



singapore

## NTU's new sports hall is first SEA mega building built using innovative green tech



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NTU unveiled its new sports hall, The Wave, on Monday (April 24). Opened by Minister for National Development Lawrence Wong, it is the region's first sustainable sports hall. It is the first in Southeast Asia to be built using an innovative wood construction technology. Photo: Wee Teck Hian/TODAY

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SINGAPORE — A three-storey high sports hall with a 72m wave-like roof, housing three full-sized basketball courts built without a single internal pillar was officially opened at the Nanyang Technological University (NTU) on Monday (April 24).

NTU's new mega sports hall – named The Wave – was constructed using an innovative timber construction technology known as mass engineered timber, and is the first large-scale building in South-east Asian built using this green technology.

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National Development Minister and Second Minister for Finance Lawrence Wong officiated at the opening of the facility which has 980 mechanised retractable seats.

Buildings with large roofs typically require scaffoldings as support, and beams may also have to be orientated along the shorter side of the structure. But, The Wave was built with external columns that support seven timber arches weighing over 440 tonnes, used to build the hall's roof.

Mr Wong said the building marks a “new milestone in Singapore’s push to be more productive in construction”.

“We are very glad that NTU is supporting this effort. Their focus on environmental sustainability and openness to new building materials and methods show what we can achieve together. This gives us confidence that we can continue to build a better and more sustainable Singapore in the years to come,” he added.

The Wave provides five times better heat insulation than concrete and has a special cooling system that chills the air as it enters the hall so that no conventional air-conditioning systems are needed.

For example, each external wall has two layers with a pocket of air between them that insulates the heat on hot days. The walls have special metal coils installed with chilled water flowing through them. This cools the wind that enters the hall allowing warmer air to escape through convection.

These features are estimated to reduce energy use by over 40 per cent, according to NTU.

Other eco-friendly features include energy-saving LED lighting and solar powered systems.

Sports science and management undergraduate Vernetta Phang, 21, had a good experience playing in the new hall during her inter-hall games. The athlete said: “It feels a lot newer and open as compared to the old one, especially since it has more ventilation and higher roof, so the entire space feels bigger. Generally I think the entire place looks a lot more ‘fresh’ because of the used of wooden floor and walls.”

She looks forward to playing more matches in the new facility as it is “clean and spacious” and “a lot bigger compared to the old sports hall”.

The Wave is the newest building in the university constructed using green technology. Other NTU buildings that are built using green technologies include The Hive, which won the BCA Green Mark Platinum Award in 2013.



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