's advanced manufacturing sector as it becomes smarter and greener."

Nanofilm Founder and Chairman Dr Shi Xu said: "In the union of Nanofilm's technology and NTU's academic brilliance, our joint lab emerges as a beacon and leader of innovation. Being a homegrown company spun off from NTU, it aligns naturally for us to collaborate in building a strong platform for the next generation of deep tech entrepreneurs and researchers, thus advancing our nation's RIE objectives. We have every confidence that this corporate lab will significantly elevate our nation's technological progress."

Nanotechnology solutions for the future

The new Corporate Lab supports NTU's Smart Campus vision, which aims to develop technologically advanced solutions for a sustainable future, and leverages the expertise of NTU faculty in areas such as smart electronics, clean energy, and materials science. It also builds on Nanofilm's nano-engineering capabilities and its wealth of industry experience in developing advanced materials and nanoproducts for film coating.

Research outcomes from the Corporate Lab are closely aligned with market needs and are set to contribute to the entire value chain, such as increasing the productivity of upstream engineering activities while reducing downtime and material waste.

NTU Vice President (Industry) Professor Lam Khin Yong said: "The NTI-NTU Corporate Lab is another example of NTU's focus on industry partnerships to ensure that our research solutions result in translational outcomes for both industry and society that address real world challenges. With the Corporate Lab's research thrusts

[1] The RIE2025 lays the groundwork for Singapore's science and technology efforts from 2021 to 2025.

closely aligned with the national priorities outlined in the RIE2025, the research outcomes from this collaboration will contribute significantly to Singapore's status as an innovation hub for manufacturing and future energy solutions. The collaboration will also be able to support the SMEs by providing complementary research activities that will reduce R&D expenses by means of value-chain integration."

Leading the Corporate Lab as co-directors are **Professor Tay Beng Kang** from NTU's School of Electrical & Electronic Engineering and **Dr Eric Phua Jian Rong** from Nanofilm.

At launch, 10 industry-focused projects have been identified.

One such project is the development of **biocompatible coatings for medical implants**. With increasing life expectancy, the demand for longer-lasting medical implants is expected to go up. In this project, researchers will focus on developing protective coatings that are more resistant to wear and tear, and at the same time do not cause any biological reaction when the implant is introduced to the body.

Another project looks at developing **components used in hydrogen fuel cells** to make them more efficient, with the goal for these fuel cells to be used as viable power sources. Hydrogen fuel cells are important building blocks in a hydrogen economy, but they have been plagued by cost and durability issues linked to fuel cell components. In this project, researchers will look into how protective coatings for fuel cell components can help to make hydrogen fuel cells more efficient, reliable, and affordable.

The 10 projects will draw on the expertise of 22 scientists and engineers from NTU and Nanofilm. The NTI-NTU Corporate Lab plans to hire another 27 researchers and train 13 PhD candidates to work on these projects.

END

Media contact:

Foo Jie Ying
Assistant Director, Corporate Communications Office
Nanyang Technological University
Email: jieying@ntu.edu.sg

Paige Gan
Senior Manager, Corporate Marketing
Nanofilm Technologies International Limited

Email: paige.gan@nti-nanofilm.com

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, Medicine, Humanities, Arts, & Social Sciences, and Graduate colleges.

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

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.

Ranked amongst the world's top universities, the University's main campus is also frequently listed among the world's most beautiful. Known for its sustainability, NTU has achieved 100% Green Mark Platinum certification for all its eligible building projects. Apart from its main campus, NTU also has a medical campus in Novena, Singapore's healthcare district.

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

About Nanofilm Technologies International

Nanofilm's core business is in providing coating services, thin-film coating equipment solutions, nanofabrication solutions and fuel cell solutions. Established in 1999 and headquartered in Singapore, Nanofilm currently stands as Asia's leading provider of nanotechnology solutions, boasting a strong culture of innovation and a specialization in advanced materials and nanoproducts. The foundation of Nanofilm's commitment to excellence lies in its coating solutions, crafted to enhance the properties of everyday items, in alignment with its vision to integrate nanotechnology in advanced materials and nanoproducts into daily lives. With a legacy of pioneering technology spanning several decades, the company's every invention and action is driven by its dedication to assisting its customers in achieving their objectives and promoting a sustainable world. Nanofilm has a global footprint of more than 3,000 employees in Singapore, China, Japan, Vietnam and now Europe.

For more information, visit www.nti-nanofilm.com