



NEWS RELEASE

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NTU Singapore unveils Gaia, the largest wooden building in Asia

Nanyang Technological University, Singapore (NTU Singapore), has officially launched its eighth zero energy building on Wednesday (17 May), adding to its list of green developments as part of the university's commitment to sustainability.

Named **Gaia** after the Greek goddess of Earth, the 6-storey development is the **largest wooden building in Asia**, and is a space for learning, research and innovation, where NTU students, faculty and staff can meet and connect to uncover new opportunities for collaboration and discovery.

Gaia is the eighth building project on the NTU campus that has received the Green Mark Platinum (Zero Energy) – the highest award issued by the Building and Construction Authority of Singapore to recognise buildings that consume as much energy as they produce. Presently, there are 16 certified zero energy buildings in the country, of which half are located on NTU grounds. This makes NTU the greenest campus in Singapore.

The building project is built using an innovative construction technology known as mass engineered timber. The green technology was first adopted for the construction of NTU's mega sports hall, The Wave, launched in 2017. The two buildings are the works of Japanese architect, Toyo Ito, a Pritzker Prize recipient known for designs that incorporate elements of nature. The award is commonly referred to as the "Nobel Prize" of architecture.

The launch ceremony today was attended by **Minister for Education, Mr Chan Chun Sing and NTU President Professor Ho Teck Hua**. Among those present were NTU Pro-Chancellor Ms Jennie Chua, Chair, NTU Board of Trustees, Ms Goh Swee Chen, other board members, university partners and industry collaborators.

Guest-of-Honour Mr Chan, said, "I am heartened that our Institutes of Higher Learning (IHLs) are deeply committed to building and sustaining green campuses. As part of the Singapore Green Plan 2030, our IHLs play an important role in making sustainability a competitive advantage for Singapore. Gaia is a testament of NTU's continued efforts to be a leading sustainable university. I look forward to more

innovations from the community, as we all do our part to create a sustainable future.”

Professor Ho said: “The building was designed to connect humans to their natural surroundings. Students and faculty benefit from the extensive open spaces for study and collaboration. The spaces have ample natural light, creating an environment conducive to social interaction. People will experience first-hand what it means to work, learn, and socialise in a sustainable environment.”

Championing sustainability

As its name suggests, Gaia is constructed with sustainability in mind. Compared to a normal building, Gaia produces about 2,500 fewer tonnes of carbon dioxide (CO₂) per year - equivalent to more than **7,000 roundtrip flights from Singapore to Hong Kong**.

The emission reduction is achieved through energy efficient systems and renewable technologies.

Timber used for the construction of Gaia were sourced from sustainably managed forests, which means new trees are planted to replace those that are harvested. The carbon offset from planting trees to replace those used in Gaia totals 5,800 tons of CO₂ – same as the carbon footprint of about 17,000 return flights between Singapore and Hong Kong.

Solar photovoltaic (PV) panels installed on the rooftop churn out 516,000 kilowatt-hours (kWh) of clean energy to power the building annually – enough to power **169 three-room HDB flats** for a year.

Instead of fans, Gaia has sun shading fins along parts of its facade and incorporates extensive open areas, terraces, and air wells to increase ventilation.

Its air-conditioning system saves energy by using passive cooling coils to chill the air without the use of fans (Passive Displacement Ventilation). These coils work by creating a natural convection cycle, cooling the air as it sinks downwards, which displaces the warm air upwards.

External façade bricks from the NTU Innovation Centre, which previously stood at where Gaia is located, were preserved, and re-used to build a decorative wall in the building, in a nod to NTU’s heritage.

Nanyang Business School to occupy new space

The 43,500m square-metre facility is home to the Nanyang Business School (NBS).

As part of NTU's Smart Campus initiative, all of Gaia's classrooms and laboratories are equipped with the latest technologies, providing students and faculty access to world-class facilities to support flexible and collaborative learning into the future.

The new building will also allow NBS to showcase its sustainability capabilities. Plans for sustainability related programmes in Gaia are underway, in collaboration with industrial collaborators, to inspire more to learn and live sustainably through an in-person experience.

Mr Ethan Ong, a third-year double degree Accountancy & Business student and Vice President (Policy), NTU Students' Union, said, "My friends and I are excited to be moving into Gaia because it has a lot more open areas for communal activities compared to our current Business School premise. We look forward to utilising the space for student bonding activities. There are also not many buildings in the world that are constructed entirely from wood, and we recognise just how meaningful it is to be studying in this special building, which symbolises the university's commitment to sustainability."

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Gaia by the numbers

Gross floor area: 43,500 square metres

Building height: 6 storeys

Auditorium: 1 (190 seats)

Lecture Theatres: 12

Seminar Rooms: 15

Study Rooms: 78

Office: >200 faculty offices, >132 PhD offices, >12 general offices

Other facilities: 12 Laboratories, 13 meeting rooms, 1 boardroom

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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, 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, 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).

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, over 97% of its building projects are certified Green Mark Platinum. 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