



**Autonomous Bus Trials**



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**SLA wins at the GEOBIM Awards 2020**



**Old Kallang Airport**



**'Building a Geospatial Ecosystem in Singapore' Webinar**



**Archery under West Coast Viaduct**



**2 Nassim Road**

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# SLA wins at the GEOBIM Awards 2020

The Singapore Land Authority (SLA) is pleased to announce that we are the proud recipient of the “Excellence in Subsurface Mapping” Award at the GEOBIM Awards 2020. GEOBIM, which refers to geospatial (GEO) and Building Information Modelling (BIM), is an annual conference that brings international attendees together to contribute rich and diverse perspectives regarding geospatial and BIM technology adoption in the architecture, engineering and construction (AEC) sector. Organised by the Netherlands-based Geospatial Media and Communications, and supported by companies such as Esri, Autodesk, and Hexagon, the GEOBIM Awards is seen as one of the most coveted annual awards in the AEC industry, and aims to recognise and celebrate the organisations who implement digital innovations and practices.

The award was received by Mr Simon Ong, Acting Chief Executive of SLA, in a virtual conference on 3rd December 2020. SLA won the award for our on-going “Digital Underground Singapore” project, a research-to-application initiative that ultimately aims to establish a reliable 3D map of the underground utilities in Singapore. This initiative supports the planning and development of our subterranean space, and involves the use of laser solutions, Ground Penetrating Radar (GPR), RFID markers, and gyroscopic mapping to develop a single consolidated “digital twin” of the underground utilities. The award highlights SLA’s technological capabilities and emphasises SLA as a leader in the field.

Partnering with SLA on the “Digital Underground Singapore” project is the Singapore-ETH Centre, a research facility set up by the Swiss Federal Institute of Technology and Singapore’s National Research Foundation, which aims to provide practical solutions to some of the most pressing challenges on urban sustainability, resilience and health through its programmes.



Winning this distinguished award showcases how SLA leverages on our technological strengths to establish ourselves as an industry leader

The virtual award ceremony in 2020 marked the first time that this distinguished annual event was held digitally in its seven-year history.



The GEOBIM Awards 2020 marked the first time that the event was held virtually in its seven-year history

The five categories of awards and its winners were:

**Excellence in Subsurface Mapping**

SLA and Singapore-ETH Centre for the Digital Underground Project Singapore;

**Excellence in Residential Architecture**

Da Vinci Group and Vatmanstudio, Ukraine for Aura Apart Hotel, Odessa;

**Excellence in Roads and Highways**

Ballast Nedam and Rijkswaterstaat, Netherlands, for A24 Blankenburgverbinding – Nieuwegein;

**Excellence in Rail Infrastructure**

Bybanen Utbygging, Sweco Norge, and Sweco NL for Bergen Light Rail Extension Project;

**Excellence in Digital Cities**

City of Rotterdam, the Netherlands for Digital City Program Rotterdam.

Our heartiest congratulations once again to all the award recipients!

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# Building the Geospatial Ecosystem in Singapore

What factors make Singapore an ideal environment for geospatial adoption? Which industries stand to benefit the most from employing geospatial technology and data in their businesses? How can companies in the geospatial sector better connect with potential partners and clients?



All these topics and more were discussed in-depth during the “Building the Geospatial Ecosystem in Singapore” webinar, held on 21 January 2021. Co-organised by GeoWorks and SGTech, and in partnership with Geo Connect Asia 2021, the digital event was well-supported and saw close to 140 attendees.

Mr Lim Liyang, Deputy Director of the Geospatial and Data Division at the Singapore Land Authority (SLA), gave the opening address for the session. Mr Lim also spoke about SLA's role in fostering a vibrant geospatial ecosystem by making available geospatial data for everyone, and explained how SLA deepens geospatial expertise through the Geospatial Capability Centre.

The webinar consisted of a panel discussion that was moderated by Mr Michael Sim from GeoWorks. Mr Sim was joined by three esteemed geospatial industry practitioners – Mr Lewis Goh, the Chief Solutions Architect at Esri Singapore, Mr Ajay Bulusu, Co-founder of Nextbillion.ai, and Mr Ho Lung Chu, Head of Singapore and Business Development Southeast Asia at Volocopter.



The panel discussion led by various Geospatial industry practitioners (From top) Mr Lewis Goh, Esri Singapore, Mr Ajay Bulusu, Nextbillion.ai, Mr Hon Lung Chu, Volocopter

The panel also discussed the development of talent in the industry, how the 5G network would influence the geospatial landscape, and the role of open-source tools in the development of the industry, to list just a few of the topics that were discussed during the session.

The full webinar can be viewed here: [https://www.youtube.com/watch?v=guWCV40lq\\_c](https://www.youtube.com/watch?v=guWCV40lq_c)

SLA and GeoWorks are proud of the pivotal role we play in promoting business growth, driving innovation and fostering a well-connected geospatial community, and look forward to continuing to contribute to the geospatial ecosystem in Singapore.

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## Archery under the West Coast Viaduct

An archery facility located in the middle of a busy traffic intersection? As unlikely as that may sound, it would have been impossible for anyone who has passed by the West Coast viaduct to miss the flurry of archery activities that have been going on in the area!

The archery range came about when former national archer and founder of archery academy Salt and Light Archery, Mr Israel Tan, had an idea to make full use of the space under the viaduct, and subsequently took up a friend's suggestion to write to the Singapore Land Authority (SLA). Mr Tan was looking for a suitable location for archers to hone their craft, and he heard that "SLA is always open to interesting ideas on State Land utilisation".

Although its location may be unconventional, the archery range boasts many amenities which other spaces in Singapore may find challenging to provide. Not only is its range spacious enough at 70m long, it is also fully sheltered. The nature of the under-viaduct space also allows for a night range. This means that the archers who train here – from those using barebows and traditional bows to practitioners of Kyudo – a traditional Japanese form of archery which is growing in popularity in Singapore – have more flexibility in their training time.



The 70m long range is not only spacious, but is also fully sheltered and can be operated as a night range as well

To make the space suitable for training, a few changes had to be made. The gravel that used to fill the grounds was replaced with carpet grass. At the same time, due to its position under the viaduct, high-quality safety nets were installed to ensure the safety of both road users as well as the range users, as the archery ground was in the middle of two open roads. A Kyudo practitioner who frequently practises at the viaduct, Mr Goh Horng Bor, said:, "Unlike other locations, here we are able to have the dimensions we need for Kyudo." Mr Goh continued: "Our overseas counterparts are amazed that we trained right under the expressway, but this place is sheltered and airy. We love it!"

The archery range, which has been operational since January 2018, is also notable for its inclusive design and is wheelchair-friendly, allowing para-archers to train alongside other archers. It is therefore no surprise that this facility is a regular training spot for our national para-archers, such as Robert Fuchs, who has won multiple medals for Singapore – including a gold medal at the 2015 ASEAN Para Games!



The archery range is notable for its inclusive design, making it a popular training spot for para-archers

Says Mr Tan: "It has always been our dream to have a place that can hold the different community of archers together." With the wide range (pun unintended) of archers who train here, the area is set to play a significant role in the development of archery in Singapore.

Watch the archers in action [here!](#)

While it is true that we are challenged for space in Singapore, it is often the places we pass by often that are the most likely to be overlooked. With this in mind, the SLA has been looking at utilising spaces under viaducts, and continues to take in suggestions from the public as to how these spaces can be optimised.

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## Community Space at Camp Road

Amidst the bustle of highly-urbanised Singapore, it is important to create areas where one can be close to nature and unwind. In our land-scarce country, this is certainly no easy task, and we have to be resourceful and innovative in making the most of our limited space to create an environment where we are able to not just work, but play and rest as well.

With this in mind, the vacant State land at Camp Road recently underwent a facelift to create an area for residents to gather and bond, in a joint initiative between the Singapore Land Authority (SLA) and the National Parks Board (NParks). The agencies looked into requests by residents of the area to develop the area into a community space for all. Prior to the works done, the area was only used as a short-cut to the bus stops nearby, and the nearest park – the Singapore Botanic Gardens – was quite some distance away.

Some features of the new space include a nature play garden incorporating biophilic elements and natural materials, swinging benches, and an earth trail. A bee hotel was also built, while many native bee-pollinated plants were planted in the community space. This would enhance the existing biodiversity in the community space, both for bees as well as the other species of animals and birds in the area which could feed on the fruits from the plants. Pathways were also laid so that residents can easily enjoy the greenery and enhanced recreational options.



Amongst the new facilities visitors can now enjoy are a nature play garden and swinging benches

The revamp, however, was not without its challenges. The undulating terrain and the surface rainwater discharge made it difficult for work to be done on the land. To overcome these challenges, the agencies adopted designs that could work in tandem with the undulating terrain. Underground subsoil drains were also installed to drain off surface rainwater to a water outlet along Tanglin Road, while soil levels had to be adjusted. Despite these changes, the agencies took care to ensure that all existing matured trees were conserved during development works.



One of the more interesting new features is a bee hotel, to help improve the biodiversity of the area

All the hard work has definitely paid off. The area is now a lively community space used by residents of the area as well as members of the public. Visitors will not only be able to enjoy the new facilities, but will get to learn more about biodiversity and how we can live in harmony with flora and fauna in our concrete jungle – especially the various species of the stingless bees that will be visiting the area with the introduction of the bee hotel!

SLA is committed to optimising land and space utilisation in land-scarce Singapore, and will continue to develop spaces such as these for the benefit of the public.

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# Autonomous Bus Trials

The future of autonomous transportation in Singapore might be happening sooner than expected with an autonomous bus trial being rolled out across Jurong Island.

Currently open to the public, commuters need only to download a mobile app, sign up for the service, book their seat at a specified time, and pay \$2 for a round trip around Jurong Island.

The self-driving bus, which is 12m long and can seat 26 passengers, was developed by ST Engineering. It relies on an array of sensors that improve the accuracy and reliability for navigation, as well as the Singapore Satellite Positioning Reference Network (SiReNT), an initiative developed by the Singapore Land Authority (SLA) that can support real-time high precision positioning, navigation and tracking needs.



The bus relies on SiReNT, an initiative by SLA, for its navigational requirements

During this trial period, the bus will operate at about 30km to 40km per hour. Although fully autonomous, a safety driver is still present at all times in case of an emergency, or for any other situations which may require manned operation.

You can click [here](#) to watch our team's experience on the self-driving bus!



SLA staff ready to go on a trip on the autonomous bus

This on-going trial of the autonomous bus service operates from 11:30am to 2:30pm on weekdays, and will be operational until the end of April. This also marks the first time a fully autonomous bus service in Singapore is collecting fares from the public. While driverless buses still have some way to go before they can be fully integrated into Singapore's transport networks, SLA looks forward to our role in the future development of this very exciting technology.

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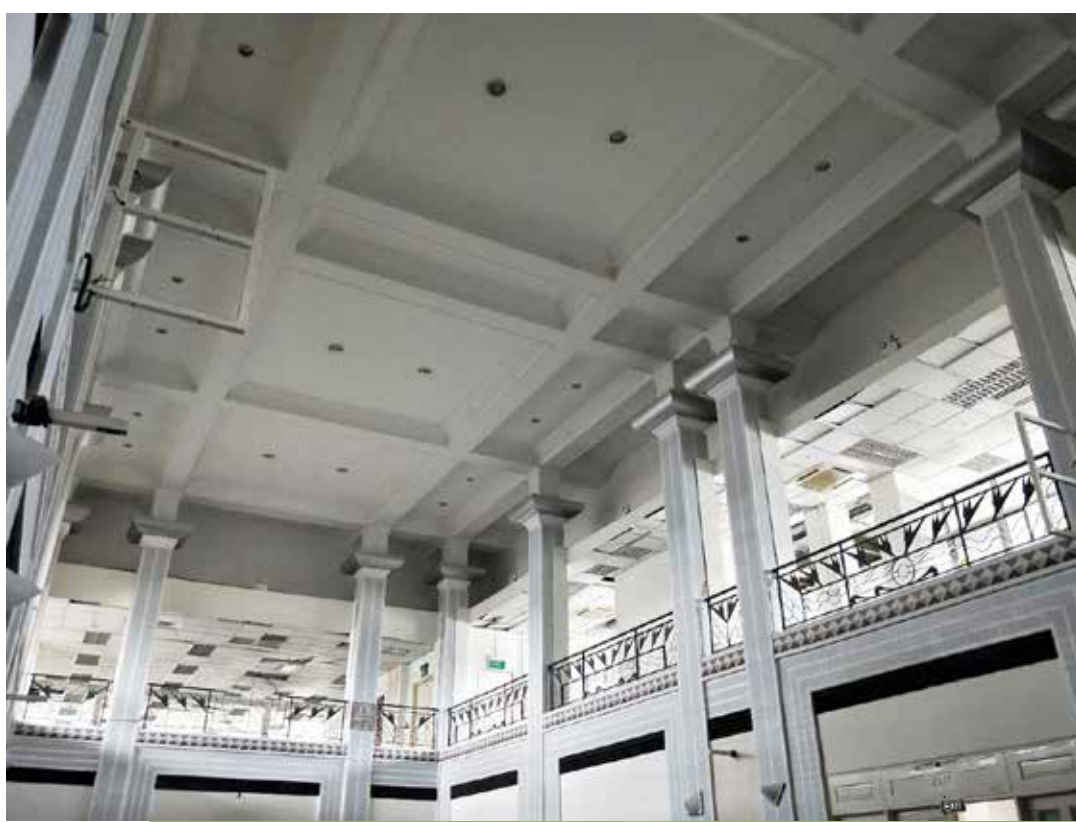




## Old Kallang Airport

Just off Nicoll Highway in Kallang, the biplane-inspired structure of the Kallang Airport stands out in an area now dominated by the large and modern Singapore Sports Hub. It was designed by Government Architect Frank Dorrington Ward, and as the terminal and centrepiece of Singapore's first civil airport, was thought to be the world's most modern airport when it opened in 1937.

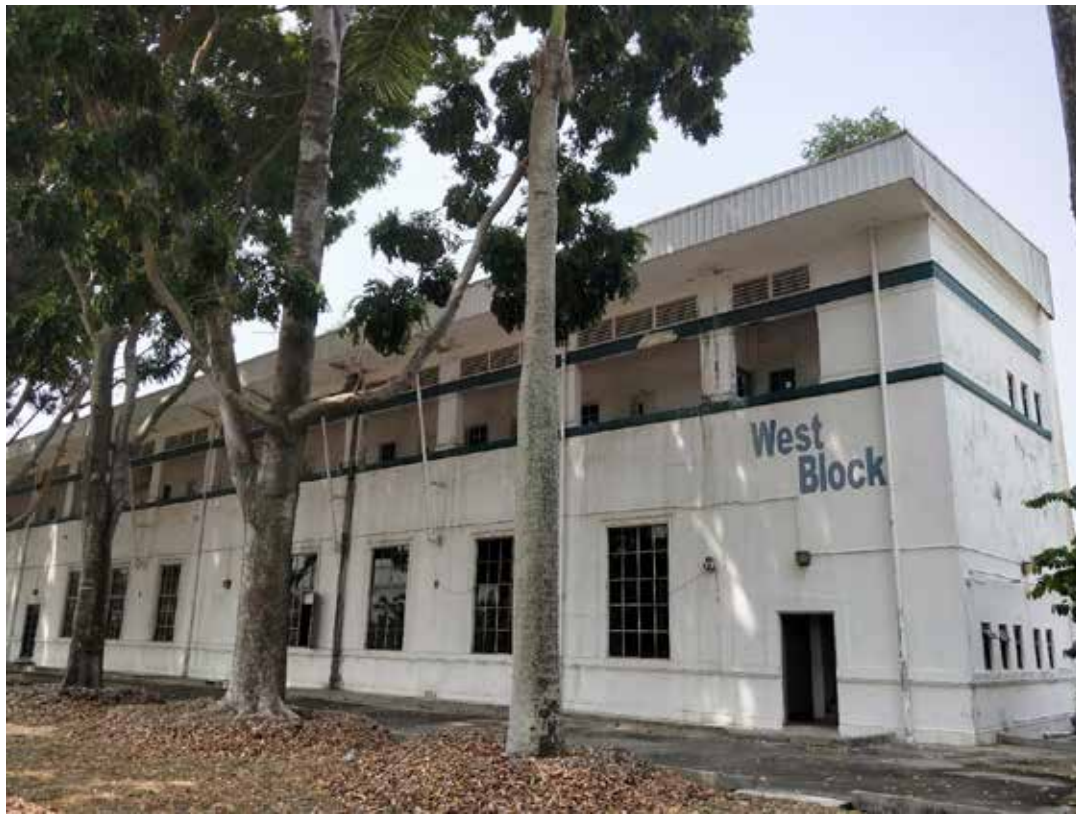
Among its admirers was Amelia Earhart, who landed at the then eight-day-old airport (which was known as the Kallang Aerodrome at the time) during her ill-fated attempt to be the first female aviatrix to circumnavigate the globe. In her diary, she described Singapore as "an aviation miracle of the East", and the Kallang Aerodrome as the "peer of any in the world".



Designed by Government Architect Frank Dorrington Ward, the airport was regarded as the world's most modern airport when it opened in 1937.

The site – selected in 1931 for its proximity to town and also to the sea for flying-boat operations – was then a vast expanse of mud that had to be conquered and tamed. The process took four years of draining and filling, and required eight million tons of soil. An additional year was then spent to complete the aerodrome itself, which was opened to great fanfare by Governor Sir Shenton Thomas on 12 June 1937.

The aerodrome's main feature was a terminal with a lofty central hall which featured a restaurant, while the control tower stood on top of the terminal. Two hangars were provided for aircraft maintenance, while facilities for the reception of flying boats were placed west of the airfield. Although small by present-day standards, the aerodrome was constructed at a time when commercial aviation was only just taking off. Back then, aircraft were small and light and required only a circular airfield to allow landing in all directions.



It took eight million tons of soil plus almost 5 years of construction to complete the aerodrome

When World War II began, the aerodrome became the Royal Air Force Kallang, where two ineffective fighter squadrons were based. The aerodrome also had the distinction of being the last operational air base in Singapore before it was damaged by bombs dropped by the Japanese military.

During the Japanese occupation, a metalled runway was added. It was then repaired, strengthened and extended after the war so as to allow landing for heavier passenger aircrafts that were being introduced. It was further extended for passenger jetliners, the first of which touched down at Kallang on 11 October 1951. While the jetliner revolutionised commercial air travel, it also marked the beginning of the end for Kallang Airport – the airport was just too small and, despite being updated, its runway was still found to be inadequate in accommodating larger and heavier planes.

These factors prompted the construction of a new airport at Paya Lebar. This also marked the end of Kallang Airport as an active aviation facility, with its last flight departing on 14 October, less than two months after the first flight took off at Paya Lebar Airport on 21 August 1955. Nicoll Highway was built a year later.



Today, the airport has been identified as a conserved site and continues to be ubiquitous with the Kallang and the Sports Hub precinct

Kallang Airport then served as the long-time home to the People's Association from 1960 to 2009. Since 2011, it has been used as the venue for a diverse range of events, from arts and culture to music and corporate launches. These included the 2011 Singapore Biennale, Calvin Klein and Hermès fashion events in 2014, Diner en Blanc in 2015 and the Singapore International Festival of Arts in 2016.

Today, the terminal is part of a conserved site that includes a hangar, two service blocks and the entrance gateway. The conserved property has also been identified for reuse in the "Reinventing Spaces into Vibrant Places" programme, a joint initiative between the Singapore Land Authority (SLA) and the Urban Redevelopment Authority (URA) that was launched in May 2019. Through this initiative, the public can look forward to the historical airport remaining an iconic part of the landscape even as it enriches the Kallang and the Sports Hub precinct.

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## State Property Tenders

The Singapore Land Authority (SLA) is responsible for the planning and execution of interim uses for State lands and properties under our management. One of the ways we maximise the use of these vacant properties is by putting them up for Price-Quality Tenders. For more information on the tender below, please visit our [SPIO](#) platform.



2 Nassim Road (Front View)

We have launched a Price-Quality tender for the State property at 2 Nassim Road. Located at the junction of Nassim Road and Orange Grove Road within the Orchard Road Shopping District, the property is highly accessible via the Central Expressway (CTE), and within a short walk from major transport nodes in the vicinity of Orchard, such as Orchard MRT Station.

This tender aims to revitalise the iconic black and white bungalow whilst ensuring the compatibility of the proposed use with the property's surroundings. This is also the first Price-Quality tender which looks at the tenderer's proposal as to how this historic colonial-era property can be restored to its former glory. As such, the capital investments to be made by the tenderers will be taken into consideration as part of the price aspect for a holistic assessment of the entire proposal.



The State Property is located at the heart of town, at the junction of Nassim Road and Orange Grove Road within the Orchard Road Shopping District.



The tender will also be assessing the proposals based on their plans on restoring the historic building

### About this property

Property Status	Upcoming Launches
Property Location	Rest of central region
Property Type	Entire Property
GFA (sqft)	4,309.80
Indicative Uses	Office
Tenure	3 years + 3 years + 3 years
Mode of Transaction	Tender
District	09-10 Central
Nearby MRT	Orchard

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