

BUILDING THE FUTURE

Surbana Jurong Group cements place among world's top architectural firms with city design that is built to last



Chantal Sajjan
Senior Correspondent

From meticulously restoring a forgotten Art Deco shophouse in Singapore's Orchard Road to designing a "secret garden" to distract young children undergoing treatment in Shenzhen Children's Hospital in China, Surbana Jurong Group is poised to take on the world with its growing portfolio of projects.

So far, the group has built more than a million homes in Singapore, created masterplans in more than 60 countries and developed more than 100 industrial parks globally.

The Singapore-based global urban, infrastructure and managed services consulting firm was recently ranked No. 14 on the World Architecture 100 list, also called the WA100.

It is global magazine Building Design's much-anticipated annual survey of the world's largest design and engineering practices, ranked according to the number of registered architects employed.

It is not the first time a Singapore firm has ranked highly in the WA100 list.

In 2018, DP Architects was ranked the eighth largest in the world. It was No. 17 last year, but is not on the list this year. RSP Architects ranked No. 35 this year, down from 29th place last year.

Mr Wong Heang Fine, group chief executive of Surbana Jurong Group, says the achievement "reflects a focus on building design talent across the group".

"The WA100 2022 rankings demonstrate our progress in this endeavour," he adds.

"While we continue leveraging individual brands and their unique advantages, we're also tapping our collective strengths, scale and resources to give our talent access to project opportunities around the world."

According to this year's list, the group has 639 architects spread out globally, earning more than US\$100 million (S\$134.3 million) in fees. The group was not on the list last year.

The WA100 has been dominated for the last few years by Gensler, the American design and architecture firm which is at No. 1 again this year, employing 2,692 architects and earning more than US\$1 billion in revenue.

According to Mr Lee Kut Cheung, chairman of Surbana Jurong Group's Global Architecture and Design Council, the collective expertise and experience of the group's architects and designers have enabled it to compete with international firms and offer the best creative services to its clients.

Headquartered in Singapore, the group was formed in 2015 after a merger between Surbana International Consultants and Jurong International Holdings.

Today, it has a global talent pool of 16,000 based in more than 120 offices in over 40 countries.

It collaborates with architects, designers, planners, engineers and built environment specialists

across geographies and disciplines on urban and infrastructure projects.

Its design and architecture member firms include Atelier Ten, an award-winning London-based environmental design consultancy; B+H Architects, a global architecture and design firm in Toronto; SAA Architects, one of Singapore's leading architecture firms; and Sino-Sun Architects and Engineers, one of China's top privately owned design firms.

Over the years, the group has won a slew of awards, such as the Building and Construction Authority (BCA) Platinum Super Low Energy Building Green Mark Award last year for the Singapore Examinations and Assessment Board building; and the Housing Board (HDB) Innovative Design Award for Punggol Point Cove in 2020, for its innovative and outstanding design concepts.

One of its outstanding projects was restoring the dilapidated Temasek Shophouse in 2018.

SJ architecture – the architecture entity of Surbana Jurong Group – not only worked on the restoration and preservation of the shophouse, but also focused on its sustainability.

The building is owned by the philanthropic arm of state investment company Temasek, which comprises Temasek Trust, Temasek Foundation and the Stewardship Asia Centre.

The project is notable for several achievements, including energy efficiency.

While most think of electric vehicles and wind turbines when it comes to sustainable green solutions, SJ architecture director Ivy Koh and Temasek Shophouse director Yvonne Tay worked together with their teams to reduce carbon emissions from the shophouse by increasing its long-term energy efficiency.

According to the United Nations Economic Commission for Europe, buildings account for about 40 per cent of energy consumption as well as 40 per cent of carbon dioxide emissions.

Cooling systems today consume as much as 40 to 50 per cent of energy in a building while heat waste from air-conditioners contributes to the urban heat island effect, where some places in the city become hotter than others.

"The outdoor evaporative cooling system called Airbitat that we installed on the rooftop of Temasek Shophouse does not emit waste heat into the environment," says Ms Koh, 41.

The company worked with home-grown technology and engineering firm ST Engineering to install an evaporative system that cools the surroundings by releasing water droplets into the air.

"Reduction in overall energy consumption of the building will also contribute to the reduction of the urban heat island effect," she adds.

Temasek Shophouse bagged the Urban Redevelopment Authority's Architectural Heritage Award in October 2019.

Ms Tay says the team took into account the original building design and layouts, and made sure the existing windows and fan lights on the facades were factored into the lighting and ventilation plans. "We managed to reduce reliance on artificial lighting and have also been awarded the BCA's Green Mark Gold Plus for Temasek Shophouse in 2019," she says.

DESIGNING FOR FAMILIES AND SOCIAL SUSTAINABILITY continued on C2



The conservation of Temasek Shophouse in Orchard Road started in 2018 and took 18 months to complete. PHOTO: SURBANA JURONG

Cutting energy use in 1920s shophouse

Restoring Temasek Shophouse, which was built in the 1920s, almost to its original form was no mean feat for the architectural team from SJ architecture, a corporate architecture entity which is part of Surbana Jurong Group.

The conservation of the building in Orchard Road started in 2018 and took 18 months to complete.

The process includes adding sustainable test-bed cooling technologies that cut energy usage and reduce the urban heat island effect, which happens when air-conditioning units spew heated air into the environment.

SJ architecture's director Ivy Koh says there was a lack of in-

formation and documentation about the original building design, so the team had to piece together archival information dated much later, around the 1950s.

"We had to decipher old records, accounts and references to understand the original design, such as the function of original rooms and staircases," says Ms Koh, 41.

She adds that the key conservation challenge was to repurpose the structure for current and future uses.

The shophouse, which once housed apartments and shops with a facade showing Neo-Classical and Art Deco styles, won the Urban Redevelopment Authority's Architectural Heritage Award in October 2019.

It is now home to the philan-

thropic arm of state investment company Temasek, which comprises Temasek Trust, Temasek Foundation and the Stewardship Asia Centre.

Ms Yvonne Tay, director of Temasek Shophouse, says the shophouse had to function as an office and a community event space, so the need for thermal comfort was a priority.

One of the test-bed cooling technologies used was Airbitat, an outdoor evaporative cooling innovation developed by Innosparks, a subsidiary of ST Engineering.

This was installed on the building's rooftop terrace so the space can be used even in warm weather.

Other test-bed uses include hybrid cooling with a combination of

fans and conventional air-conditioning so that the interior temperature can be set higher at 24 deg C to consume less energy.

"For Levels 1 and 1M, due to the lower headroom, we have installed a new fan product called Vortex developed by Nanyang Technological University which is energy-efficient," says Ms Tay, 46.

She says the windows and glass fixtures in the building's facade can be opened to allow for natural ventilation when required.

Ms Tay says the restoration of Temasek Shophouse "signifies an honouring of our past and, at the same time, creating new possibilities for a better future".