

Under one roof

The Singapore Sports Hub will reveal its calendar of events for 2014 today. Apart from being a stage for some of the world's biggest sports stars, the fully integrated sports, leisure, entertainment and lifestyle arena will be a playground for Singaporeans when it opens later this year. **Tien Chung Ping, Tay Chern Hui, Chng Choon Hiong and Bryandt Lyn** offer a sneak peek of what to expect from the new attraction.

SET to have the world's largest free-spanning dome, the Singapore Sports Hub will be an iconic addition to the country's skyline when it is fully open in June.

Standing at 82.5m tall when the dome is fully closed - high enough to fit Changi Airport's control tower inside - and with a diameter of 310m - large enough to house four A-380 planes parked wing to wing - the \$1.33 billion hub is one of the most architecturally challenging and technologically advanced projects to be constructed in Singapore.

When completed, the new National Stadium's movable 55,000-capacity seating tiers will allow for flexible movement inside the stadium bowl, making it the only stadium in the world suitable for hosting football, athletics, rugby and cricket, as well as concerts.

The stadium, one of the few carbon-neutral ones around, is installed with energy-efficient cooling technology, where cool air at 23 deg C is pumped from underneath the seats. This additional energy required is offset by energy harnessed throughout the year by solar panels, which has zero impact on the environment. Sustainability has been central to the design of the Sports Hub from the start. The insulation in the roof cladding and giant louvers, for example, minimise the heat from the sun.

The project was awarded the Green Mark Gold Plus for its sustainable design of the stadium and Sports Hub precinct.

The hub is also home to a 6,000-capacity indoor aquatic centre, a 3,000-capacity multi-purpose indoor arena and a water sports centre featuring dragon boating, kayaking and canoeing in the Kallang Basin. There is also a 41,000 sq m retail and waterfront area as well as a sports museum and sports library.

All these are just a short walk from two MRT stations - Kallang and Stadium.

The hub will be home to Singapore's elite athletes and host some of the world's best sportsmen.

But with facilities such as courts for volleyball and basket-

VIEW THE INTERACTIVE GRAPHICS ONLINE

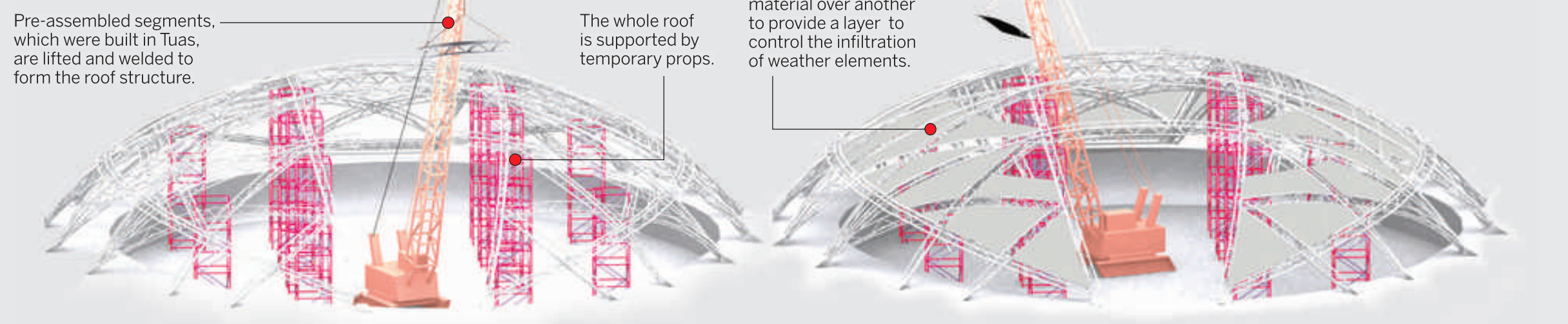
<http://bit.ly/STSportsHubInteractive>

THE SPORTS HUB BY THE NUMBERS

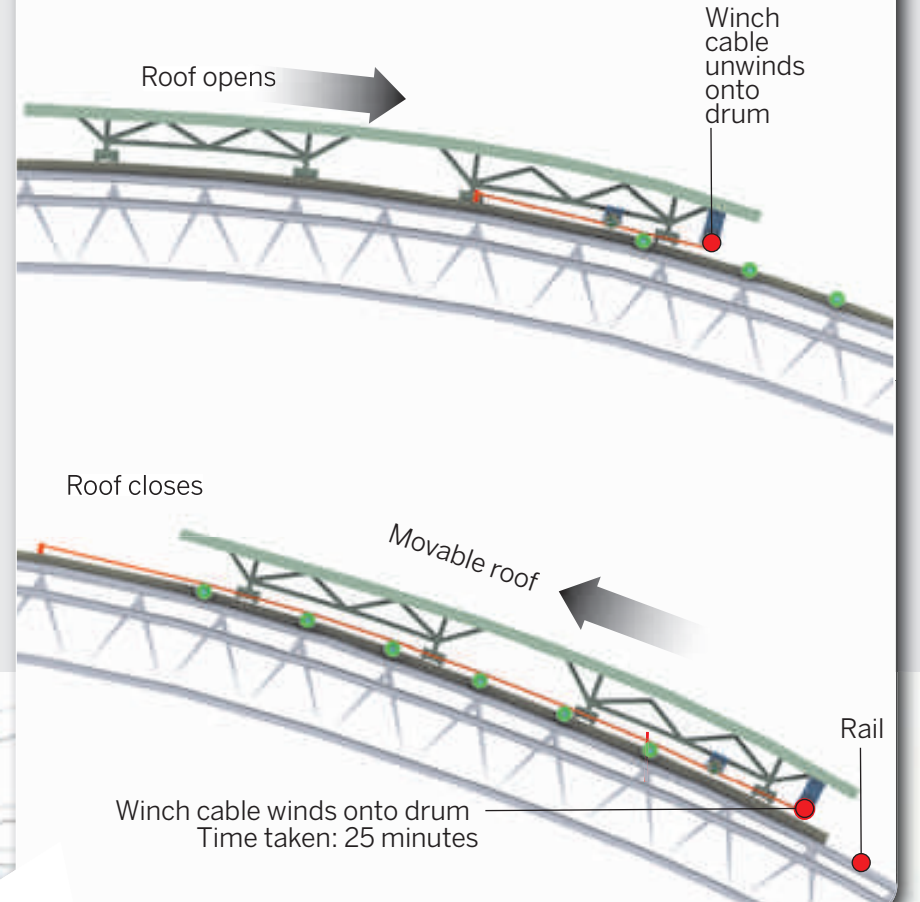
- 30,000 tonnes of reinforcing bars (as heavy as 1300 double-decker buses)
- 13,500 tonnes of steel (as heavy as 3750 adult Asian elephants)
- 35 ha site (as big as 70 football fields)
- \$1.33b price tag
- 55,000 capacity
- 250,000 cubic m of concrete (enough to fill 100 Olympic-size swimming pools)
- 2 MRT stations are nearby
- 20,000 sq m Roof can also double as a giant LED screen

National Stadium

The stadium has a retractable roof and an energy-efficient cooling system for spectators to sit in a comfortable environment. It will have the largest free-spanning domed roof in the world. Here is how the dome is being built:

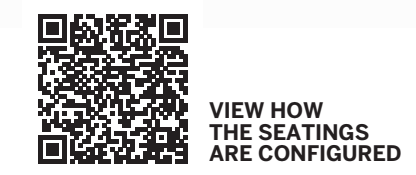
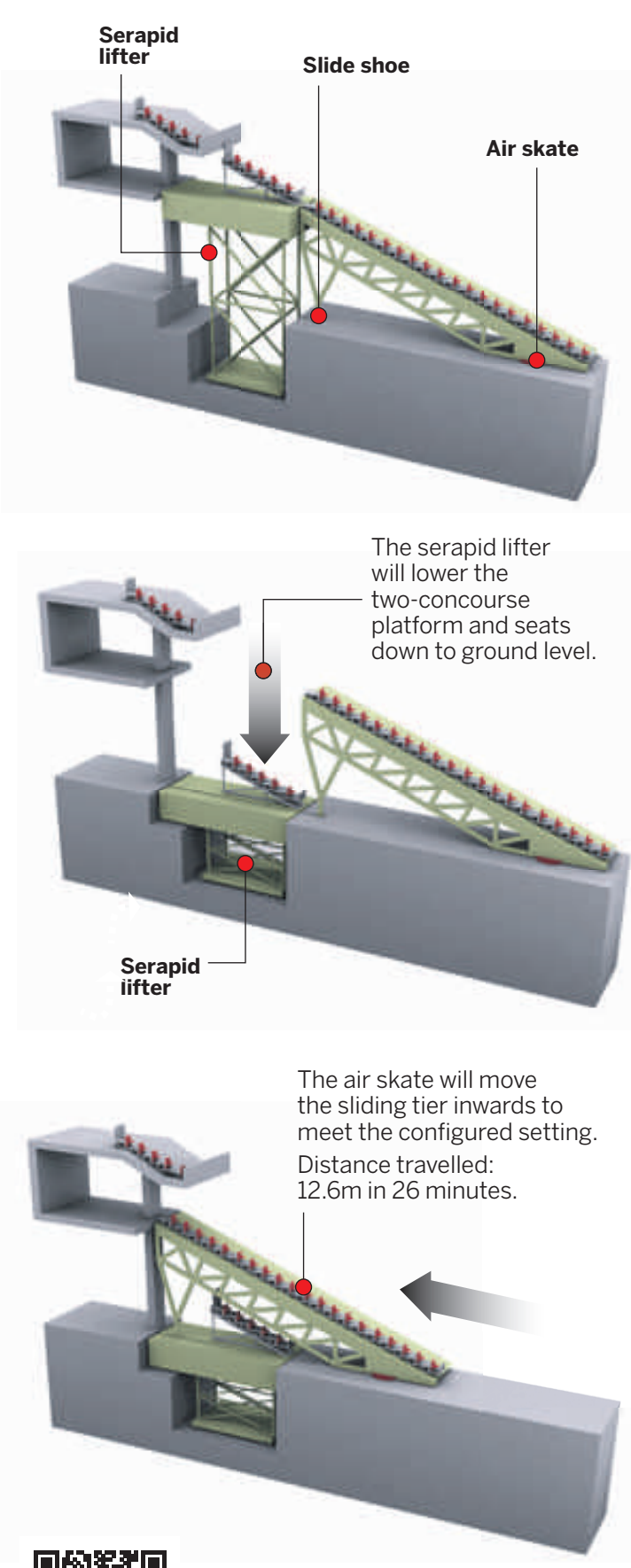


How the retractable roof works



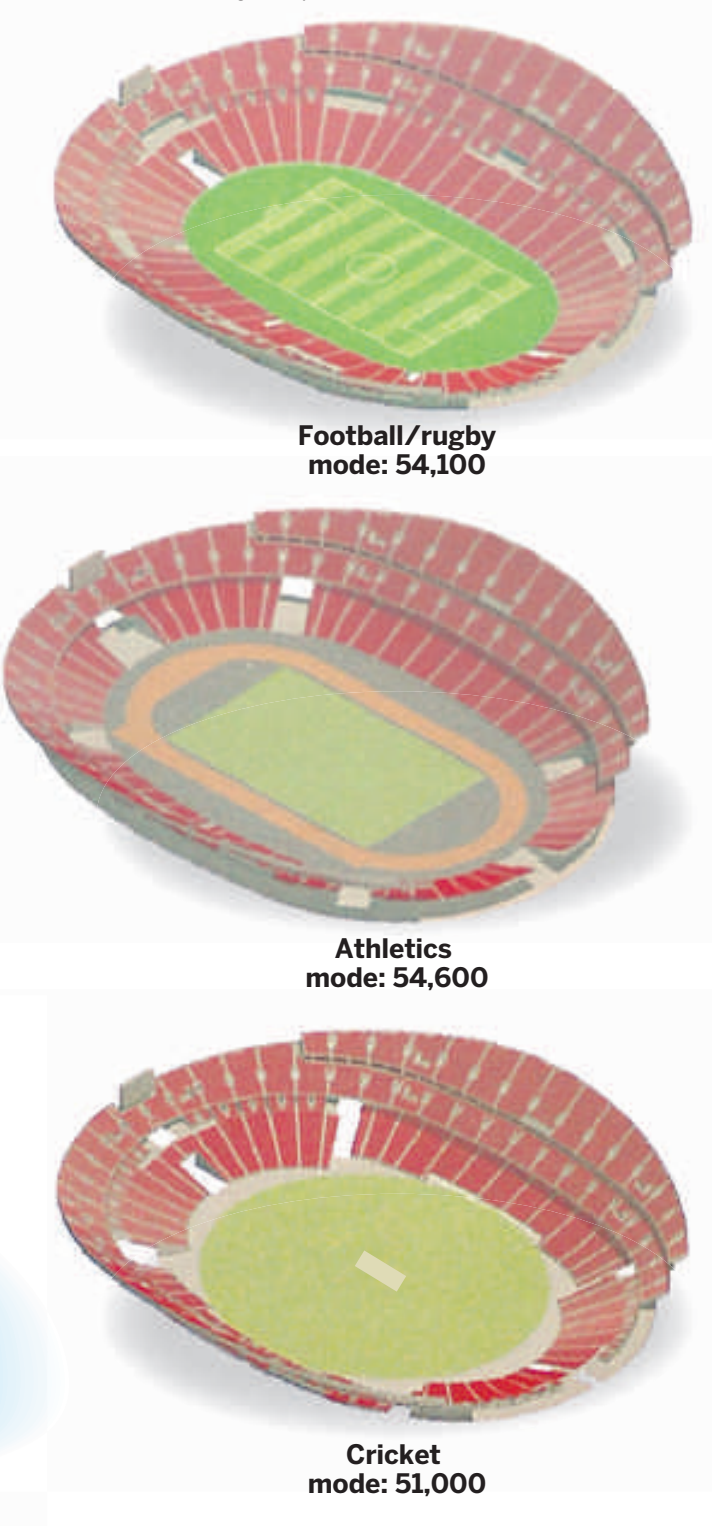
Multi-purpose seating

The stadium can be configured according to the requirements of the sport. It takes only 48 hours to change the configuration, compared with the Stade de France in Paris, which takes 80 hours to do the same.



Flexible seating

Due to the stadium's movable seating configuration, the stadium will be the only one in the world that can host such a variety of sports:



ST GRAPHICS, VIDEO EDITING: THE STRAITS TIMES VIDEO SOURCE AND PHOTOS: THE SINGAPORE SPORTS HUB, ARUP



Aquatic centre

- Comprises 50m competition pool, 50m training pool and 5m-deep diving pool.
- Includes a leisure area with beginner pools and a surf pool.
- Seating capacity can be doubled to 6,000 for large-scale events.
- Roof designed to ensure enough daylight and natural ventilation.



Sports promenade

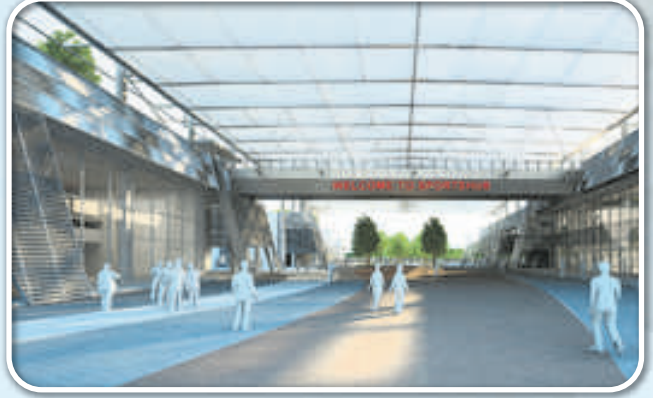
- 20,000 sq m sports and recreational space around the National Stadium.
- Singapore's largest, fully sheltered civic space for the community to use daily.
- Sports and lifestyle facilities will be situated throughout the Singapore Sports Hub precinct.
- Provides myriad venues for community sports activities.

Water sports centre

- 500m course will be mapped out on the water, and 1km course will be accessible from Marina Bay.
- Caters for canoeing, kayaking, rowing and dragon boat racing.

Sports museum

- Highlights the history and cultural significance of sports in Singapore.
- 2,200 sq m space showcases local sports and constantly changing exhibits.
- Features campus heritage, education and engagement programmes as a way to promote sports knowledge and learning.
- Sporting artefacts on display across the Singapore Sports Hub, including a sports walk of fame and heritage trail, to encourage visitors to learn more about local sports.



Sports library

- Hosts a variety of school-based and public programmes, and caters to a wide range of people, from amateurs and professional athletes to coaches and members of the public.
- A variety of resources will be made available in print, multimedia and online.

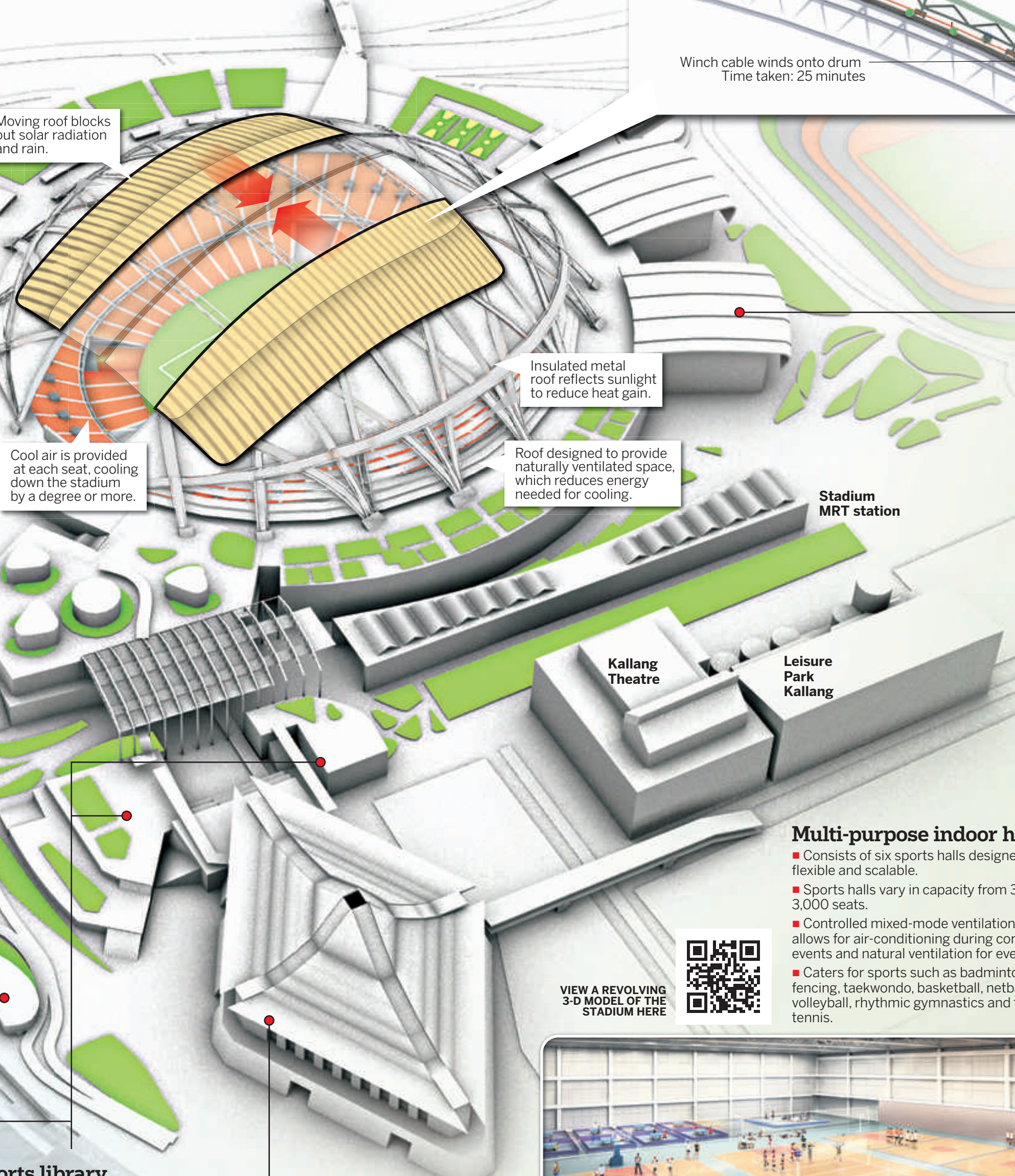
Singapore Indoor Stadium

- Hosts a variety of sports and entertainment events such as performances by superstars, family entertainment, award shows, sports matches and other large-scale events.
- Flexible configuration provides seating for 4,000 to 12,000.

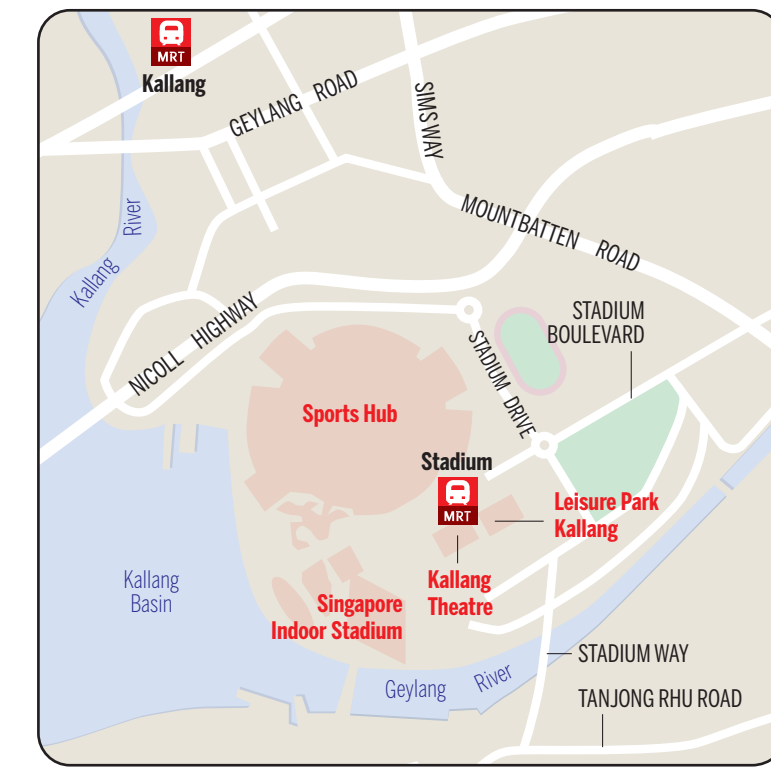


Multi-purpose indoor hall

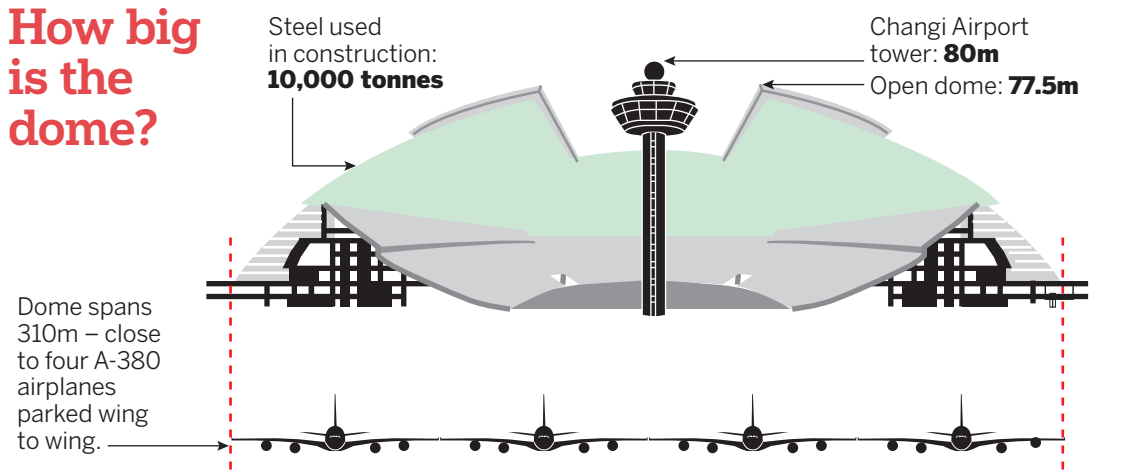
- Consists of six sports halls designed to be flexible and scalable.
- Sports halls vary in capacity from 300 to 3,000 seats.
- Controlled mixed-mode ventilation system allows for air-conditioning during competition events and natural ventilation for everyday use.
- Caters for sports such as badminton, fencing, taekwondo, basketball, netball, volleyball, rhythmic gymnastics and table tennis.



Where it is



How big is the dome?



Energy-efficient

The stadium uses solar energy to generate power. The panels are installed on the roofs over the surrounding buildings across an area approximately 3,300 sq m to generate 707 kilowatts-peak of electricity - enough to offset the energy used by the bowl cooling system. The solar panels produce 610MWh of energy annually - enough to offset the energy used by the bowl cooling system.

Unique seating

Suites
62 executive suites, including a VIP suite. They come with panoramic views, luxurious interiors and premium amenities.

Premium seats
The 3,300 seats are located at prime viewing positions at the halfway line.



Keeping cool

The "under seat" bowl cooling system supplies cool air at 23 deg C to reduce temperatures locally to the seating area.

