



Photo: Steeltech Industries PTE Ltd.



Nanyang Technological University (NTU)

Nanyang, Singapore

On completion, Nanyang Technological University (NTU) will be the largest timber building in Asia with six storeys and a total of 40,000m². The natural building material wood plays an important role in Singapore's "Green Building Masterplan", which is why the Japanese star architect Toyo Ito decided in favour of this material for the construction of NTU. WIEHAG processed a total of 6,000m³ of glulam for 1,900 columns and 1,660 beams. 7,000m³ of CLT ("cross laminated timber") from Stora Enso was used for the ceiling structure. With the help of six cranes and in some cases up to 40 fitters, the assembly of the timber components was completed relatively quickly.

The building has a 345 kW photovoltaic system on the roof. It utilises the windy conditions in the surrounding area to cool the common areas naturally. A PDV system (passive displacement ventilation system) was chosen to regulate the temperature in the classrooms and offices. Due to the climatic conditions, a heating system is not necessary.

Technology Award

WIEHAG GmbH for timber construction

Companies involved

Building owner

- Nanyang Technological University

Architecture

- Toyo Ito & RSP

Timber construction

- WIEHAG GmbH
- Stora Enso

Facts

University building

- Completed in 2022
- Total area: 40,000 m²

Characteristics

- Photovoltaic yield: 414,000kWh/a

Energy and environmental aspects

- Solid timber construction with 6,000 m³ glulam and 7,000 m³ CLT
- Rapid assembly
- Photovoltaic system
- PDV system
- Wind as natural cooling

Building labels and awards

- BCA GREEN MARK PLATINUM ZERO ENERGY



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