

## **Joint News Release**

Singapore, 31 July 2018

### **Surbana Jurong, NTU and NRF launch S\$61 million joint corporate laboratory to develop sustainable urban and industrial solutions**

Surbana Jurong, Nanyang Technological University, Singapore (NTU Singapore) and the National Research Foundation Singapore (NRF) have set up a joint corporate laboratory to develop next-generation sustainable solutions to tackle industrial and complex urban challenges.

It will include research to explore underground storage systems, sustainable indoor solutions for buildings, and digital technologies to scale up productivity in the built environment.

The \$61 million joint corporate lab is underlined by a five-year partnership, which leverages NTU's strengths in engineering and sustainability research, and Surbana Jurong's track record in providing urban, infrastructure and industrial solutions to its global customers.

Located at NTU, the **SJ-NTU Corporate Lab** was officially launched today by Mr Lawrence Wong, Minister for National Development and Second Minister for Finance.

The NRF facilitates the setting up of corporate labs via public-private partnerships. The SJ-NTU Corporate Lab is the 12th supported by NRF and the sixth such corporate lab at NTU.

**NTU President Professor Subra Suresh** said, "The current dramatic shift to a digital and sustainable economy requires societies to push the boundaries of urban and industrial innovation, and develop new technologies that balance the built and natural environments.

"The innovations developed at the SJ-NTU Corporate Lab will be tested on NTU's Smart Campus, which is already pioneering the use of green construction technologies and is a testbed for innovations from autonomous electric vehicles to smart buildings and various applications of artificial intelligence."

**Mr Wong Heang Fine, Group Chief Executive Officer of Surbana Jurong** said, "Rapid urbanisation, climate change and digitalisation are major trends that will continue to shape and transform the built environment. Leveraging Surbana Jurong's global industry experience in the urban and infrastructure sectors and NTU's world-class research capabilities, the SJ-NTU Corporate Lab aims to develop innovative and

sustainable solutions that will alleviate near term urban challenges and improve lives for people around the world. The Lab will be working on projects which will not only be game changers for Singapore but will also help to further establish Singapore as a global hub for sustainable urban and infrastructure solutions.”

**NRF Chief Executive Officer Professor Low Teck Seng** said, “Singapore is well placed to be an international hub for sustainable urban solutions with our strong research and translation capabilities in areas such as energy efficiency, water, urban mobility and waste management. The partnership between Surbana Jurong and NTU underscores Singapore’s capability to translate research outcomes into solutions that can be adopted for city living that is green and comfortable for Singaporeans. It will also strengthen our ability to export next-generation smart and urban solutions to other cities facing similar challenges arising out of urbanisation.”

### **Championing sustainable solutions for the urban environment**

The key objectives of the SJ-NTU Corporate Lab will be to translate research outcomes into practical and viable solutions that are focused around three core themes: digitalisation; green and sustainable urban solutions; and future of the industry and productivity.

**Professor Lam Khin Yong, NTU’s Vice President for Research** said, “The three key areas of research in the corporate lab draw on the strengths of NTU and Surbana Jurong as we both have expertise in engineering and in the translation of research into practical industry applications. With five recent corporate labs and a strong track record of working with industry players, NTU has the experience and confidence to ensure research innovations nurtured at the lab can be developed into relevant applications that benefit the industry and society.”

Kicking things off, researchers will be working on 11 projects that are aimed at optimising land usage, future-proofing buildings and infrastructure, and transforming the way buildings are designed and constructed.

For example, researchers will develop a thermal management system and an indoor air quality system that is not only energy efficient, but also uses a botanical solution to purify the air. Integrating selected plants with architectural and interior design, indoor air pollutants would be reduced while creating a natural and lush indoor environment.

Another project involves a chilled ceiling technology that uses special composite materials for ceiling panels which are linked to a central monitoring system. The composite panels transfer heat more effectively than conventional aluminium panels, reducing the need for air-conditioning and improving energy efficiency.

On the digital front, researchers will look into creating technologies to scan and map the external and internal parts of building structures such as piping networks, to create Building Information Models. The solution aims to improve the efficiency of facility managers and change the way buildings are managed and maintained.

## **Next-generation solutions for industry**

The multidisciplinary Lab will include NTU scientists from various fields and Surbana Jurong professionals. In its fully operational state, the lab will have 70 researchers, including NTU undergraduates and PhD students.

For a start, researchers will explore underground storage spaces for storing liquefied natural gas (LNG) in industrial and urban areas so that space aboveground can be freed up for other uses. The storage of LNG within these spaces will be kept at below 162 degrees Celsius to ensure it remains in a liquefied state.

Asia's first 'Cold Lab' that will develop 'Cold Energy Capture' and 'Cold Energy Storage' technologies will also be set up. These technologies harness cold temperatures produced during regasification, a process where LNG is converted back to natural gas at atmospheric temperature. The harnessed cold energy could power various industrial applications such as cooling systems in warehouses and data centres.

\*\*\*END\*\*\*

### **Media contact:**

Nur Amin Shah  
Corporate Communications Office  
Nanyang Technological University, Singapore  
Tel: +65 6790-6714; HP: +65 8189-1029  
Email: [aminshah@ntu.edu.sg](mailto:aminshah@ntu.edu.sg)

Mabeline Chan  
Group Communications & Branding  
Surbana Jurong  
Tel: +65 6248-1812; HP: +65 9745 8572  
Email: [mabeline.chanms@surbanajurong.com](mailto:mabeline.chanms@surbanajurong.com)

Abigail See  
Assistant Head, Corporate Communications  
National Research Foundation Singapore, Prime Minister's Office  
Contact: +65 6684 2914; +65 9618 8585  
Email: [Abigail\\_SEE@nrf.gov.sg](mailto:Abigail_SEE@nrf.gov.sg)

### ***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 colleges of Engineering, Business, Science, Humanities, Arts, & Social Sciences, and its Interdisciplinary Graduate School. It also has a medical school, the Lee Kong Chian School of Medicine, set up jointly with Imperial College London.

NTU is also home to world-class 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 12th in the world, NTU has been placed the world's top young university for the past five 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 comprising more than 230 buildings, of which 95% are certified Green Mark Platinum. Apart from its main campus, NTU also has a campus in Singapore's healthcare district.

For more information, visit [www.ntu.edu.sg](http://www.ntu.edu.sg)

### ***About Surbana Jurong***

Surbana Jurong is one of the largest Asia-based urban, industrial and infrastructure consulting firms in the world. Leveraging technology and creativity, Surbana Jurong provides best-in-class consultancy solutions across the entire value chain of the urbanisation, industrialisation and infrastructure domains.

Headquartered in Singapore, the Surbana Jurong Group has a global workforce of 14,000 employees in more than 120 offices across over 40 countries in Asia, Australia, UK, the Middle East, Africa and the Americas, and an annual turnover of around S\$1.5 billion.

Surbana Jurong has a track record of close to 70 years, and has built more than a million homes in Singapore, crafted master plans for more than 30 countries and developed over 100 industrial parks globally.

Surbana Jurong's motto 'Building Cities, Shaping Lives' reflects its belief that development is more than just steel and concrete. Surbana Jurong creates spaces and designs infrastructure where people live, work and play, shaping cities into homes with sustainable jobs where communities and businesses can flourish.

For more information, please visit [www.surbanajurong.com](http://www.surbanajurong.com)

### ***About the National Research Foundation Singapore***

The National Research Foundation (NRF) is a department within the Prime Minister's Office. The NRF sets the national direction for research, innovation and enterprise (RIE) in Singapore. It seeks to invest in science, technology and engineering, build up the technological capacity of our companies, encourage innovation by industry to exploit new opportunities that drive economic growth, and facilitate public-private partnerships to address national challenges.

Under RIE2020, NRF is committed to create greater value in Singapore from our investment in research, innovation and enterprise through 1) closer integration of research thrusts, 2) stronger dynamic towards the best teams and ideas, 3) sharper focus on value creation, and 4) better optimised RIE manpower.

For more information, visit [www.nrf.gov.sg/RIE2020](http://www.nrf.gov.sg/RIE2020).