CONSTRUCTION+

Bringing The Building And Design Industry To You

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ADAPTING TO CHANGE

CHANGING THE WAY WE DESIGN & BUILD
TO MAKE BETTER BUILT SPACES
CONSTRUCTION INDUSTRY REVIEW & FORECAST

CONSTRUCTION+ MALAYSIA & SINGAPORE
4Q 2019
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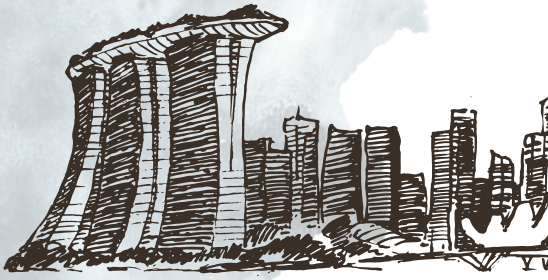

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(www.seadma.org)

Security Systems Association of Singapore (SSAS)
(ssas.org.sg)

This year saw a global focus on climate change and its increasingly devastating impact across the globe. As young activist Greta Thunberg admonished world leaders for not effectively tackling greenhouse gas emissions, and failing younger generations, public plans were announced in Singapore to further ramp up alternative energy sources, reduce national carbon emissions, and safeguard against rising sea levels.

Singapore's built environment industry likewise took further steps to address the issue of climate change. Government agencies and firms undertook studies to determine how best to minimise urban heat island effects in buildings, while seeking multidisciplinary partnerships and technological advancements to transform urban centres into sustainable smart cities. These movements were facilitated by an industry shift towards using prefabricated building structures via Design for Manufacture and Assembly (DfMA) methodologies, combined with usage of BIM models through an overall Integrated Digital Delivery (IDD) process that streamlines project operations for greater efficiencies in building design and construction.

Buildings must be designed to meet their functional requirements as well as be future-proofed in the age of global climate change. Certified as a BCA Green Mark Platinum Award project, the newly opened National Centre for Infectious Diseases (NCID; more about the project on Construction Plus website) and Ng Teng Fong Centre for Healthcare Innovation (CHI) in Singapore demonstrated that sustainability need not be compromised by stringent operational and safety requirements.

Infectious diseases are still among the leading causes of death worldwide, due to their persistence, emergence, and re-emergence. As the recent Ebola virus disease and MERS-CoV outbreaks demonstrate, modern epidemics and large-scale infectious outbreaks are able to emerge and spread very quickly, especially with the presence of air transportation as a major vehicle for the rapid spread and dissemination of communicable diseases. As an aviation hub, Singapore, which saw 17.4 million international tourists in 2017, more than three times the local population, is especially vulnerable. ASEAN countries, without exception, must always be prepared for any sudden outbreak. Consequently, well-equipped and well-designed healthcare facilities, such as NCID treating and preventing the spread of infectious diseases, come to the fore. The key and challenge then are to ensure such secure healthcare facilities do their part in addressing global climate concerns as well.

It also has to be noted that facilities do not run solely based on their physical infrastructure. Facilities such as healthcare centres require dedicated healthcare professionals, who run daily operations and care for patients' well-being. These internal stakeholders ensure any building and system function as they were designed for, and are crucial in our goal of having buildings that are both functional and sustainable at the same time.

We believe well-designed healthcare facilities can place Singapore on the frontier of healthcare innovation; being prepared for any infectious outbreaks even as we face global climate change concerns.

Ar Jerry Ong Chin-Po
Senior Vice President,
CPG Consultants

The new year often brings with it a sense of hope, and at times, a tiny bit of trepidation. What most of us want in the new year is a fresh start, to turn the page to better things, to make life better. Although what some of us feel anxious about is the element of the unknown, of change.

There is nothing more important than one's health and well-being; similarly, there is nothing more important than the health of the planet. In the built environment, this has come to mean creating better spaces, not only for people, but also for the natural ecosystems; for a more harmonious, less destructive co-existence.

To break it down further, this means making built spaces more habitable, more liveable, more sustainable—in a way that embraces, not rejects, nature; in a way that is less damaging and less wasteful; in a way that allows for regeneration of life.

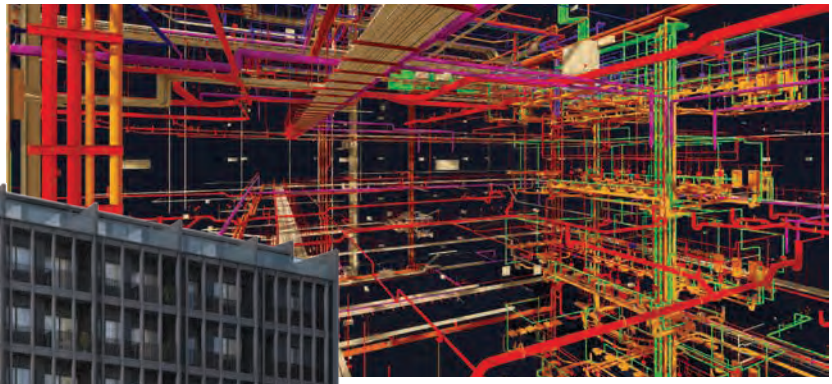
And in the face of current climate issues, making our health and the health of the planet front and centre, especially in terms of the AEC industry, could not be more emphasised. In actionable terms, how things could be made better need to encompass changing the way we design—from built structures and spaces to neighbourhoods and cities—and changing the way we build—from adopting technology to managing worksites.

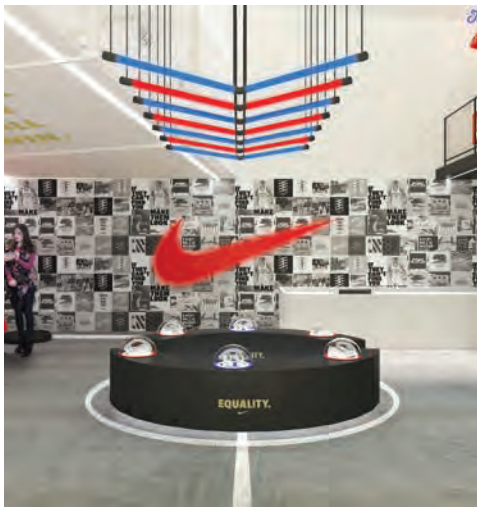
Such sentiments are reflected in the Foreword and commentaries discussed in this issue. We also present market sentiment in terms of how the construction industry has performed and what could be expected in the coming months.

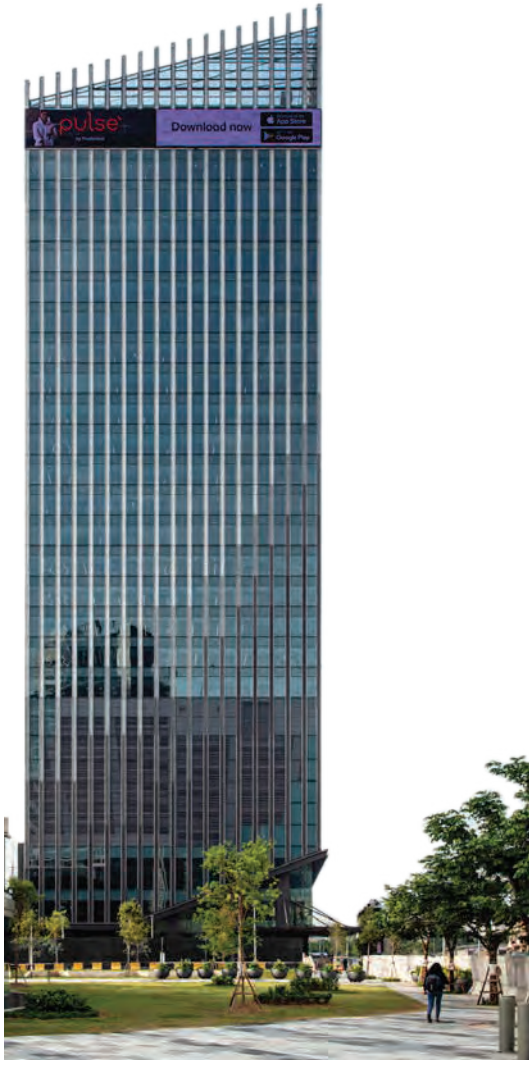
Of course, as with life, unpredicted things happen all the time. Industries rise and fall, and the physical, social and environmental landscapes along with it. The only way to keep up is to adapt to change.

I hope 2020 will be a brilliant one to all.

Candice Lim
Managing editor







One Bangkok, Thailand

Image by One Bangkok

NEIGHBOURHOOD CONCEPT PAVES THE WAY FOR FUTURE SMART SUSTAINABLE CITIES

By Simon Chua and Meeta Patel

Neighbourhoods in architecture and planning theory are an ever-changing concept. While they are defined by a specific geography and a set of social networks, their forms vary widely. As does the success of their design and application. With now 55 per cent of the world's population living in urban areas, how we imagine our neighbourhoods of the future is becoming a real thought. While science fiction thinkers have given us a far-reaching glimpse into how concrete, congestion and over-crowdedness may dominate, many of us wonder what our immediate future looks like.

The truth is the concept of a neighbourhood is influencing our cities in a real and progressive way. Pushed along by the wave of urbanisation, technological advancement and our expectations of how we wish to live, our cities are becoming more liveable as a result.

BRINGING LIVEABILITY TO LIFE

Our cities are developing at an electrifying pace, becoming more complex as they adapt to an ever-widening range of factors, from mass urbanisation to new opportunities afforded by emerging technologies.

KIARA BAY, Kuala Lumpur, Malaysia

Image by UEM Sunrise and Melati Ehsan Group

The concept of a neighbourhood is influencing our cities in a real and progressive way.

One aspect is a common denominator: Land within our cities is under high demand. How these land parcels are now developed to house, sustain and inspire our growing populations is our challenge.

From a development standpoint, we have all heard about the benefits of smart city design; asset sharing, reduced traffic congestion, smart energy networks, predictive technologies, optimised mobility… the list goes on. What if we could apply these strategies on a smaller scale across our urban environments? We could bring these smart concepts to life on a spread and speed not yet seen before.

INTRODUCING 'MINI CITIES'

The good news is we can, and we are. Aptly named 'mini cities', there is a new approach to neighbourhood-scale development that is placing the pioneering strategies from the smart city movement at its heart. This effort is allowing us to deliver the benefits of smart city design more swiftly across our urban environments than the large-scale, city-wide master plans that have been traditionally earmarked for this type of development.

This concept of 'mini cities' for Lead8 was born from collaboration and a new

joint vision with our clients that we are now applying to inner-city developments seeking a 'neighbourhood' outlook. Essentially, these schemes are aiming to innovatively connect into their existing urban fabrics to create new hubs. Our future neighbourhood-scale developments are prioritising three-dimensional connectivity, digital and physical integration, multipurpose environments and a sense of community to create resilient, diverse and liveable 'cities' within themselves.

Commercial viability is an important part of the equation with these developments, while also positively contributing to the economies around them and creating new business opportunities for their communities.

Naturally, Asia has become a dynamic and exciting market for this type of development. Looking to the region's most populous city, and importantly, the second largest in the world, Shanghai presents an ideal environment for future neighbourhood development, which is seeking to cope with the compounding pressures and opportunities of population, land scarcity and density.

PARIS OF THE EAST

We all know Shanghai is much more than its well-worn nicknames. The reference to Paris in this instance is interesting as traditional city neighbourhoods may come no more famous than those of France's capital. However, Shanghai is looking to innovate, as it does, and lead the way for city development. The vision is one being supported by the Chinese government with new urban planning guidelines that seek to improve liveability in its cities, which previously housed 20 per cent of the population 40 years ago, but now amazingly accommodate close to 60 per cent. That is roughly 840 million people.

One of the largest sites is currently under development in Shanghai's city centre, which presents a case study into how the 'mini cities' design approach is being turned into reality. Located in the tree-lined district of Xujiahui, a well-known shopping and entertainment hotspot in the city, is the future Shanghai ITC destination. A mega integrated scheme, the development combines four plots of land to deliver 700,000 square metres of grade A offices, premium retail, and luxury hospitality, all with direct access to a five-line metro station.

The concept of Shanghai ITC goes beyond the notion of mixed-use design to physically stitch the new development with the existing local surroundings to set a new precedent for the district. A series of connected elevated footbridges creates a new pedestrian network across the site, integrating the large-scale destination into the busy urban fabric of the area. The strategy will deliver a calm elevated plane purely for pedestrians to navigate the destination and surrounding commercial, cultural and public attractions. The design is also driven by the vision of enhancing the safety, health, convenience, connectivity and quality of the Shanghai ITC community. Moving beyond mixed-use or Transit Oriented Design, this form of developing draws on the latest state-of-the-art planning and innovation to create smart, self-thriving, neighbourhood-scale destinations.

This fulfils the neighbourhood outlook, which is about being connected on a larger scale, not just to local amenities or those within a particular development. It is a vision where access and transportation become more efficient, where you can walk to your new touchpoint in 10 minutes or less, and where possible, cars do not see people and people do not see cars—as you would have in a 'smart city'.

CITIES BECOMING MORE LIVEABLE

It is not only the world's largest cities that are turning to the 'mini cities' approach. In Thailand's capital, a highly anticipated future development is looking to set new standards. This particular scheme has already earned the first LEED-Neighbourhood Development Platinum title for the country.

The scheme is One Bangkok, Thailand's largest integrated development that will comprise premium grade A office buildings, luxury and lifestyle hotels, luxury residential towers, interconnected retail precincts, art and cultural hubs, and public space. Expected to accommodate up to 200,000 people daily following its full completion in 2026, it is an innovative destination being delivered on a scale not yet seen in the city.

The development will feature 8 hectares of green and open spaces, with architecture and tropical planting seamlessly intertwined to establish a tranquil setting in a vertical environment. An urban green park, combined with a network of pedestrian streets and alleyways, sky parks and public plazas, will help to transform Bangkok's city-centre and become a new global and 'people-centric' destination.

In Malaysia, an eco-living master plan within Kuala Lumpur is looking to bring all the amenities of a city into a 73-acre multi-generational development—transforming one of Kuala Lumpur's earliest townships. Kiara Bay will be a first-of-its-kind living offer in the city, located next to the popular Kepong Metropolitan Park, which covers 235 acres and guided in its design by the EIU Global Liveability Index, Mercer Quality of Living Factors and UN Sustainable Development Goals.

The fundamental principle of any smart city is to make it more liveable. What these designs are showing is how smart 'mini cities' are being developed within urban metropolises that may not have had the opportunities yet to transform on a wider scale. They also serve as examples of how liveability can be improved in existing 'mini cities'

ITC Shanghai, China

by adapting or designing for missing community hearts, by introducing leisure, public realms, gathering spaces and commercial offerings within the existing fabric.

CIRCLE OF INFLUENCE

Different sectors are also following suit. Like the effects of urbanisation, the aviation industry is evolving to keep pace with the increasing movement of people. Last year, airlines flew nearly 4.5 billion passengers on 45 million flights worldwide according to the International Air Transport Association (IATA). The figure is predicted to almost double to 7.8 billion by 2036. Not only that, but airport communities at large airports such as Changi in Singapore or Hong Kong International Airport can be as large as 100,000 people, the size of a town, with 24/7 operational needs.
With those numbers, it is easy to see why airport developments must too transform themselves, and quickly.

Here we are seeing the 'mini cities' approach come to life in the new generation of international large-scale airport cities, which are already starting to come online. This year, in particular, saw two high-profile additions in Jewel at Singapore's Changi Airport and the Beijing Daxing International Airport. These developments are showcasing the shift towards realising the full potential of the entire airport site; a trend seeking to capture the interest of the millions of people who pass through and work within these developments each year.

Our teams have been at the forefront of this movement, from the design and development of the upcoming SKYCITY at Hong Kong International Airport (HKIA) to the Commercial Landside Terminal at the new Beijing Daxing International Airport. These properties will not only serve passengers, but also their expanding airport communities. With the introduction of SKYCITY, for example, Hong Kong International Airport will nearly double its community size and that is before you count the 130,000 daily passengers and visitors.

Being delivered by some of the world's leading airport owners, operators and developers, these schemes are prime examples of how our future airports will not only cater to our travel needs but also our social, retail, dining, experiential and commercial ones. They will become smart 'mini cities' in themselves that foster their own neighbourhood ecosystems.

THE FUTURE IS GREEN

While it is not uncommon to picture our collective future with the thoughts of overdeveloped cities that offer little reprieve from congestion, consumerism and crowds, we can assure this is far from the truth. Together with developers, the design industry is taking bold leaps into conceiving and

There is a new approach to neighbourhood-scale development that is placing the pioneering strategies from the smart city movement at its heart.

realising smarter, healthier, Greener and more connected urban realms for our cities.

One great upside of this movement has been the opportunity for resilient design; one which considers the environmental, social and economic impacts on a place and community. The development trends we have shared here not only use land more efficiently, the innovations in environmentally-friendly building materials and energy-saving technologies are now becoming an integral part of the brief under the smart development movement.

These developments are also seeking to invest in creating their own living and breathing ecologies. Bringing nature into our developments, making our environmental assets easily accessible to wide audiences and user groups is another growing demand. Jewel at Changi Airport has been a wonderful example of this, as has the future Yorkville – The Ring retail destination by Hongkong Land, which will see one of China's largest indoor botanic gardens housed within.

As our cities become more urbanised, it is the principle of creating dynamic and forward-thinking neighbourhoods that is driving a smarter, more sustainable and exciting future for us all.

The Ring - Yorkville, Chongqing, China

Simon Chua
Co-Founder and Executive Director of Lead8

Working predominately in Asia, mainland China and Hong Kong, Chua has over 20 years of international experience in award-winning design and construction projects. Chua's expertise is best showcased in his portfolio of transport and entertainment-led, mixed-use developments. A hands-on designer, he heads Lead8's architectural teams in Hong Kong and is currently the lead director of two major, large-scale developments for Sun Hung Kai Properties in Shanghai. He is passionate about thought leadership and has an active voice in the industry, participating in design discussions and contributing as a keynote speaker at MIPIM Asia, RECON Asia Pacific, Transit-Oriented Development Asia and Retail Asia.

Meeta Patel
Co-Founder and Executive Director of Lead8

With over 30 years of international experience on projects of various scales, combined with her cross-sector experience from master planning to small interior projects, Patel brings unique insight to every project she is involved in. Her portfolio includes a number of award-winning and iconic projects across Asia including ION Orchard, Plaza Singapura, Westgate, Hong Kong International Airport (HKIA) Terminal 1 renovations, Changi Airport Terminal 4 and Jewel in Singapore. Patel currently heads the Lead8 Singapore and Kuala Lumpur studios, directing the design offer and a dynamic team on various mixed-use projects in Southeast Asia.

Mechanical, engineering and plumbing image

BEING SMARTER ABOUT SAFETY

By Richard Kuppusamy

The construction industry is traditionally seen as inefficient, not just in Singapore, but around the world. It is also an industry that involves safety risks—in recent years, more than one third of all workplace fatalities across the country were attributed to the construction sector.

We can start by being smarter about safety. Ensuring safety with technology does not necessarily mean having to use the latest and greatest solutions. While we have made good progress transforming productivity with the use of technology, more needs to be done, and can be done, to ensure the safety of all workers.

Being smarter means we need to start planning for safety even before groundbreaking. For example, Lendlease has pioneered the use of Building Information Modelling (BIM) and Virtual Design & Construction (VDC) for construction planning and operations even before work begins on-site. Apart from reducing the time design and construction traditionally take, digital 3D modelling could be used to visualise the design, evaluate construction methods, and test these against the company's safety requirements before starting work.

Using Consumer Solutions for Construction Safety

Readily available and affordable consumer

technology can be transformational to construction safety. For example, using 360-degree cameras or GoPros to conduct virtual site walks remotely is a safer and less disruptive way to make essential checks during ongoing construction works.

Drones are another off-the-shelf solution that Lendlease is employing to provide a bird's eye view of the entire worksite at regular intervals. Using the data, logistical movements around the site and construction progress can be better planned and tracked by comparing progressive images recorded over the course of construction.

These data sets, regularly combined with BIM, enable us to continually improve planning, supervision and coordination. By creating a more accurate picture of the site from a mixture of information from drones and on-ground resources from the cameras, we are able to make better decisions, faster and with confidence.

Being smarter means we need to start planning for safety even before groundbreaking.

Even better use of data could be made with the information collected via photogrammetry. Here, drone images are stitched together to create a 3D mesh model of the construction in progress. This could be compared in an overlay with the planned 3D design model, providing greater confidence and clarity to the programme, and reducing safety risks while keeping the project on time.
At Lendlease's Paya Lebar Quarter (PLQ) in Singapore, real-time location service smart monitoring was trialled for a particularly high-risk area where an open canal ran through the worksite. This area involved work on the canal that acted as a storm water outlet. Speed is of the essence as water levels often rise quickly and without warning when storms occur further upstream or during the monsoon season.

Instead of relying solely on banksmen to keep an eye out for safety, tracking the location of workers using GPS and Bluetooth sensors, in addition to numerous closed-circuit television (CCTV) cameras and a centralised monitoring centre, allowed us to safeguard workers in high-risk areas. A public address system to communicate with workers across the site also ensured immediate communication of evacuation messages with simple technology, rather than depending on human relayers in the event of impending storms.

Using Tech at a Micro Scale
Construction will still be a human-

Bird's eye view of Paya Lebar Quarter

All images courtesy of Lendlease

Drone flying over PLQ project

It is crucial to inculcate a mindset shift where tech is seen as an enabler and a supporter, instead of a displacer.

intensive industry in the near term and technology should also be used at a micro scale to better safeguard each and every worker. Wearables and Real-Time Location Services are solutions that can be used to better ensure safety.

Apart from being able to monitor a wearer's location in real-time, virtual boundaries can be raised to create exclusion zones around high-risk areas that require close supervision, like working near a water body, steep drops or bordering a road with high vehicular traffic. An automatic alert can sound out if a worker accidentally crosses a boundary to alert them directly, and a concurrent message sent to safety supervisors to investigate if required.

Advances in facial recognition technology means two-factor authentication (2FA) can be employed in biometric access systems to better safeguard the safety of workers even before they step foot onto the worksite. A facial recognition-based gantry access system will automatically prevent workers who have worked the maximum number of hours allowed each day under local regulations from entering the site. This is an essential use of technology for fatigue and safety management.

Especially for large worksites with separate project areas, this approach allows for real-time tracking of worker movements from site to site, and useful information like the ratio of supervisors to workers at each plot at any given point in time. The information collected can then be used for planning and assessing how issues could be further improved, like the overcrowding of workers in a busy worksite as well.

The Human Factor in Safety

However, we have to keep in mind that the full effectiveness of technology is still limited by the human factor. Workers can contravene safety protocols and processes, and switch off a wearable or ignore warning messages issued by the device. While a big picture overview on safety can be maintained automatically and remotely, these individual acts threaten the integrity of the overall situation and safety of the site.

It is crucial to inculcate a mindset shift where tech is seen as an enabler and a supporter, instead of a displacer. In tandem with the introduction of technology, regular safety courses educating workers on the role and how to use these tools are essential to the sustainability of using tech for construction safety. On some of Lendlease's projects, a training academy has been set up to ensure that upon induction of new workers, they are brought up to speed on what is available on-site to safeguard their lives and promote cooperation.

The safety of workers is paramount, and people should always come before projects. The success of any construction project at Lendlease is ultimately measured by the health and well-being of each and every worker and employee.

Richard Kuppusamy
Head of Digital Engineering, Asia, Lendlease

Richard Kuppusamy leads digital transformation, technology implementation and innovation in his current role in Lendlease. He is a chartered British Architect with more than 18 years of experience in the AEC industry, with projects across Europe to Asia. As an early adopter of BIM with over 10 years of experience in BIM and Digital Delivery implementation, Kuppusamy brings unique insights to create additional value in successful project delivery. In his commitment to open collaboration to advance the industries' adoption of BIM/VDC, he is a committee member of the Digital Built Environment Institute, a global non-profit institution focused on education in technological innovations for the AEC industry.

Ar Chan Seong Aun, president, MGBC

From left to right: Chow Kon Yeow, Chief Minister, Penang; YB Yeo Bee Yin, Minister, MESTECC; and Baylon Tham Wai Leong, Organising Chairman, PGIGCE 2019

PENANG INTERNATIONAL GREEN CONFEDERATION & EXHIBITION 2019

27–29 September 2019

In conjunction with Penang 2030 Vision of a family-focused Green and smart state that inspires the nation, the Penang Green Council (PGC) held its eighth annual Penang International Green Confederation & Exhibition 2019 (PGIGCE 2019).

The PGIGCE 2019 is a platform that provides knowledge and technology to educate the public on sustainable living and creating a better environment through activities, discussion topics and exhibitions. The Green & Smart City Conference held on the second day of the event was the main highlight. Keynote speaker, YB Yeo Bee Yin, Minister of Energy, Science, Technology, Environment and Climate Change (MESTECC), as well as building owners, developers, architects and experts, all came together to exchange knowledge. The three-day event drew over 10,000 participants, comprising people from a variety of backgrounds such as city planners, entrepreneurs, manufacturers, developers, technology companies, government officials and Green scientists.

AKZONOBEL REVEALS ITS 2020 COLOUR OF THE YEAR

21 October 2019

AkzoNobel, a global paints and coatings company, unveiled Tranquil Dawn as colour of the year 2020, alongside the launch of the Singapore Interior Design Awards (SIDA) Competition, hosted by Society of Interior Designers Singapore (SIDS) at The Masons Table on 21 October 2019.

The design awards are split into three categories: SIDA Completed; SIDA Concept; and a new award category, SIDA Youth. SIDS has also launched a new award ranking system called the International Design Awards Recognition Scheme (IDARS). Closing date for the competition is on 20 February, 2020.

"The new IDARS aims to provide a form of accreditation for interior designers worldwide in an industry that lacks an official one. Interior designers and firms will be ranked based on awards won from 2019 onwards, ensuring they have a credible profile to share with potential consumers who are looking for quality interior designers," said Tung Ching Yew, Chairman of SIDA.

AkzoNobel is also presenting a new award category for the SIDA Competition, AkzoNobel ColourFutures Award, for the interior designer who shows the best use of a colour in transforming interior spaces.

Oscar Wezenbeek, Managing Director of AkzoNobel Decorative Paints, South East & South Asia, affirmed, "The SIDA Competition is a great opportunity for up-and-coming interior architects and designers to prove themselves and their ideas on a global stage. With AkzoNobel ColourFutures Award, this collaboration feels natural for our organisation, as colour is the core of our organisation and we understand the importance of their tones and shades and how they enhance the world around us."

Singapore Interior Design Awards 2020, organised by SIDS, aims to elevate the standards and profiles of interior designers regionally and around the globe. It is the leading and only interior design awards programme in Singapore to be recognised and endorsed by the International Federation of Interior Architects/Designers (IFI) and the Design Singapore Council (DSG).


Tung Ching Yew, Chairman, SIDA and Oscar Wezenbeek, Managing Director, AkzoNobel, officially launching the Singapore Interior Design Awards 2020

Winners receiving prizes


Attendees at a booth demonstration

BCI EQUINOX JOHOR BAHRU

7 November 2019

In its third year, BCI Equinox, a series of boutique evening tradeshows held across Asia for architects and design professionals, had its latest edition at the Thistle Hotel, Johor Bahru, Malaysia. The Johor Bahru event hosted 15 exhibitors and drew over 278 attendees, comprising architects, interior designers, contractors, developers, engineers and consultants. The event was graced by Ar Hazri Abdul, Chairman of Pertubuhan Akitek Malaysia (PAM), Malaysia GBC Southern Chapter.

This boutique tradeshow is specially designed to create a fun and relaxed ambience for attendees to easily connect and engage with suppliers and manufacturers. Each BCI Equinox event is completed with wine, canapés and cocktails, along with technology hubs where attendees are exposed to the latest developments and products from the industry.


Ir Yau Chau Fong, managing director, Duriane Consult

UPCOMING EVENT

REHDA YOUTH FUTURE FORWARD FORUM 2020

18 June 2020

REHDA Youth, the youth division of the Real Estate and Housing Developers' Association (REHDA) Malaysia, is expected to host its fifth Future Forward Forum at the Lightbox Event Space, Sungai Buloh, Malaysia on 18 June 2020.

The Future Forward forum is an annual event that provides a programme for the youths in property development to exchange emerging ideas that could revolutionise the current real estate landscape. The forum equips its participants with insights and predictions of the future trajectories of the industry.

Key speakers for the 2020 forum will include CEO of Arts Printing Works, Ee Soon Wei, who has transformed a commercial printing factory into a modern collaborative workspace. He will be giving a talk on trends in urban renewal and adaptive reuse projects.

LILI TAO

Lili has more than 10 years' experience in engineering and project management within various high-profile, multi-disciplinary infrastructures schemes across rail, metro and aviation sectors.

With projects spanning across multiple locations in the United Kingdom, Europe, Greater China and Southeast Asia, Lili Tao has led and managed project teams to deliver infrastructure programmes with high quality and sound commercial outcomes. Her expertise includes assessment, inspection, design and implementation of infrastructure schemes within operating railway and airport environments. In her current position as Client Director of Infrastructure for Aurecon in Asia, Lili is responsible for spearheading business growth, managing major projects and strengthening key client relationships. She holds a Bachelor of Engineering (First Class) in Civil Engineering from Beijing University of Civil Engineering, and Architecture and Master of Science (Distinction) in Structural Engineering at University of Nottingham (UK). She is a registered member of the Institution of Civil Engineers (ICE), UK and Chartered Engineer (CEng) of Engineering Council, UK, as well as a registered PRINCE2 practitioner, certified in Primavera6.

Tell us about your expertise and experiences in successfully bridging client expectations and bringing together multiple disciplines from small- to large-scale projects.

- Small project

Many years ago, I was responsible for inspecting a bridge in Corinth, Greece. It's not a big bridge, but it is very special as it submerges under water so as to allow boats and land vehicles/pedestrians to share the waterway. Although it is a relatively small bridge, it was still quite a big job to manage the entire inspection—hiring professional divers, getting the technical documents translated from Greek to English and rounding up the multiple engineering disciplines to complete the inspection. Furthermore, that was in the pre-digital days and everything had to be hand-sketched on-site. I always tell my teams that there are no small jobs in engineering, only big challenges. And this is why I enjoy being an engineer.

- Big project

While working on a railway programme, the end-client became dissatisfied with the design outcome for a package being worked on by another consultant. This was an opportunity for us to position ourselves as the team who can turn

Solid Product Jetty, Johor, Malaysia

the project around. I decided to look at the rail project from the end-client's point of view and objectives. As the firm had a collaborative culture, I was able, as a relatively junior engineer, to pull together my company's experts from around the world and put forward a solution that integrated construction productivity, stakeholder management, technical expertise required, past case studies, investment cases and commercial considerations. Furthermore, I had the proposal packaged into an attractive booklet that was quick and easy for the client to understand. The client was delighted with the proposal and accepted it. Rescuing the project was hard work but the network was opened for passenger service on time in 2014. I always feel quietly proud of my contribution whenever I use it.

In my experience, communication is key, especially in delivering multidisciplinary projects. A small mistake can result in a big engineering and construction headache. Chaos theory and the butterfly effect are very real in engineering. Imagine what would happen if a designer made a small change to the buttress that he is responsible for, but does not communicate it to the rest of the team? As engineers, we have experienced such communication gaps and they generate a lot of unnecessary rework downstream. I always compare managing multidisciplinary projects to trying to connect a spider web. Therefore, we have to extend our innovation from the way we engineer to the way we communicate.

Communication is key, especially in delivering multidisciplinary projects. A small mistake can result in a big engineering and construction headache.

Hong Kong International Airport Third Runway, Hong Kong

I foresee an increased push to digitisation of design and a 'whole-of-life' asset management approach to infrastructure projects.

What are the challenges and perceptions unique to different regions and markets that you've had to overcome?

I have worked in the United Kingdom and Asia, and to me, the biggest difference is the approach to the market. In more mature markets, the client usually has a well-defined brief and scope. In non-mature markets, clients tend to need more support and advice so as a consultant, I spend more time helping them to make sense of their project, scoping and staging it. In markets like China, speed and timescale are also accelerated—they are not going to wait 20 years to develop a rail network or a mega airport. This means that risk assessment has to be done differently in non-mature markets.

In non-mature markets, we have to think big and move fast. At times, this means even explaining to my own corporate headquarters on how the markets are different. To be convincing, I practise the mantra "Believe it. Say it. Do it."—this builds trust with the client and my internal stakeholders. As Asians, we tend to be more reticent so in multidisciplinary teams, it is important for us to speak up and say it!

What do you think are the major challenges in implementing infrastructure projects in Singapore and Malaysia in general?

In Malaysia, there is an appetite for infrastructure investments, but this needs to be backed up by a solid business case. As consulting engineers, our job is to advise our clients on whether the project opportunity will deliver value and prepare their business for the future.

In Singapore, the biggest challenge in infrastructure projects is the long supply chain as the country has very little natural resources. For example, a project that involves some land reclamation means importing sand and the time required to ship it needs to be factored in.

Both countries share the same challenge of attracting talent for infrastructure projects e.g., people who can lead large schemes while harnessing the benefits of digital technology.

What are some key trends, if any, facing the design of infrastructure in Singapore and Malaysia?

Changing demographics, evolving technologies, challenging climate and demanding customer expectations are placing greater pressure on infrastructure projects in both government and private sectors. The major challenge that infrastructure owners and investors face is in prioritising projects that will drive maximum value from each investment. So, I foresee an increased push to digitisation of design and a 'whole-of-life' asset management approach to infrastructure projects.

Corinth Submersible Bridge (above water), Greece

Currently, there is a shortage of skills for this kind of work. It will require engineers who are willing to move into a smarter way of engineering design and develop commercial savviness. Engineers can act as bridges linking the technical and commercial aspects of an infrastructure asset and help governments and companies make better decisions.

How do you want your legacy to be remembered when it comes to bridging projects and successfully circumventing hurdles?

As my legacy, I want to be remembered for pushing the boundary and being open to solutions that have never been tried. Having a senior job title is not the end and I continue to learn new things every day.

What principles are fundamental to your work ethos and culture?

Harnessing the ideas and commitment of a cross cultural, cross gender, cross disciplinary workforce are vital for the success of any mega infrastructure project. This high level of collaboration can only be achieved in a work environment where everyone feels respected, has a sense of value and is willing to contribute. As a leader, I am committed to maintaining a culture based on mutual respect, diversity and inclusion. I lead by example—showing respect to people regardless of their levels. I communicate clearly about my expectations and desired outcomes. Finally, I always look to harness people's strengths, while being mindful of their limitations.

What are your upcoming plans for 2020?

I have two objectives. The first is to bring more digital tools to my clients' projects so that we can deliver smarter and faster. The second is to advocate for more women in senior leadership positions, especially those with engineering background.

MELISA WONG

As founder of Octagon Creative Group, Melisa has accrued 30 years of experience in the visual communications industry, working in audio-visual and multi-media production before venturing into branding, design and advertising. She also has a strong interest in the field of architectural design.

In 1990, Melisa founded Octagon Creative Group, a multidisciplinary company specialising in branding through its design, advertising and publication offerings. Her portfolio encompasses design and advertising work for clients in Malaysia, China, India, Korea, Thailand, Vietnam, the Middle East, Australia and Austria. Today, Octagon Creative is an award-winning firm that has gained international recognition. Melisa is trained in the United Kingdom and holds a BA Honours Degree in Graphic Design from the University of Coventry as well as a degree in Masters in Communication Design from Royal Melbourne Institute of Technology. She was instrumental in setting up the Venice Biennale Exhibition in Venice in 2012 and 2014, working in tandem with PAM. Presently, she heads Octagon Creative, a collaborative studio where creativity comes from individuals working in groups or 'communities of practice' focused on exploration and discovery.

Melisa is also one of the distinguished jurors of BCI Asia Interior Design Awards 2020, and *Construction+* is delighted to catch up with her for a short chat on her creative mind and ethos.

Drawing from your experience of being a judge in various competitions across the region, what would you look out for in the interior design entries as juror for BCI Asia Interior Design Awards 2020?
I would look for originality and quality of execution. The designs ought to be delightful and relevant.

What are some of the critical challenges facing local Malaysian designers and/or graduates entering the profession today? What would you suggest some of the solutions to be?
One of the biggest challenges is to persuade the client to accept new ideas; we must all learn to master the art of persuasion. Another challenge is to work hard, pay attention and keep learning all the time.

Since helming wREGA (Pertubuhan Wakaf Reka Grafik Malaysia or Graphic Design Association of Malaysia) back in 2016, what changes or impact have you made on the local design community?
In 2016, my manifesto was to drive events that will bring the community of graphic designers closer. This meant events that define our roles in society driven by a collective belief to push boundaries of graphic design. [Questions we would ask included] how does graphic design stand in the realm of politics, history, economics, interior and architecture, art and books?

We achieved this by being involved in a

wREGA AGM held at INTI International College Subang Jaya

joint-poster exhibition with 10 countries around the world, particularly the ASEAN countries. It was held at the Creative Space, National Art Gallery from 23 January to 15 February 2018. Another event entitled 100 years of Malaysian Identities Poster Exhibition involving professionals and students was initiated to reflect and discover ourselves to find out what truly symbolises us, and this exhibition drew a lot of submissions. It was held at RUANG, ThinkCity in December 2017.

In 2019, my strategy was about steering events into the areas under the acronym of COMPETE: Competitions; Organising Trips; Marketing (and publicity); Partnership (with other organisations); Education; Training; and Events (expanding the role of design).

What ideas and methodologies have you embarked on over the years towards sustaining creativity, design innovation and profitability by your studio?
Octagon Creative is a design studio that I started back in the 1990s. Our ideals then were about creating a studio that must lead towards sustained creativity, design innovation and profitability.

To quote Garry Emery, creative director and founder of emerystudio, who said in 2004, "To optimise the interplay of ideas and diversity of thinking, it is important that 'communities' are not made up of like-minded people, as innovation is the outcome of the collision of the unfamiliar." This means moving with the times and not to be stagnant. Our studio's strength was in print, but now we have also moved into the realm of digital marketing and video production. It is important to excel in new media; after all they all fall into the category of the creative.

Having honesty, integrity, creativity, and being innovative are some of the traits I would like others to remember me by.

How do you want your legacy to be remembered when it comes to your work?
Designers must be warriors and fighters to survive through thick and thin. Having honesty, integrity, creativity and being innovative are some of the traits I would like others to remember me by.

What principles are fundamental to your work ethos and culture?
The studio's philosophies are as follows:

1) Vision: excellence in creativity
2) Way of working:
   - Obsession with creativity
   - Aiming to satisfy our clients
   - To act fast
   - Having fun working together
3) Values
   - Positive
   - Collaborative
   - Passionate
4) The Octagon brand
   - Outstanding
   - Memorable

What are your upcoming plans for wREGA?
Next year will be election year and I hope that my deputy will take on future challenges faced by wREGA. During my tenure I have opened up wREGA to be more collaborative, working with other associations such as PAM, MIID, ART EXPO, RIX, C.I.S Network, National Art Gallery, Cendana and Genovasi to cooperate on exhibitions and competitions, and to be engaged with society on a broader scale.

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View from south plaza

Undulating roofscape

RED HILL GALLERY

In a bewildered quest to locate the site boundary within a hinterland, lead architect Cherng Yih Lee trekked through acres of abandoned oil palm plantations, on what seemed to be one of the few remaining grasslands for a dairy farm in the locality.

Whilst studying the site, an unusual landscape pattern emerged. The prevailing palm oil trees had formed a border around an area of what was later known to be a cluster of rubber trees, preserved during the land-clearing works. This incident inspired the ensuing design process: the design of human experience preceded designing the actual building. The path to the gallery is found at one end of the preserved rubber forest as visitors are encouraged to find their way through the trees on a winding and elevated metal platform. Due to the building's striking red façade, one can always vaguely see it behind the forest. However, its image is never certain nor fully revealed. Entering the forest path is akin to entering a dark cave. Conversely, one sees a huge white cave when walking into the building's gallery.

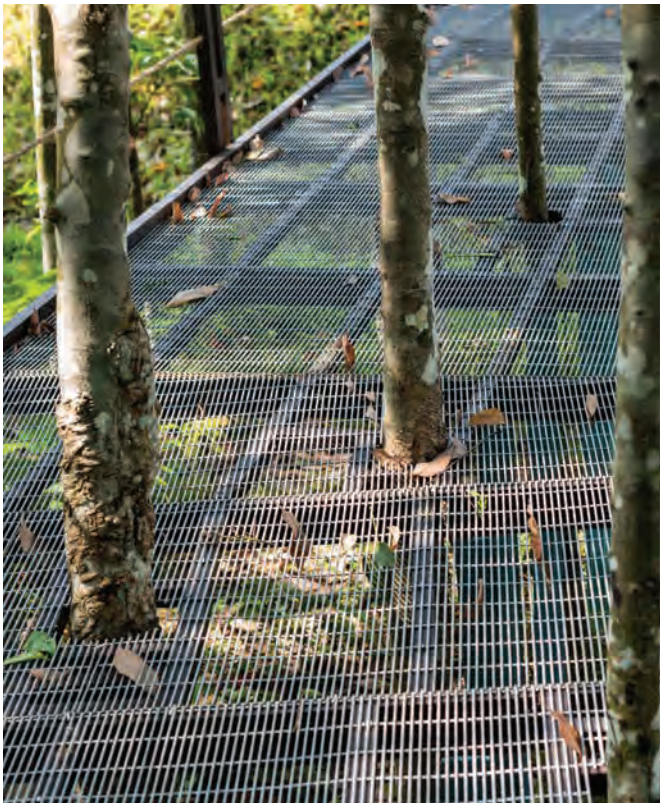
Across different functional areas, the scale of space changes dramatically from one end of the building to the other as ceilings rise and fall above the head, and as walls fold in and out at various places, framing fragmented views of the outside at angles. A zig-zag corridor leading to an internal courtyard garden that serves as a central point to the office space is all part of a designed journey that mimics the experience of searching for a destination in a forest.

As one leaves the site southward, the building is fully revealed with the forest behind it. Its form is reminiscent of compressed, undulating hills that slope towards the ground, disregarding any sense of scale.

Aerial view

The interior façade is part of the design journey

Forest trail towards the gallery



Visitors are encouraged to find their way through the trees on a winding and elevated metal platform

PROJECT DATA

Project Name
Red Hill Gallery

Location
Iringan Bayu Show Village, Seremban, Malaysia

Completion Date
February 2018

Site Area
20,000 square metres

Gross Floor Area
1,160 square metres

Developer
Aspect Synergy Sdn Bhd (subsidiary of OSK Property)

Architecture Firms
MOA Architects; Formzero

Principal Architect
Lee Cherng Yih

Design Team
Desmond Lee; Justin Lee; Hung Sing Ing; Tan Ewe Liat

Interior Design Firm
Luna Solutions Sdn Bhd

Civil & Structural Engineer
Perunding LNL Sdn Bhd

MEP Engineer
YF Perunding Sdn Bhd

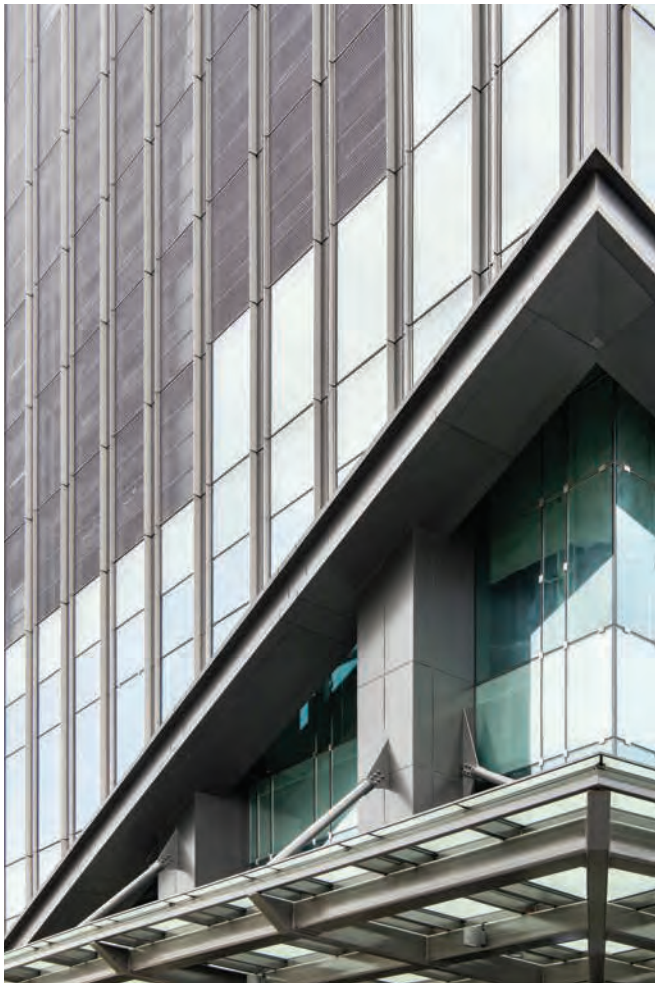
Quantity Surveyor
Jurukur Bahan FPS Sdn Bhd

Landscape Architects
Formzero; HODA Design

Main Contractor
OSK Construction (formerly known as PJD Construction)

Images
Twins Photography (Ronson Lee)

Menara Prudential is a new gateway to Kuala Lumpur's Tun Razak Exchange (TRX)



The triangular façade is inspired by the *Tengkolok Diraja*

Menara Prudential is inspired by the *Tengkolok Diraja*, as expressed by the triangular elements within a green wall here

The entrance to the sky bridge linking Menara Prudential to future TRX developments

MENARA PRUDENTIAL

Menara Prudential is a 27-storey building standing elegant among other high-rise towers of the city, in the centre of Kuala Lumpur's new 70-acre financial district.

Inspired by the *Tengkolok Diraja*, a Malay royal headgear, Broadway Malyan designed the building with three triangular elements at the rooftop element, the façade pattern and the ground floor entrance. To enhance the presence of Menara Prudential, the landscape design sought to create a world-class streetscape using a range of creative solutions with an emphasis on pedestrian friendly streets, access for all, shade, sustainability and cycle provisions. The architecture included a range of hard and soft materials—paving, planting, water features, lighting, public art, wayfinding and environmental graphics. The designers thought about designing a building rooted in its context, and how it interacts at the ground level to create an inviting arrival that welcomed occupants and visitors alike.

Serving as the gateway for the TRX business district, it was also important for the tower to be at the forefront of smart, sustainable development, hence, low-E glass was used for the façade to allow for a clean aesthetic while reducing solar heat gain.

OVERCOMING OBSTACLES

The initial site—in shape and size—was not ideal for a Grade A office building. The designers worked with the client and TRX master planning team to adjust the site to achieve a structure that was at least 2,400 square metres, the optimum size for a Grade A office. To overcome budget and lead time constraints, the team used steel structure and system formwork for faster and 'greener' construction.

The main entrance lobby of Menara Prudential

PROJECT DATA

Project Name
Menara Prudential
(Prudential Tower)

Location
Menara Prudential, Persiaran TRX Barat Tun Razak Exchange, Kuala Lumpur, Malaysia

Completion Date
December 2018

Gross Floor Area
84,454 square metres

Building Height
27 storeys

Developer
Fairview Valley Sdn Bhd
(subsidiary of IJM RE Commercial Sdn Bhd)

Design Consultant
Broadway Malyan

Principal Consultants
Ian Simpson; Indhira Sagita

Executive Architect
SA Architects Sdn Bhd

Principal Architects
Joseph Lee; Tan Shean Wei

Interior Design Firm
Broadway Malyan
(common area only)

Wayfinding & Signage
Broadway Malyan

Civil & Structural Engineer
EDP Consulting Group Sdn Bhd

MEP Engineer
Perunding Kotrek Sdn Bhd

Quantity Surveyor
KPK Quantity Surveyors
(Semenanjung)

Façade Consultant
Meinhardt Façade Technology
(Malaysia)

Landscape Architect
Broadway Malyan

Green Building Consultant
Meinhardt Singapore Pte Ltd

Design and Build Contractor
IJM Construction Sdn Bhd

Interior Fit-Out Contractor
PLM Interiors Sdn Bhd

Images
TRX City Sdn Bhd;
Broadway Malyan

REGEN REHAB HOSPITAL

ReGen is the first private rehabilitation hospital in Malaysia that practises an integrated patient care model where the rehabilitation teams work together to care for its patients, based on programmes designed for each patient's specific needs. Thus, the spatial planning was an integral foundation in achieving a smooth delivery of services. The design team was tasked to deliver a comprehensive service and health planning blueprint for this 96-bedded hospital.

ReGen is located at the heart of the urban renewal initiative by MBPJ (Petaling Jaya City Council), where Section 13 was the main industrial area in Selangor. Its location is ideal and strategic for a health care industry that could complement the demographics of its neighbours: SS2; Paramount Garden; and SEA Park, in tandem with the overall vision of Section 13's transformation master plan.

Previously, the site was occupied by UTAR PJ in 2015. When that project ceased operations to move into a new campus, it provided an opportunity to realise the redevelopment vision. PJ's medical offerings would be completed with ReGen's rehabilitation facilities, surrounded by acute and specialist hospitals, along with University of Malaya's academic medical centre.

Derived from the word regeneration, the project aims to create spaces that bring comfort, convenience and privacy during the healing process, and this is done through nature-inspired palette and materials selection, finishes and textures. For example, the main entrance at level two comprises a lobby that includes a waiting area, reception

Aerial view


Hospital
ReGen
Bahd
AMBULANCE

Main lobby

counter and administration department. Besides allowing natural daylight to filter in, this double volume space in the lobby creates a grand and welcoming ambience. The timber strip walls are complemented by indoor landscaping/planting and carefully selected furniture to give a balance of contrasts between colours, opacity and finishes. For the inpatient and treatment areas, the design intent is to draw daylight, create a sense of warmth of home and a domestic environment to motivate a patient's desire to recovery.

The final building design not only supports and facilitates state-of-the-art technology, safety and quality patient care, but it also embraces the patients and caregivers in a supportive, therapeutic environment. From the efficient flow of spaces and the selection of interior design finishes and colours, down to the furnishing details and landscape elements, a holistic approach in setting the design goals was clearly defined at the beginning, and team had stayed true to these objectives till the end.

Rooftop

Drop-off point

Project Name
ReGen Rehab Hospital

Location
Lot 8, Jalan Bersatu, 13/4, Petaling Jaya, Malaysia

Completion Date
February 2018

Site Area
10,058 square metres

Gross Floor Area
12,917 square metres

Building Height
6 storeys

Number of Beds
96

Client
ReGen Rehabilitation International Sdn Bhd

Architecture Firm
Ong&Ong 360 Consultancy Sdn Bhd

Principal Architects
Ar Hasbullah Abdullah; Ar Ng Cho You

Interior Design Firm
TAHPI Pty Ltd (Total Alliance Health Partners International)

Civil & Structural Engineer
YOF Consult

MEP Engineer
Jurutera Perunding Unireka Sdn Bhd

Quantity Surveyor
Northcroft Lim Perunding Sdn Bhd

Landscape Architect
Just Right Design Sdn Bhd

Planning Consultant
Desa Konsult Sdn Bhd

Medical Planner
TAHPI Pty Limited

Main Contractor
Setara Pelana Sdn Bhd

Interior Fit-Out Contractor
ECO Interiors International Sdn Bhd

Images
ReGen Rehabilitation International Sdn Bhd

The IVP has been designed to operate multiple modes of primary and secondary treatment processes, thus enhancing cost savings and energy efficiency while reducing manpower requirements through automation

INTEGRATED VALIDATION PLANT AT ULU PANDAN

The Integrated Validation Plant (IVP) at Ulu Pandan seeks to integrate advanced waste water treatment technologies with digital capabilities to minimise risks posed by extreme weather, while enhancing water sustainability. As Singapore reclaims, recycles and reuses water, the Public Utilities Board (PUB) constantly seeks ways to maximise water efficiency and lower energy use to ensure a sustainable supply of water. Research and innovation are at the core of national efforts to implement more eco-friendly used water treatment technologies that can use less energy and less chemicals while generating more biogas for power.

ENSURING SINGAPORE'S WATER SECURITY AND SUSTAINABILITY

PUB developed the IVP to validate state-of-the-art design concepts for the future Tuas Water Reclamation Plant (WRP), designed to produce high-grade reclaimed waters from used water, while optimising energy consumed and generated through the processes. Planned for completion in 2025, Tuas WRP will be part of the S$6.5 billion Deep Tunnel Sewerage System (DTSS) Phase 2 project, constructed to meet Singapore's used water collection, treatment and disposal needs. The DTSS is a core used water infrastructure that provides a cost-effective and sustainable solution to support Singapore's continued growth and meet its long-term used water infrastructure needs. The project will free up land for other higher-value developments, support the production of ultra-clean, high-grade reclaimed water (NEWater), improve energy efficiencies and potentially leverage the water-energy-waste nexus.

Operational in 2017, the full-scale IVP has a treatment capacity of 12,500 cubic metres per day. It pilots advanced

waste water treatment technologies, allowing PUB to mitigate any operating risks while enhancing operational efficiency, performance predictability and maintenance planning, before incorporating these technologies at a larger scale at Tuas WRP.

To reduce the footprint of the primary treatment process, a Lamella clarifier with circular sludge collection system was adopted. In addition, to reduce the need for future NEWater production space, the reverse osmosis polishing stage was integrated into the waste water treatment plant. Its energy-efficient treatment processes, which feature a step-feed membrane bioreactor (MBR) system operating on a low solids retention time (SRT) and efficient air scouring regime, save on overall aeration energy consumption and result in the lowest MBR energy consumption and least chemical requirement. In addition, the biologically enhanced primary treatment (BioEPT) process promotes chemical oxygen demand (COD) capture to maximise biogas production, taking it a step closer to its energy neutral target. By adopting full automation to reduce manpower requirements, the IVP runs autonomous operation through digital application.

Considering its settings, the IVP incorporates numerous innovative features:

- Integrated process design with high energy generation potential and low energy and chemical requirements
- Flexible design to operate different treatment processes to optimise water quality and energy usage
- Compact design to fit within limited space at existing Ulu Pandan WRP
- State-of-the-art supervisory control and data acquisition (SCADA) system to provide full automation
- Adoption of BIM for constructability and clash prevention
- Complex sequencing of construction activities within restricted area, and 850,000 manhours worked without any Lost Time Injury

The IVP proves that Tuas WRP objectives are realistic and can be met with savings in land cost and manpower. The project also won the Water/Wastewater Project of the Year Award at the 2018 Global Water Awards in Paris, France. This international award recognises the most important achievements in the global water industry and acknowledges innovative technological advancements. In 2019, the IVP emerged as the winner of the Engineering Project Category, for The Institution of Engineers, Singapore (IES) Prestigious Engineering Achievement Awards.

A bird's-eye view of the entire site

PROJECT DATA

Project Name
Integrated Validation Plant at Ulu Pandan

Location
Ulu Pandan Water Reclamation Plant, Singapore

Completion Date
December 2017

Site Area
7174.64 square metres

Gross Floor Area
1834.67 square metres

Building Height
2 storeys

Plant Capacity
12,500 cubic meters a day

Government Implementing Agency
Public Utilities Board (PUB)

Detailed Design Consultants
Black & Veatch (SEA) Pte Ltd; AECOM Singapore Pte Ltd

Structural & Architecture
AECOM Singapore Pte Ltd (structural); Black & Veatch (SEA) Pte Ltd (architect)

MEP Process Engineers
Black & Veatch (SEA) Pte Ltd

Quantity Surveyor
AECOM Singapore Pte Ltd

Main Contractor
Mitsubishi Heavy Industries Asia Pacific Pte Ltd (MHI-AP)

Images
Black & Veatch

More eco-friendly used water treatment technologies use less energy and less chemicals while generating more biogas for power

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TILE GROUT

FEATURES

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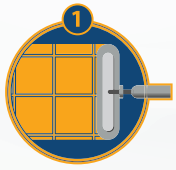
2. Glossy appearance : The surface is glossy as porcelain, and excellent mold resistant ability.

3. Flexibility : This grout with flexibility has high resistance thermal expansion and contraction and does not crack.

4. Short curing time : Easy to apply and fast curing time within 3-5 hours ; the grout neither deform nor collapse.

OPERATION STEPS



Clean the tile seam

Discard the first 40cm

Extrude the grout into the seam

clean the overflow grout

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TEKKA PLACE

Tekka Place is an integrated development currently being built on the site of the former The Verge mall. It is positioned to become a lifestyle destination that will draw locals as regular patrons, while seeking to enhance tourist experience in the Little India precinct.

The redevelopment is envisaged as the gateway to the Little India precinct, serving as the starting and ending point of the experiential route. This mixed-use project aims to complement the already vibrant precinct through value added services, trades and cultural collaborations.

Retail units have been incorporated in the first two storeys and basement of the Main Block and the ground level of the Annex Block, while the upper floors will house eight floors of hotel rooms and associated amenities. Link bridges will connect the car park at the Annex Block to the Main Block, allowing convenience for a more pleasant shopping experience for visitors and guests staying in the hotel.

Main view of Tekka Place


tekka place
tekka place
KEC
Hall
Food

To further enhance the occupant/visitor experience and bring to life the cultural vibe in Little India, a rooftop viewing deck provides an arena for performances and exhibitions, as a way to foster culture, art and retail. As one of the taller buildings in this cultural precinct, Tekka Place provides a vantage point, overlooking the colourful landscape that Little India offers. This is key for the rooftop to serve as an experiential one-stop zone for tourists to look, feel and experience the charm of Little India. Currently, there are no such areas within the various cultural precincts in Singapore that would allow tourists views of the respective precincts to soak in the colourful cultural atmosphere. At Tekka Place, the rooftop combines a premium elevated view with space for cultural performances, and coupled with dining options, to enhance both visual and gastronomical experiences at one of the most visited tourist spots in Singapore.

Borrowing from the rich cultural heritage of Little India, lotus flower-inspired elements have been incorporated into the building façade. The façade design draws its inspiration from the visuals of the precinct, exemplified by the design of the Rangoli present during the many festivals celebrated in Little India. The façade will also serve to establish a connection with the rest of the existing elements, both new and traditional, located around the Little India precinct.

Main Block, drop-off area

Annex Block, rooftop viewing deck

Main Block, basement

Annex Block, food hall

PROJECT DATA

Project Name
Tekka Place

Location
2 Serangoon Road, Singapore

Completion Date
3Q 2019

Site Area
6,193.2 square metres

Gross Floor Area
22,162 square metres

Building Height
10-storey Main Block with basement; 7-storey Annex Block with rooftop deck

Number of hotel rooms
320

Hotel Operator
The Ascott Limited

Developer
Corwin Holding Pte Ltd (Lum Chang Holdings – LaSalle Investment Management JV)

Architecture Firm
ONG&ONG Pte Ltd

Principal Architect (QP)
Steven Low

Interior Design Firms
East 9 Architects & Planners Pte Ltd; Stanley KC

Civil & Structural Engineer
KTP Consultants Pte Ltd

Mechanical & Electrical Engineer
KTP International

Quantity Surveyor
Davis Langdon KPK (Singapore) Pte Ltd

Landscape Architect
COEN Design International Pte Ltd

Green Building Consultant
G-Energy Global Pte Ltd

Design & Build Contractor
Lum Chang Building Contractors Pte Ltd

Images
Corwin Holding Pte Ltd

URBAN DESIGNS & ARCHITECTURE INSPIRED BY NATURE WITH DML

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PHILIPPINES

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Bay windows have been carefully designed and placed for panoramic views of the scenery

M4

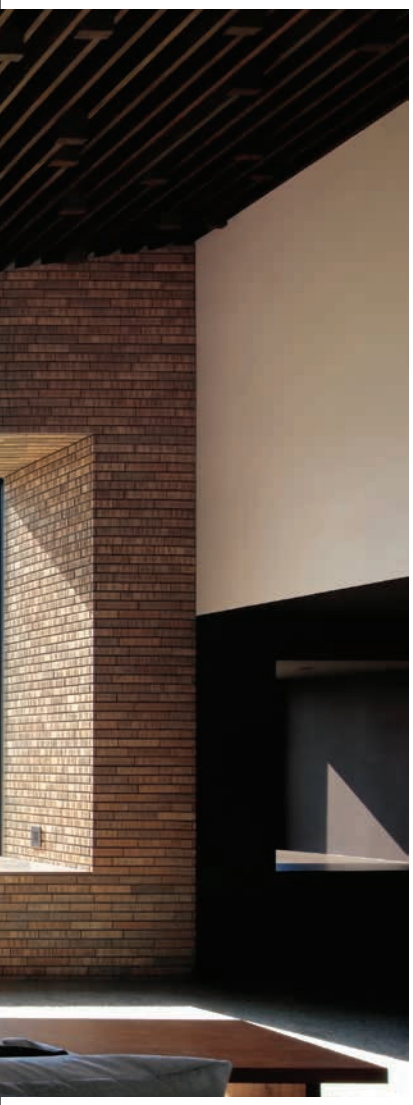
If one were to approach this residential project in Matsumoto from the side facing the road, one would not have thought it was a house. Its monolithic appearance, coupled with a dark-coloured windowless exterior, gives it a distinctive, discrete presence.

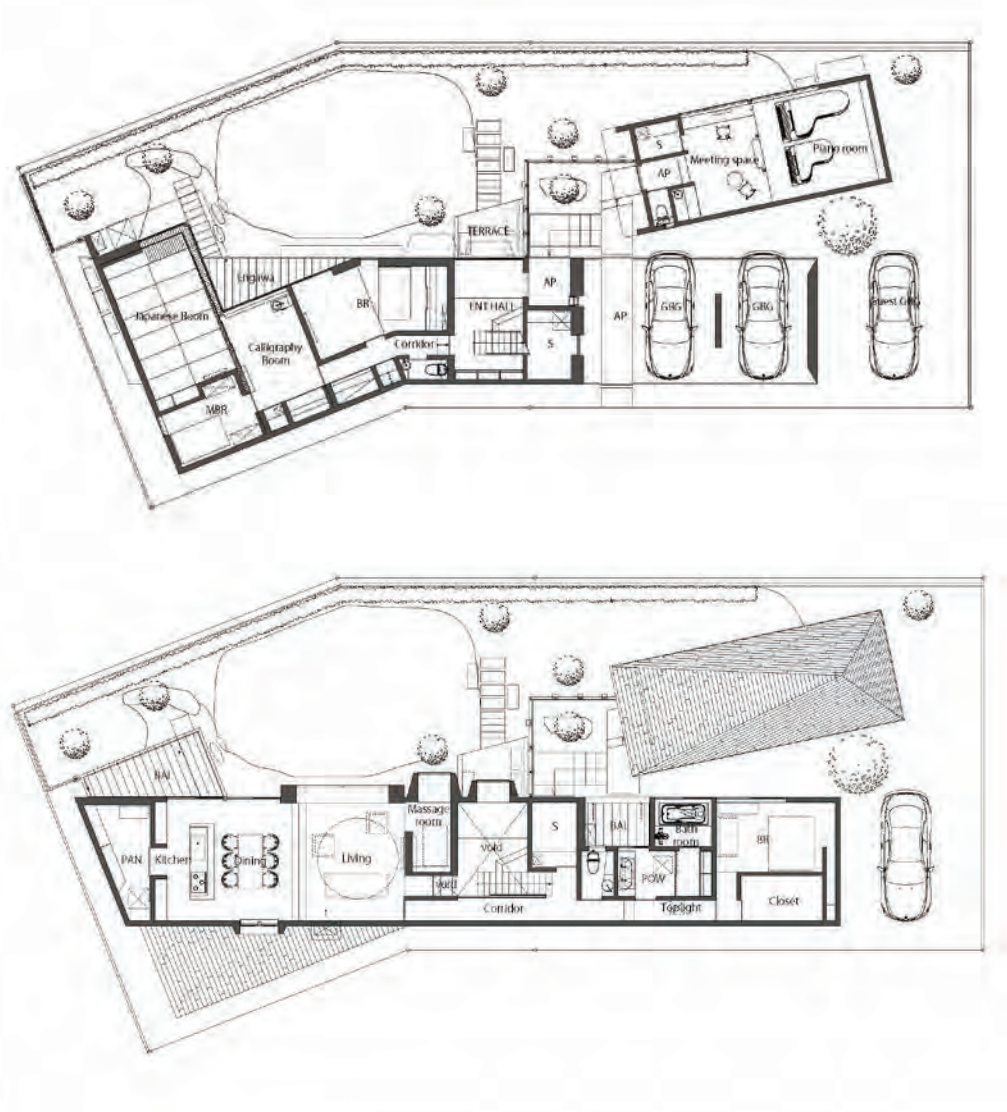
On the other side facing the landscape, however, is where one would see the light, quite literally. The windows are carefully designed and positioned such that their varied sizes, depths, heights, finishes and shapes present a diverse sequence of scenes, whether the viewer is sitting or standing. The shape of the bay windows—like barnacles—serves to heighten this framing effect and creates a striking exterior appearance while deepening the shadows inside. Because the structure follows the V-shape of the property, the broad plain occupied by Matsumoto and its neighbouring cities is visible from anywhere inside. Natural light comes exclusively from one direction, which increases contrasts in the lighting and, together with the placement of the windows, results in a strongly shadowed spatial structure. A separate building houses a music room for playing piano. Throughout both buildings, the minimalist interiors feature exposed wood framing, arranged with beams radiating from a central hub. The design evokes Matsumoto's traditional buildings and is distinctive, thanks to the varied angles of the roof, achieving a free and bold interior.

The interiors overlooking the ridge lines of Matsumoto's mountainous landscape

Large windows framing the scenery from all sides

Natural lighting and the V-shape design resulted in a strongly shadowed spatial structure





Ground floor and second floor plans

Street view of the property

PROJECT DATA

Project Name
M4

Location
Matsumoto-city, Nagano, Japan

Completion Date
December 2017

Site Area
469.92 square metres

Gross Floor Area
283.84 square metres

Architecture Firm
CUBO design architect

Architects:
Hitoshi Saruta; Tomonori Takauchi; Masanori Kanetani

Images
Koichi Torimura (photography)


Bird's-eye view of the site

BAN RAKTAWAN

The site is located in a small town out of Chiang Mai, nestled within the surrounding mountains and farmer fields of Mae Rim. This two-storey house follows a simple urban concept. The key idea is to blend nature-influenced aesthetics, tropical living spaces and minimal modernism. The multilevelled H-shape of the house seems to float, cantilevered over the landscape. The overhanging structure (more than 6 metres) presented a challenging architectural and engineering feat, which has nonetheless led to a modern form. The roof slab provides sunshading, while allowing views of the surrounding mountains. There is a full floor-to-ceiling glass wall on the west side of the house, which aims to maximise the connecting boundary between human and nature, while allowing for natural ventilation.

The house comprises one large master bedroom; one guest bedroom; two kids' bedrooms; several multipurpose areas; a formal living space; an open-to-sky roof top; and a living terrace with a 23-metre swimming pool. It has several multifunctional areas ideal for children to study and play as well as a tree house in the outdoor area. The main element of all the interior and exterior areas is timber, creating a warm and welcoming atmosphere. The location of the house at the back-middle area of the site allows for future expansion at the back end of the property.


The minimalist design complements its natural surroundings

PROJECT DATA

Project Name
Ban Raktawan

Location
Chiang Mai; Thailand

Completion Date
August 2019

Site Area
11,200 square metres

Gross Floor Area
1,200 square metres

Building Height
2 storeys; 12.5 metres

Client
Khun Raktawan Khamtaphan

Principal Architect
Narasret Kitiveerapong

Architecture Firm
PARTY / SPACE / STUDIOS Co., Ltd.

Civil & Structural Engineer
Anannaj Jiamsripong

Mechanical & Electrical Engineer
Anan Weerawutipong

Images
PARTY / SPACE / STUDIOS Co., Ltd.

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The architectural centrepiece of Funan, Tree of Life, provides a visual focus for retail to showcase their brands and products

FUNAN MALL

SYNERGISING INTO SINGAPORE'S CIVIC DISTRICT

The project site is an integral part of Singapore's Civic District, an area that is undergoing rejuvenation to further enhance its vibrancy as a thriving cultural and lifestyle precinct. To create a mixed-use retail environment, the design team has created a live-work-play lifestyle centre that fosters connections with its users through lively social and cultural activities in an inviting public space. Funan carries an array of programmes such as retail; offices; co-living serviced residences; black box theatre; fitness gym and pool; rock-climbing wall; a cycle path; cinemas; as well as an urban farm. A 50-lane indoor climbing wall extends from basement two to level two, with the highest climb at 15 metres.

TREE OF LIFE

The Tree of Life is the welcoming centrepiece design that creates a visual focus within the retail loop; a physical manifestation of the spirit to foster upcoming brands. Extending from basement two to level four, the multifaceted steel structure seeks to promote new forms of retail and entrepreneurship culture, as well as experimentation and social learning. To allow for maximum versatility in the floor plan, it uses flexible partitions to cater to programmatic changes. Fixtures systems adopt an industrial design with exposed steel structures and mesh balustrades enlivened by greenery.

CONNECTIVITY

The ground floor features Singapore's first cycle path through a building. It is designed as a porous streetscape with multiple access points and gentle slopes that are wheelchair-accessible. The exterior flooring finishes continue to the interior, highlighting a seamless connection to the city. As the building connects to the MRT, it is vital to allow for easy access and orientation. Corridor visibility was carefully considered—structural columns have been tucked behind shopfronts for clear sightlines, which also maximises retail value. The communal grand staircase on level one is a focal point where the basketball court, bicycle path, stage, and office entrance lobby converge.

Voice-activated interactive directories are located at escalators and lift lobbies of every level to facilitate wayfinding. NFC technology allows the transfer of directions from directory to personal smartphones. Parking lots are located close to the lift lobbies for convenience, and staircase handrails have Braille indicators.

AESTHETICS

The site is adjacent to Fort Canning Park, the green lungs of Singapore's CBD. The project becomes a conduit that connects the urban context to the lush green park—areas such as the rock climbing wall at the base of the Tree of Life and the cycling bridge have greenery incorporated within. The skylight frit pattern minimises glare and heat gain on the upper levels of the podium, accommodating for comfortable lighting levels while balancing the amount of natural light for indoor plants to grow on the lower levels. Fully operable windows on the connector floor and alfresco dining areas are used to blur the boundaries between interior and exterior.

INNOVATION

With growing online sales, Funan seeks to characterise how digital and physical retail coexist and complement tomorrow's consumers and economy by engaging technology in an integrated experience. A proprietary mobile application platform allows online access to services, including an in-app electronic payment feature to make purchases, booking of the futsal court and movie tickets, as well as a car park feature for drivers to reserve parking lots. Working professionals benefit from the latest facial recognition technology for cardless access to offices. Sensors are placed throughout the mall, providing data on shopping traffic and demographics through video analytics, allowing retailers to tailor personalised offerings to customers.

REALISATION EFFICIENCY

The challenge was to design a high-performance, high-density development that fits into a small footprint with height limitations. Efficiency is achieved through innovation in construction methods and the choice of building materials and equipment, where a virtual design and construction software was applied at the onset of the construction process. The design of the Tree of Life was studied with BIM software to allow for both steel structure and interior design elements to be sequenced and prefabricated. Precast concrete structural building components were used to further reduce construction time.

The Tree of Life comprises eight platforms and studios for actively curated events, launches and studio workshops

First-of-its-kind indoor cycling path in the Funan mall

Singapore's first urban farm in a mall: Funan's Level 7 is home to a 18,000-square-feet Food Garden for shoppers to experience a variety of edible plants through smell, touch and sight

PROJECT DATA

Project Name
Funan Mall

Location
107 North Bridge Road, Singapore

Completion Date
June 2019

Site Area
124,500 square feet

Gross Floor Areas
507,000 square feet (six-storey retail); 260,000 square feet (Grade A offices)

Building Height (storeys; metres)
Six-storey retail component; two six-storey office blocks; two levels of basement car park (B3 and B4)

Developer
CapitaLand Mall Trust

Architecture Firm
RSP Architects Planners & Engineers Pte Ltd

Executive Architect
RSP Architects Planners & Engineers Pte Ltd

Design Consultant
Woods Bagot Asia Ltd

Interior Design Firm
Woods Bagot Asia Ltd

Civil & Structural Engineer
RSP Architects Planners & Engineers Pte Ltd

Mechanical & Electrical Engineer
Alpha Consulting Engineers Pte Ltd

Quantity Surveyor
Arcadis Singapore Pte Ltd

Lighting Consultant
Nipek Pte Ltd

Landscape Architect
Grant Associates Singapore Pte Ltd

Green Building Consultant
Building System and Diagnostics Pte Ltd

Demolition Contractor
Neo & Goh Construction

Main Contractors
Woh Hup – Obayashi Singapore Joint Venture (JV)

Interior Fit-Out Contractors
Woh Hup – Obayashi Singapore Joint Venture (JV); Design Studio Group Ltd

Images
Woods Bagot Asia Ltd

The design seeks to invoke a sense of inquisitiveness by dissolving the typical classroom walls into porous boundaries

Muted cherry timber laminate is used as a finishing to amplify the sense of nature and warmth

NAFA ARTS PRESCHOOL

AN URBAN CHILDREN'S SANCTUARY

Located in Singapore's Arts and Heritage district, NAFA Arts Preschool (formerly NAFA Arts Kindergarten) is the first arts-themed preschool in Singapore. Its curriculum aims to inspire learning and growth through the arts to develop aesthetic abilities, academic achievements and social emotional skills. The school has a spatial arrangement that allows for uninterrupted visual connections throughout, where lessons are conducted for the arts, music, dance, speech and drama, as well as urban farming.

OPEN DESIGN

The preschool is designed to invoke inquisitiveness in children by dissolving the typical classroom walls into porous boundaries, therefore creating opportunities of interplay and interaction amongst pre-schoolers. This also allows teachers to monitor the children's activities. Instead of constructing full-height partition walls, cabinets were built to demarcate the classrooms and serve as storage spaces for both pre-schoolers and teachers. Harvesting natural lighting for each classroom was also one of the key considerations during the spatial design process.

The form of a pitched roof is largely used in the school's aesthetics as a symbol of a sanctuary and implemented at the main entrance that connects to the reception and foyer. Muted cherry timber laminate is used as a finishing on the walls and ceiling to amplify the sense of nature and warmth to occupants. Vinyl floor material has been selected to cushion any high-impact activities.

COMFORT FOR STUDENTS

The building design takes into account the various personality traits in children, whether introverted or extroverted, and

The open terrace space on the third level serves as an elevated outdoor playscape and an urban farm

presents spaces with different comfort levels. Semi-enclosed nooks are transitional spaces that are designed to be interactive areas during break time, acting as connecting points for the children to meet. The dining space is featured as a gathering point during meal times, where children's programmes or movies are projected on a screening wall.

Structural columns of the site are concealed within the 'porous wall' and cladded with thick whiteboard laminate material to allow children to doodle on. Teachers can also use them during lessons and discussions. Positioned at the far end of the classroom to avoid obstruction, timber constructed raised floor is designed to conceal sleeping cots. It also creates a space for games and reading activities.

OUTDOOR TERRACE

This site has an open terrace space on the third level for outdoor activities, allowing children to develop cognitively through an interactive environment. The outdoor space doubles as an urban farm for children to grow their own crops and learn about waste management and recycling unwanted plastic objects into useful farming equipment. Invisible grilles have been erected along the parapet walls for safety. In summary, the macro design intention is to achieve a safe and conducive learning environment for pre-schoolers.

'Peepholes' are purposefully incorporated as part of the wall design to further increase the children's sense of curiosity

The pitched roof form is largely used in the visual language to symbolise a sanctuary

The dining space is featured as a gathering point of the sanctuary

PROJECT DATA

Project Name
NAFA Arts Preschool

Location
80 Bencoolen Street, Singapore

Completion Date
October 2018

Site Area
1,200 square metres

Owner/Client/Developer
Nanyang Academy of Fine Arts (NAFA)

Interior Design Firm
SODA (Spirit of Design Analogy Pte Ltd)

Principal Designer
Tung Ching Yew

Civil & Structural Engineer
Davoe Creative Pte Ltd

Mechanical & Electrical Engineer
Davoe Creative Pte Ltd

Main Contractor
Davoe Creative Pte Ltd

Interior Fit-Out Contractor
Davoe Creative Pte Ltd

Images
SODA (Spirit of Design Analogy Pte Ltd)

A playful blend of polychromatic layers within a simple structural frame visually widens the work scape

MINDVALLEY HEADQUARTERS

The new Mindvalley Headquarters has a user-centric workplace that was inspired by the jungle gym playscape and Gaudi's Sagrada Familia, creating a multilevelled space filled with polychromatic light. The designers put together these ideas based on the concept and functions of the office that seek to optimise materials, spatial layout and human performance.

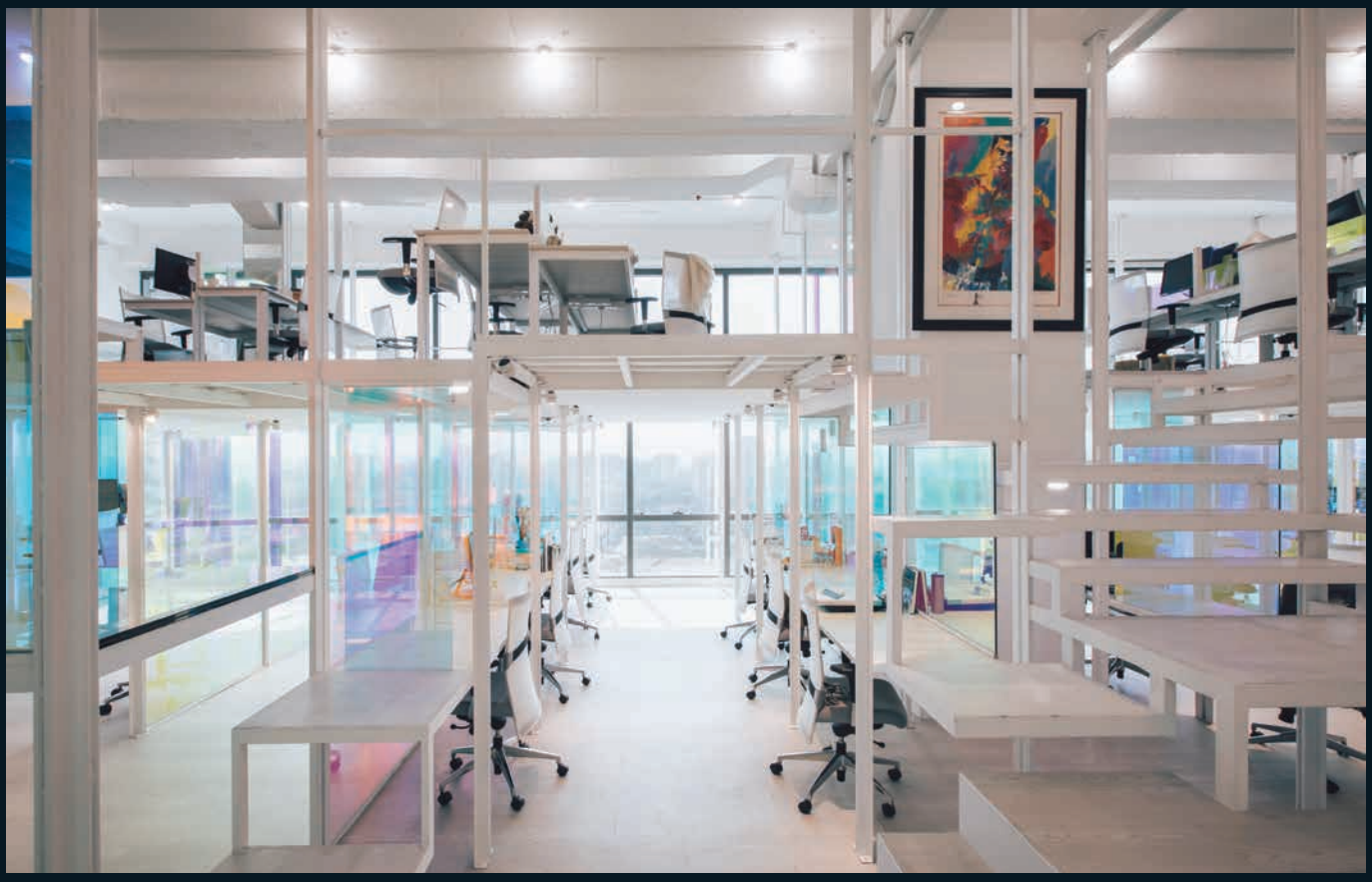
SETTINGS

The environmental settings of the workspace are based on an architectural exercise on pleochroism—an optical phenomenon where the colour of a substance shifts when observed at different angles—and its dynamics with user experience and productivity. Dichroic film strategically placed across the office-wide, multilevel steel-and-glass framed structure reflects natural sunlight to imbue the internal environment with an ethereal, kaleidoscopic glow. Adding to the jungle gym concept, the office features innovative components to counteract a sedentary lifestyle with standing desks and pull-up bars.

OVERCOMING CHALLENGES

The site is long and narrow; hence to overcome this and to increase floor area, the designers incorporated a steel-and-glass mezzanine structure (i.e., the jungle gym component). The number of columns was also increased so as to minimise the size of its steel members. Furthermore, in order to increase visual permeability, perforated metal sheets are used as the mezzanine's flooring.

The project also faced technical challenges such as structural and height restrictions. To solve these, the designers worked out a typical layout detail that integrates glass partitions and workstations into the mezzanine's structural system, creating a three-in-one component.



The multilevelled mezzanine platform creates a variety of workspace settings while cleverly expanding its overall capacity

Colourful glass panels serve as partitions while maintaining a delicate balance between public and private areas

PROJECT DATA

Project Name
Mindvalley Heaquarters

Location
Level 23 A, Menara UOA Bangsar, Kuala Lumpur, Malaysia

Completion Date
November 2018

Site Area
330 square metres

Gross Floor Area
510 square metres

Owner
Mindvalley

Architecture Firms
PCL Architect in association with Idea Workshop Sdn Bhd

Principal Architect
Ar Lim Pay Chye

Interior Design Firm
Idea Workshop Sdn Bhd

Principal Designer
Luis Shin Tseng

Mechanical & Electrical Engineer
Z&R Engineering Trading (M) Sdn Bhd

Main Contractor
Intereka Design

Interior Fit-Out Contractor
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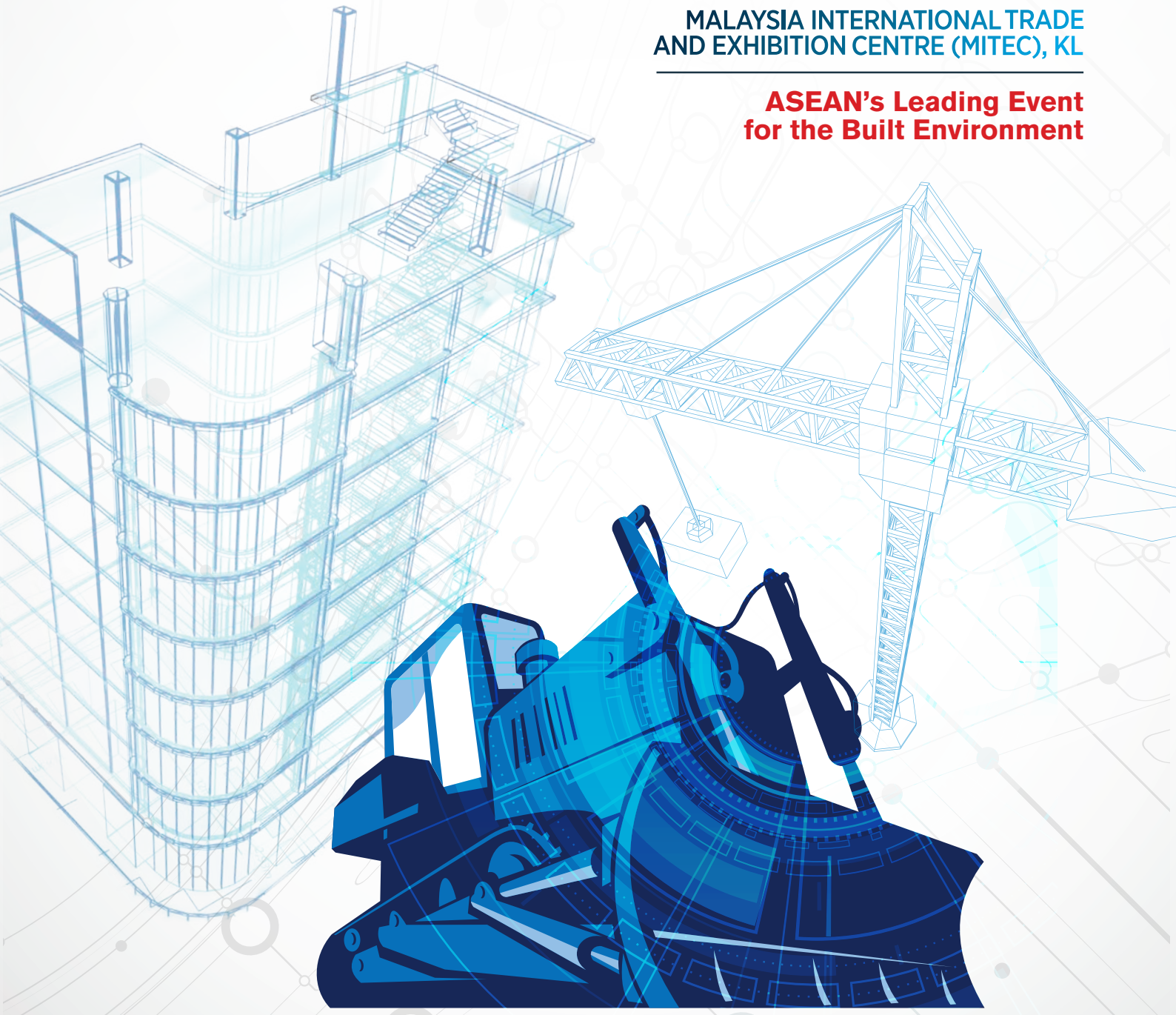

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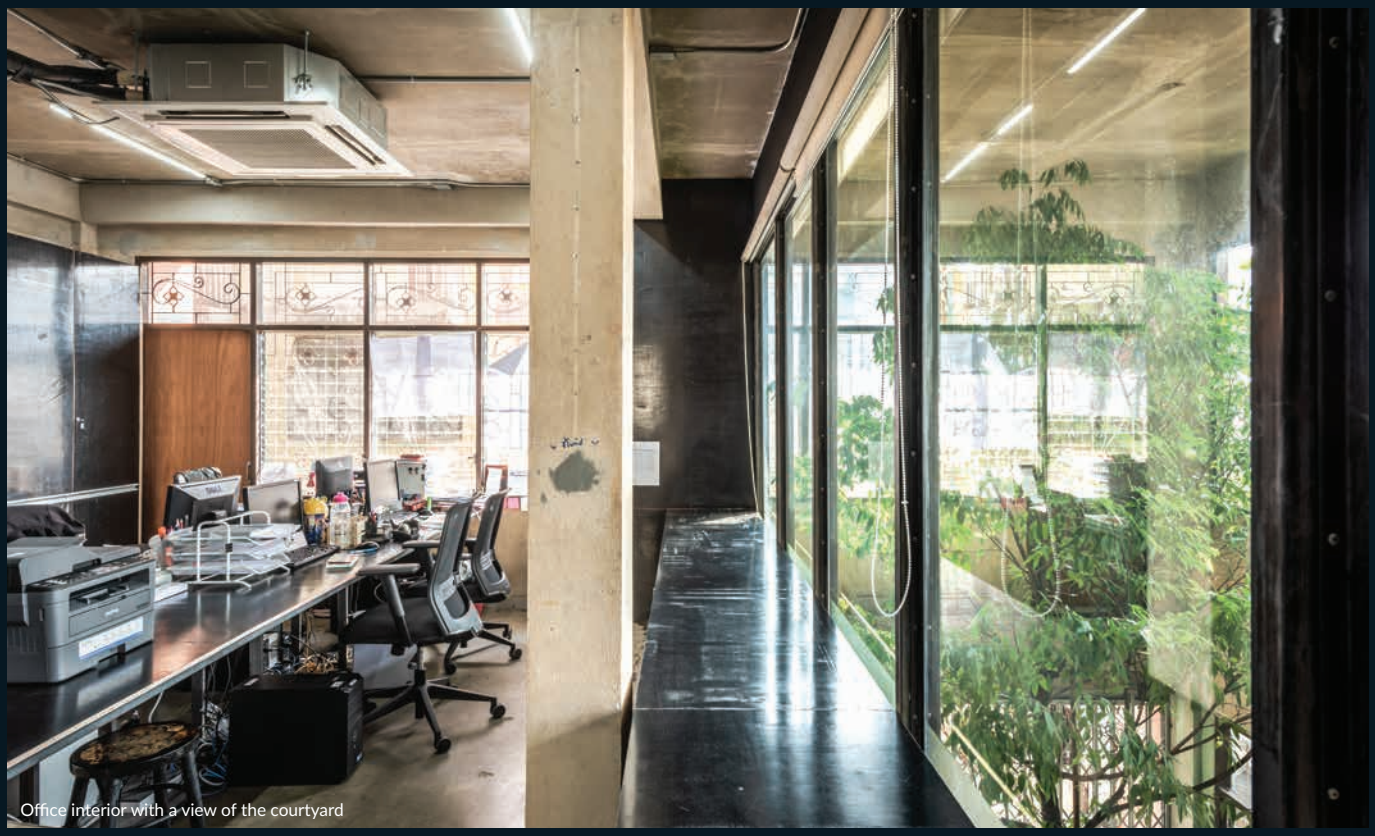
Semi-outdoor courtyard


Office interior with a view of the courtyard

CC OFFICE

The new Creative Crews (CC) office is located in Talad Noi district, Bangkok. It seeks to preserve the building's history of a traditional row house with a sensitive approach, while exhibiting the versatility to create new spaces that accommodate a variety of uses. This multilayered office focuses on fulfilling functional aspects, enhancing productivity by introducing a naturally ventilated corridor and greenery into the building.

SPATIAL DESIGN FOR WELL-BEING

The new building plan seeks to maximise space, circulation and the functions on each floor. The design team carved into the existing building to create voids, transforming the third floor into an adjoining double-volume ceiling for a cheesewood tree within. The addition of a steel dog-leg improves vertical circulation. By reinterpreting local elements, the existing steel railing balconies are left untouched.

The building is split into two halves, with formal functions on the air-conditioned east side, and circulation and supporting facilities on the naturally ventilated west side. The first and second floors are retail spaces for rent. Flexible meeting spaces on the third floor are rented out to the public and utilised by CC staff with an adjoining double-volume, semi-outdoor courtyard used for public functions. The fourth, fifth and sixth floors are offices, while the top floor houses staff dormitories.

Natural lighting, greenery and natural ventilation help create a soothing environment whilst improving the physical and mental well-being of office workers. Custom-made furniture found throughout the premises provides ergonomically friendly equipment and workstations to suit a variety of needs.

CC office is an adaptive reuse project, where alterations are done for functional changes only. The practicality of this project is represented in the versatile design, which can accommodate on-site adjustments during construction. Unlike traditional workplaces designed with a one size fits all concept, this planning provides a solution to the practicality of workspaces in Bangkok's row houses typology.

Office space

Natural lighting and ventilation are enhanced in the double-volume space

Lower roof line protects against wind and rain

Dormitory

Library

Project Name
CC Office
(Creative Crews office)

Location
177, 39-40 Soi Choduk,
Talat Noi, Samphanthawong,
Bangkok, 10100, Thailand

Completion Date
3 August 2018

Site Area
112 square metres

Gross Floor Area
650 square metres

Building Height
7 floors; 21.2 metres

Owner
Creative Crews Ltd

Architecture Firm
Creative Crews Ltd

Interior Design Firm
Creative Crews Ltd

Principal Designer
Creative Crews Ltd

Civil & Structural Engineer
Wor Consultant Co., Ltd

Mechanical & Electrical Engineer
EXM Consultant Co., Ltd

Main Contractor
Duangnil Team

Images
Takdanai Raktawat; Art 4d

Panoramic view of the co-living area

A visual richness is achieved with complementary colour palette and design

EYSE SUKHUMVIT 43

Discreetly tucked away from the vibrant expanse of Sukhumvit Road, EYSE 43 is a hidden treasure in the luxury residential market. The challenge of the project was to offer a plethora of facilities without the feeling of confinement. This low-rise development comprises three structures: two seven-storey residential blocks; a separate low-level structure for common facilities (including a clubhouse and garden lounge on the lower floor, and a Japanese-style onsen and steam rooms on the second level); as well as a pool on the third level.

SPATIAL DESIGN

To enhance greater connection with the outdoors, each unit in EYSE 43 is oriented with a view to the natural surroundings, where the exterior garden spaces along the perimeter provide a green buffer zone. The building looks into a central garden area, where a communal space at the ground level serves as a living and dining area (serviced by an open kitchen) to enhance community living. The connecting space that transitions between the shared spaces and access to the private residences also features a pocket garden that grows herbs. Communal areas such as the lift lobbies and corridor ends are punctuated with full-length moss-covered walls.

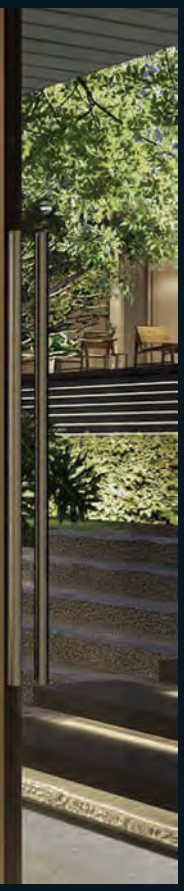
AESTHETICS

To achieve a restorative home environment, a measured colour palette was selected. Warm, neutral tones of carefully chosen high-end materials are used for floors and countertops, complementing the soft tones of the wall finishes to achieve visual richness. High ceilings and tall entrance doors to each living unit enhance the sense of space while a side panel opens to allow a wider and more convenient opening. Sheer curtains help filter light while heavy drapes provide the necessary privacy. A large display unit with succulents and glass terrariums brings nature into the interior for a tactile experience. A kitchen island counter functions as a cooking preparation area, while doubling up as a dining space. Built-in furniture such as walk-in closets further enhances the efficient use of space.

Meeting room

Living area

Outside view of the pocket garden



Japanese-styled onsen and steam room on the second level

PROJECT DATA

Project Name
EYSE Sukhumvit 43

Location
12 Soi Prommitr Khlong Tan Nuea, Watthana, Bangkok 10110, Thailand

Expected Completion
2021 (targeted)

Site Area
3,077.6 square metres

Gross Floor Area
16,944.22 square metres

Building Height
7 storeys

Number of Rooms
107 units

Owner/Client/Developer
Singha Estate Public Company Limited

Architecture Firm
HB Design

Principal Architect (QP)
Visid Panusittikorn

Interior Design Firm
Steven J. Leach, Jr. + Associates Limited

Principal Designer
Julie Limsnukan

Mechanical & Electrical Engineer
EEC Engineering Network Co., Ltd.

Lighting Consultant
Whatandhow Studio

Landscape Architect
SHMA Co., Ltd.

Images
Steven J. Leach, Jr. + Associates Limited

MALAYSIA'S CONSTRUCTION INDUSTRY SNAPSHOT

The construction sector's gross domestic product (GDP) declined marginally by 0.26 per cent for the nine months ending September 2019, compared with the corresponding period in 2018.

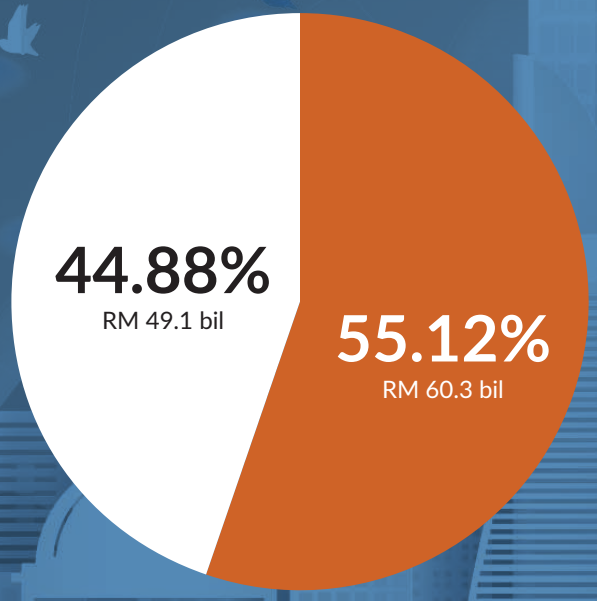
For the first three quarters, the construction sector recorded RM109.4 billion worth of construction works, driven by growth in the civil engineering and special trades activities sub-sectors, with civil engineering being the biggest contributor to the value of construction work done.

Construction activity continues to be propelled by the private sector, with a 55.12 per cent share (RM60.3 billion), as compared to the public sector, with a 44.88 per cent share (RM49.1 billion), as of the first nine months of 2019.

According to the Economic Outlook Report 2020 released by the Finance Ministry, the construction sector is expected to end the year with a 1.7 per cent growth. However, the sector is set to expand further in 2020 to 3.7 per cent, with the building of affordable homes, as well as the acceleration and revival of mega projects. These include the East Coast Rail Link (ECRL), Mass Rapid Transit Line 2 (MRT2) and Light Rail Transit Line 3 (LRT3), electrified double track Gemas-Johor Bahru, Klang Valley Double Track (KVDT2) rehabilitation project, Central Spine Road, Pan Borneo Highway and the Coastal Highway in Sarawak.

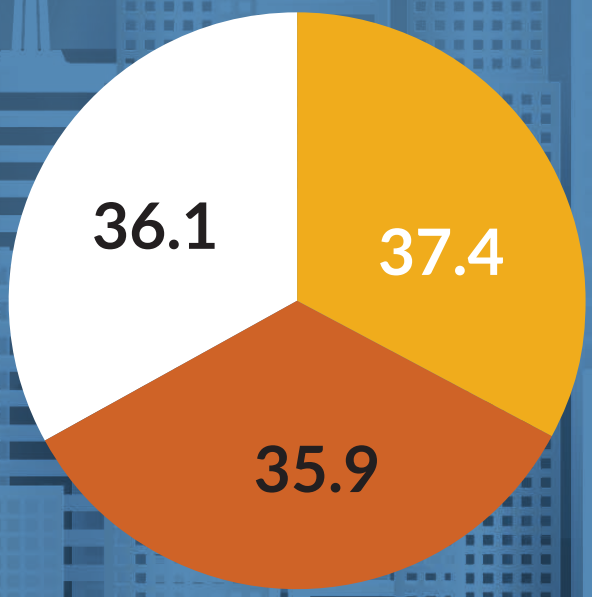
New petrochemical and power plant projects, such as the Pengerang Deepwater Terminals (phase 3), Baleh Hydroelectric Dam and Sarawak Water Supply Grid Programme (phase 1), could also spur the construction sector.

PROJECTS BY SECTORS (RM 'BIL)



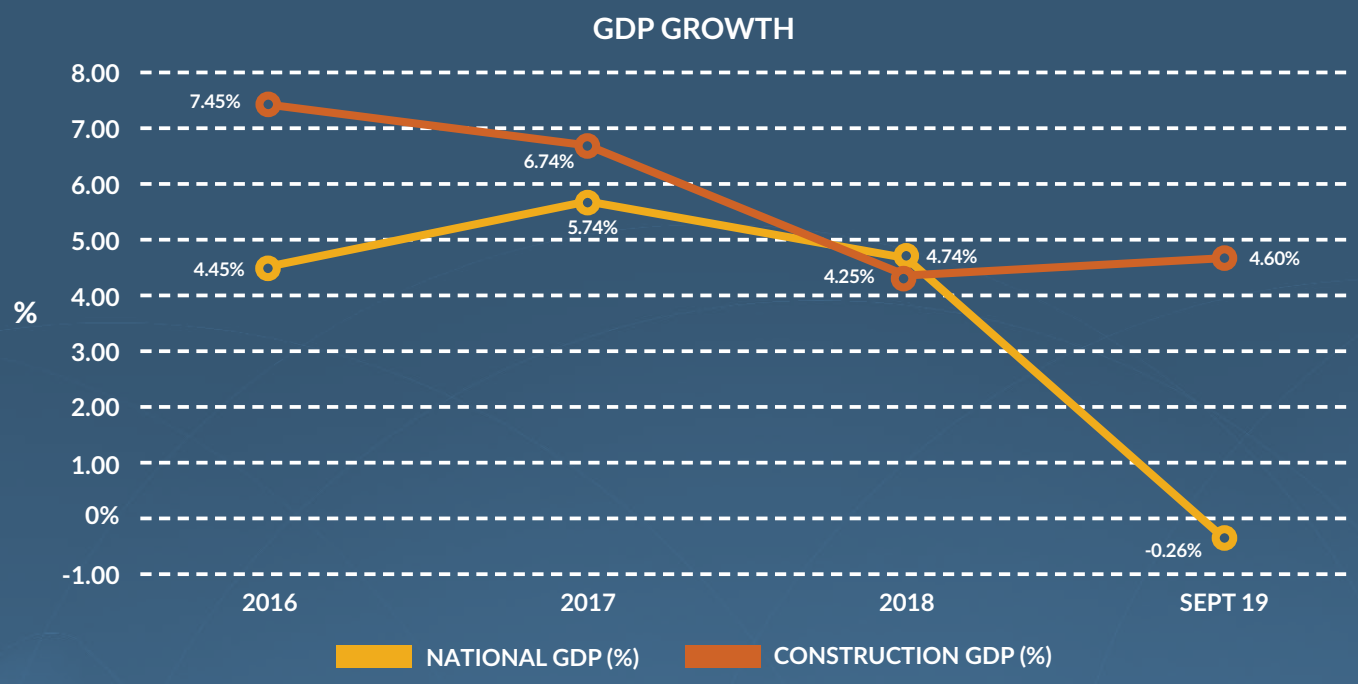
PRIVATE PUBLIC

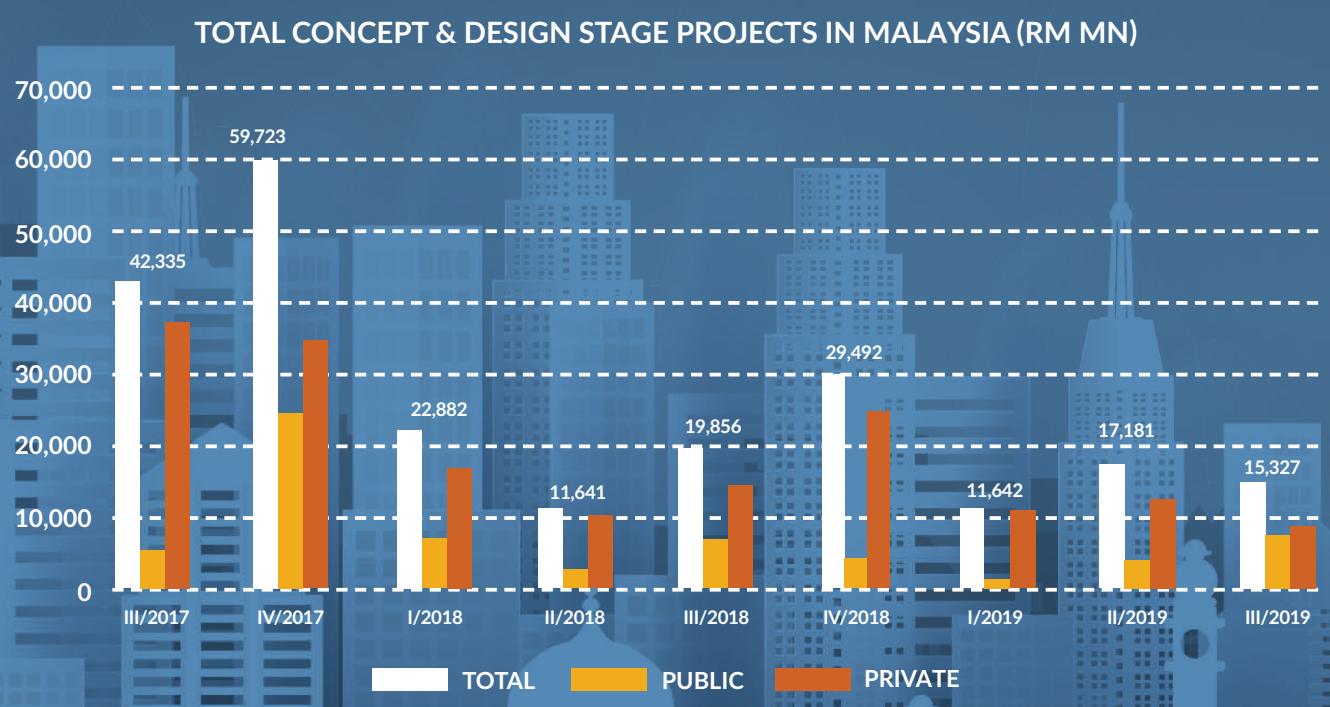
VALUE OF CONSTRUCTION WORK DONE (RM 'BIL)



1Q 2Q 3Q

Sources: Bank Negara Malaysia; Construction Industry Development Board; Department of Statistics Malaysia; BCI Forecaster Malaysia September 2018-January 2019; BCI Pipeline Report Malaysia Q3 2018





YEAR ON YEAR CHANGE

Q3 2019 VS Q3 2018

-22.8%

QUARTER ON QUARTER CHANGE

Q3 2019 VS Q3 2018

-10.8%

SINGAPORE'S CONSTRUCTION INDUSTRY SNAPSHOT

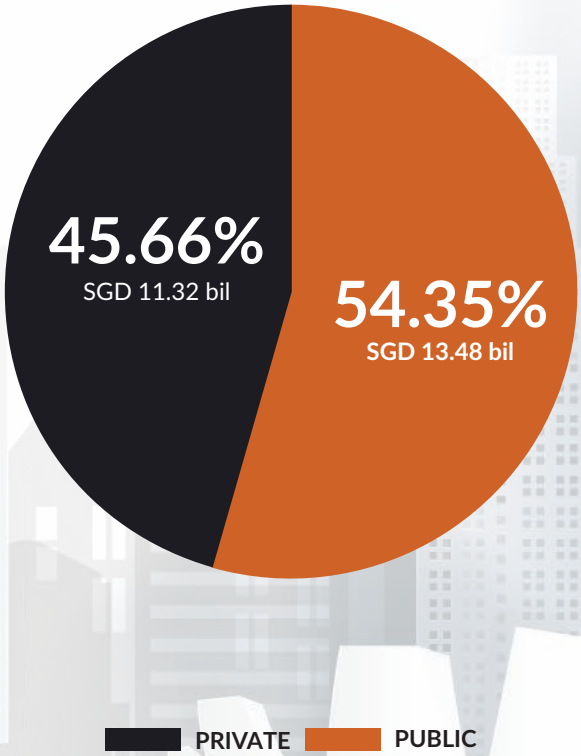
The construction sector's gross domestic product (GDP) grew by 2.77 per cent for the nine months ending September 2019, compared with the corresponding period in 2018.

Construction activity continues to be propelled by the private sector, with a 54.35 per cent share of contracts awarded (SGD13.48 billion), as compared to the public sector, with a 45.65 per cent share (SGD11.32 billion).

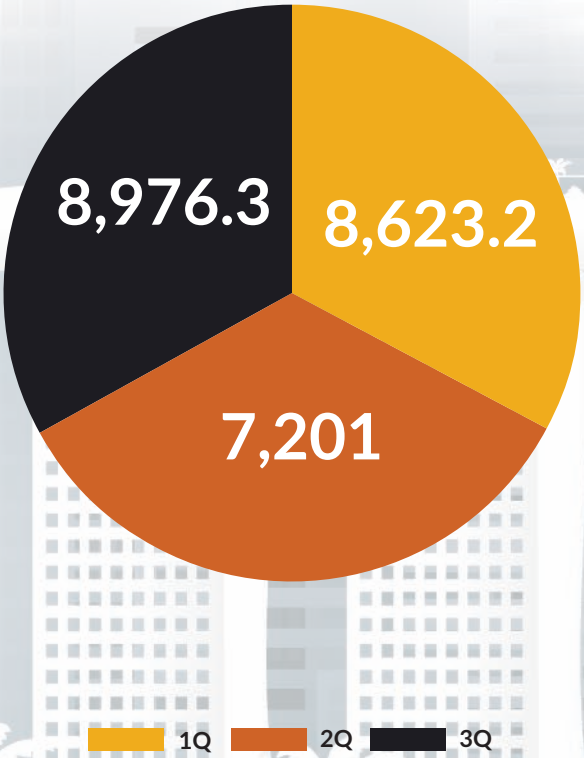
The construction sector is projected to see sustained growth in the coming year, based on the recovery in contracts awarded since the second half of 2017, according to the Ministry of Trade and Industry.

Public sector industrial projects, including the Punggol Digital District, PUB's Tuas Water Reclamation Plant for the Deep Tunnel Sewerage System Phase 2, as well as civil engineering projects, such as the North South Corridor, should boost outturns. Private sector construction is also expected to pick up, spurred by the redevelopment of en-bloc residential sites and industrial building activities.

PROJECTS BY SECTORS (SGD 'BIL)

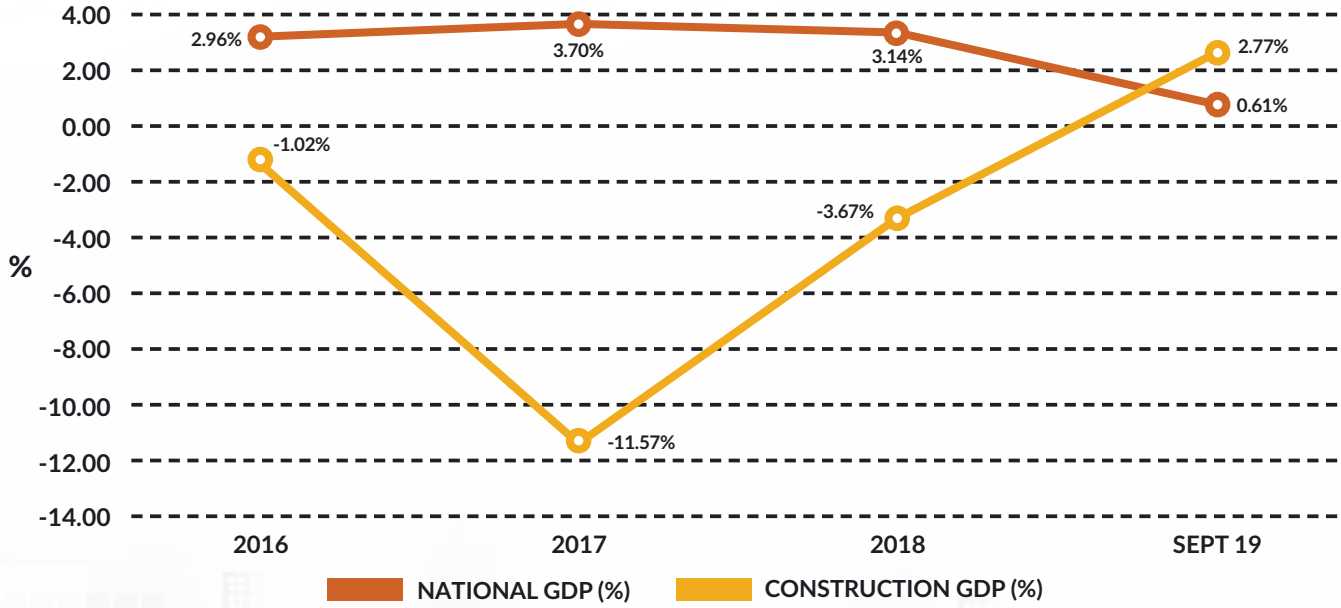


CONTRACT AWARDED VALUE (SGD MN)

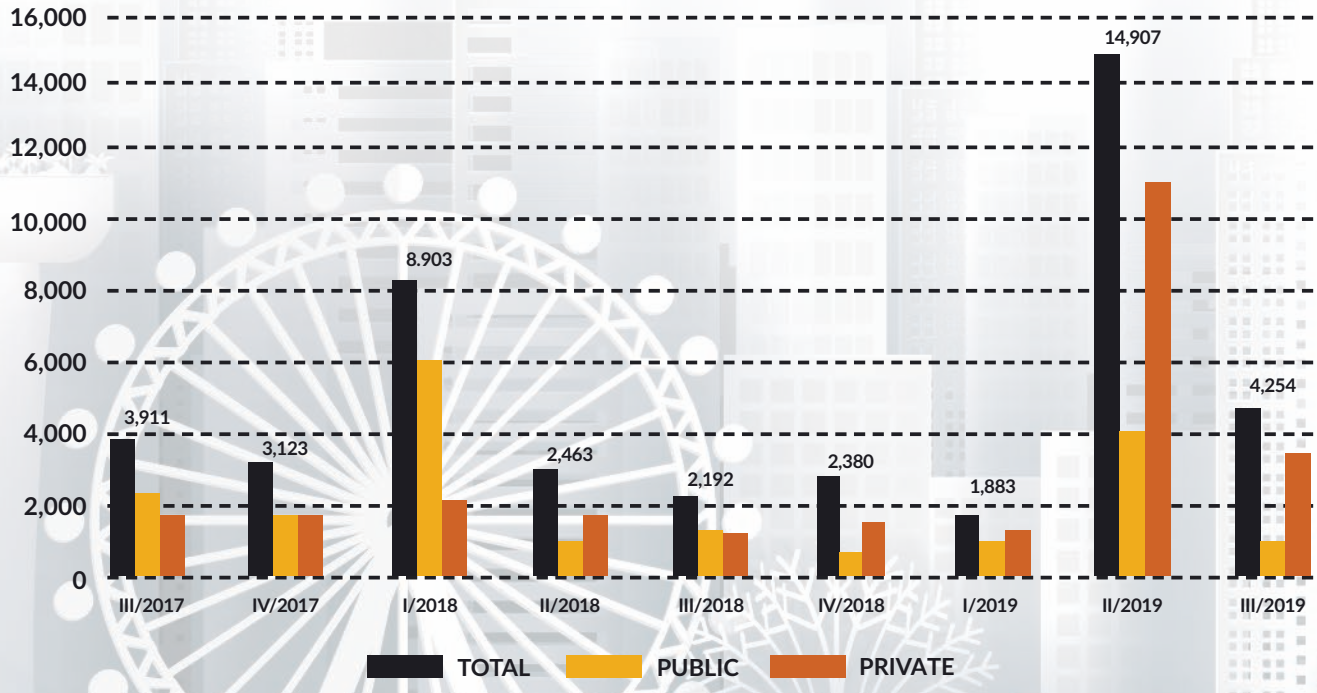


Sources: Singapore Department of Statistics; Building and Construction Authority; Ministry of Trade and Industry; BCI Forecaster Singapore October – December 2018; BCI Pipeline Report Singapore Q3 2018

GDP GROWTH



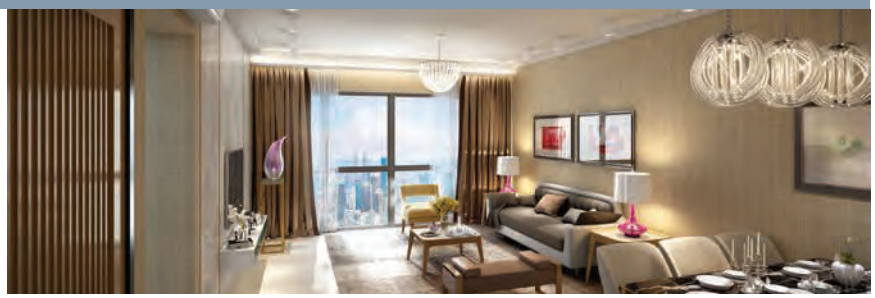
TOTAL CONCEPT & DESIGN STAGE PROJECTS IN SINGAPORE (SGD MN)



YEAR ON YEAR CHANGE	QUARTER ON QUARTER CHANGE
Q3 2019 VS Q3 2018	Q3 2019 VS Q3 2018
+94.1%	-71.5%

MALAYSIA

KENCO HOTEL BUKIT BINTANG



PROJECT TITLE	PROJECT TYPE	LOCATION	DEVELOPER	ARCHITECT/ CONSULTANT	CONSTRUCTION START	ESTIMATED PROJECT VALUE (RM 'MILLION)
Kenco Trading: Hotel At Bukit Bintang (4 Stars)	Hotel	Bukit Bintang, KL	Sri Seltra Sdn Bhd	VERITAS Architects Sdn Bhd	Q1 2020	300
The Sail: Sales Gallery	Showroom	Kota Laksamana, Melaka Tengah	Sheng Tai Impression Sdn Bhd	CS Loo Architect	Q1 2020	5
Ureka At Empire Remix 1	Office	Damansara	Greendev Sdn Bhd	LKS Architect	Q1 2020	500
SkySierra @ Setiawangsa	Residential	Setiawangsa	Skyworld Development Sdn Bhd	Archimatrix Sdn Bhd	Q1 2020	405
Kota Kinabalu Convention City: Phase 1a (Pullman 5 Stars Hotel & 3-4 Stars)	Hotel	Kota Kinabalu	Convention City Development Sdn Bhd	M Kiandee Architect	Q1 2020	720
Hospital Pulau Pinang: Women & Children Block	Health	Penang	Kementerian Kesihatan Malaysia	Jabatan Kerja Raya Malaysia	Q1 2020	250
KPJ Klang Bayuemas Specialist Hospital	Health	Port Klang, Klang	KPJ Healthcare Bhd	Arkitek Sa Noh	Q1 2020	35
Intan Medical Centre	Health	Bandar Alor Setar, Kedah	Bandar Baru Mergong Sdn Bhd	Arkitek Fong	Q1 2020	30
Bagan Datuk Polytechnic	Education	Perak	Jabatan Kerja Raya Malaysia	Arasreka Architect	Q1 2020	220
Hydro Power Plant At Ulu Padas River (180 MW)	Utilities	Beaufort, Sabah	Kerjaya Kagum Hi-Tech	Angkasa Consulting Services Sdn Bhd	Q1 2020	70
AEON Tanjung Lumpur	Retail	Kuantan, Pahang	AEON Co (M) Bhd	Arkitek Rekawasan	Q1 2020	200

Source: BCI Asia Research

SINGAPORE

HOMETEAMNS BEDOK

PROJECT TITLE	PROJECT TYPE	LOCATION	DEVELOPER	ARCHITECT/ CONSULTANT	CONSTRUCTION START	ESTIMATED PROJECT VALUE (SGD 'MILLION)
Olloi Condo	Residential	50 Lorong 101 Changi	K16 Services Pte Ltd	Park + Associates Pte Ltd	Q1 2020	12
Shop Offices at Jalan Besar	Commercial	253 Jalan Besar	Hwa Hong Corporation Limited	FDAT Architects LLP	Q1 2020	5
OLA Executive Condo	Residential	Anchorvale Crescent	Evia Real Estate & Gamuda Land	AGA Architects Pte Ltd	Q1 2020	100
Bugis Junction Tower For Enterprise Singapore	Office	230 Victoria Street / 2 Fusionopolis Way / 1 Fusionopolis Walk,	Enterprise Singapore	AGA Architects Pte Ltd	Q1 2020	11.68
Hotel at Club Street	Hospitality	Club Street	Midtown Development Pte Ltd	RSP Architects Planners & Engineers Pte Ltd	Q1 2020	130.50
Former Forte Factory	Industrial	29 New Industrial Road	Soilbuild Group Holdings	ID Architects Pte Ltd	Q1 2020	14
Punggol Point Cove: Phase 2	Residential	Punggol North	Housing and Development Board	Surbana Jurong	Q1 2020	199.39
HomeTeamNS Bedok	Recreational	Bedok North Road	HomeTeamNS	Surbana Jurong	Q1 2020	79
Aqueen Heritage	Hospitality	681 Geylang Road	Crescendas Pte Ltd	SDI Architects Pte Ltd	Q1 2020	7.50
T2E Changi Airport - EBS Extension	Transportation	60 Airport Boulevard	Changi Airport Group (Singapore) Pte Ltd	RSP Architects Planners & Engineers Pte Ltd	Q1 2020	30
Arkema Rilsan bio-polyamides plant	Industrial	Jurong Island	Arkema Pte Ltd	AMEC Foster Wheeler	Q1 2020	90

Source: BCI Asia Research

The design takes on a contemporary interpretation of the Art Deco period, resulting in a quaint charm nostalgic of Singapore in the 1960s

1953

Fronted by a row of restored heritage shophouses standing along Balestier Road, 1953 is a six-storey freehold mixed-use development, comprising 14 commercial strata units and 58 residential units. Its architecture seeks to achieve a dynamic relationship between modernity and polished antiquity, allowing residents to experience city living as well as the quaint nostalgic charm of 1960s Singapore.

The Old and the New

Responding to the essence of the neighbourhood, the project adopts the blueprint of the original shophouses, where merchants in the 1960s would set up their businesses on the ground level, and the family residence on the upper storey.

1953 conserves the existing façade of the shophouses and reassembles the detailing of the period. The new block takes on a fresh look with a humble dark-coloured palette, adding a contemporary layer and texture to the site's narrative.

A staircase in one of the shophouses connects to the communal deck at the new block, where a large open-to-sky courtyard provides visual connection between the landscape deck with the public along the five-foot walkway. A continuous five-foot walkway is laid across the first storey to retain the characteristics of the shophouses. Setbacks are imposed at the back alley to be used as a rear service road to support commercial activities.

Minimising Disturbance

Given such a compact site and its location in a gazetted conservation area, the construction must abide by the restoration guidelines.

A dark-coloured deck further accentuates the contemporary element of the design

The juxtaposition of heritage and contemporary architecture

Conservation of the existing façade helps preserve the authenticity and character of the site

Challenges in the construction include the A&A works to the existing shophouses as the Urban Redevelopment Authority (URA) regulations require the preservation of the façade of existing shophouses along Balestier Road. Hence, only part of it is demolished and rebuilt. Minimising disturbance is also crucial to protect the existing structure from the construction activities, so micropiles are adopted for the new built structure to minimise vibration.

Deep excavation of three levels of basement for the mechanical car park along Tessensohn Road may also induce disturbance. As the basement is encompassed by conservation shophouses and neighbouring buildings, deep excavation will cause tilt and crack to existing structures. The underlying soil of the proposed basement is a thick Marine Clay layer, which technically has no bearing capacity to support any structure. To overcome this, soil improvement works are undertaken to improve the soil condition during excavation, coupled with top-down construction with contiguous bored pile (CBP) in the GBW works.

PROJECT DATA

Project Name
1953

Location
1 Tessensohn Road, Singapore

Status of Construction
Preliminary site works

Expected TOP Date
2021 (targeted)

Site Area
17,938 square feet

Gross Floor Area
5398.68 square metres

Building Height
6 storeys with attic;
23.97 metres

Number of Units
14 Commercial Strata Units;
58 Residential Units

Developer
Oxley Amethyst Pte Ltd

Architecture Firm
Park + Associates Pte Ltd

Principal Architect (QP)
Lim Koon Park

Senior Designers & Architects
Christina Thean; Yin Wing Yong

Interior Design Firm
2nd Edition Pte Ltd

Principal Designer
Hillary Loh

Civil & Structural Engineer
KCL Consultants Pte Ltd

MEP Engineer
United Projects Consultants Pte Ltd

Quantity Surveyor
JIA Quantity Surveyors & Project Managers Pte Ltd

Landscape Architect
Ecoplan Asia Pte Ltd

Main Contractor
CKR Contract Services Pte Ltd

Images
Oxley Amethyst Pte Ltd

Drop-off area

ATWATER

ATWATER is an integrated development that comprises two residential towers along with commercial and retail spaces. The commercial component, which consists of two office blocks, will sit atop a two-storey retail podium. It has been designed for the young and old alike to live life to the fullest.

Residential Tower 1 is a lifestyle tower created especially for first-time home owners and young urbanites in mind, while Residential Tower 2 is a family-oriented tower with units targeted mainly for upgraders or those living in the neighbourhood looking to downsize. This would include baby boomers in their sixties who want to live in comfort and have nearby medical facilities. In line with the developer's intention for universal design principles to be incorporated in a forward-thinking way, approximately 20 per cent of the units in Residential Tower 2 have been designed for versatility that could be turned into assisted living units with age-friendly features.

Aside from the diversity in the residential layouts, the office towers offer a variety of options to cater for different categories of companies. Larger multinational companies or co-working entities have the option to take up entire floor plates of 30,010 square feet, while medium-sized companies and smaller start-ups have the options of taking the executive and premier suites, ranging from 1,384 square feet to 16,000 square feet.

A key idea in ATWATER pertains to universal design, which was to allow equitable access whenever possible. Apart from adhering to MS 1184 to provide a barrier-free built environment with dedicated preference to the disabled, aged and children, the design also aims to provide a safe and resilient environment. Principles of crime prevention through environmental design (CPTED) were incorporated to ensure public spaces can be easily surveilled, territorial reinforcement implemented between public and semi-public spaces, where private spaces are defined within a three-tier security system, along with good lighting to provide sufficient visibility and vigilance.

Jacuzzi and pool area

Children's playground

Aerial view (front elevation)

PROJECT DATA

Project Name
ATWATER

Location
Jalan Universiti, Seksyen 13, Petaling Jaya, Malaysia

Status of Construction
Main building works commenced

Expected Completion
1Q 2022 targeted (residential); 2Q 2022 targeted (commercial)

Site Area
5.09 acres

Gross Floor Area
Approx. 175,000 square metres

Building Height
Residential towers (30 and 33 storeys); Office towers (8 and 16 storeys)

Number of Units
493 serviced apartments; 72 executive & premier suites; 27 retail spaces

Developer
Paramount Property Development Sdn Bhd

Architecture Firm
ONG&ONG 360 Consultancy Sdn Bhd

Principal Architect
Ar Ng Cho You

Project Team
Tracy Lo; Muhammad Helmi; Amos Tan

Civil & Structural Engineer
G&P Structures Sdn Bhd

MEP Engineer
Zeal Perunding Sdn Bhd

Quantity Surveyor
Baharuddin Ali & Low Sdn Bhd

Landscape Architect
Urban Design Group Sdn Bhd

Planning Consultant
Desa Konsult Sdn Bhd

Demolition Contractor
HK Ong Demolition Specialist Sdn Bhd

Main Contractor
ORANGEBEAM Construction Sdn Bhd

Infra & Substructure Contractor
Dongyue Infrastructure Sdn Bhd

Images
ONG&ONG 360 Consultancy Sdn Bhd; Paramount Property Development Sdn Bhd

Front view of the proposed exhibition concept

NIKE EXHIBITION

In conjunction with the sixth anniversary of Nike's Flyknit and the launch of the Nike Equality Campaign, this student project envisioned an exhibition to showcase Nike's history of sport equality. It is housed in a super-sized tunnel with a 'swoosh-like' structure and a large shoebox pop-up store, all designed to push the limits of design. Intersecting the tunnel with the shoe-box shape creates a dynamic spatial arrangement for the exhibition.

Nike's Flyknit is lightweight and malleable, which eases construction and transportation issues. The see-through properties evoke shopper's curiosity and allows for cross ventilation as well as the diffused sunlight (and the mall's environmental light) to penetrate through. The material is recyclable, allowing the setup prop materials to be reused to manufacture shoes after the exhibition. The recycled cardboard for the pop-up store can also be recycled for Nike's packaging.

This exhibition was strategically chosen to be located at the centre court of the Pavilion shopping mall, as using the see-through material allows for a 360-degree perspective to attract shoppers from all directions within the mall. This project also capitalises on the diffused light from the skylight at the centre court's air-well.

Inspired by Nike's advocacy towards equality, this project seeks to unit all races to come together through sports across Malaysia. The exhibition is also intended to promote awareness amongst Malaysians to be more active by participating in sports, and to live a healthier lifestyle with Nike.

Tunnel

Scoreboard

Slide

PROJECT DATA

Student Name
See Eleven

School
Raffles College of Higher Education

Programme
Advanced Diploma in Interior Design

Supervisor/Instructor
Ong Pai Ling

Project Name
Nike Exhibition

Project Year
May 2018

Location
Pavilion, Kuala Lumpur, Malaysia

Site Area
2,600 square metres

Gross Floor Area
4,700 square metres

Building Height
7 storeys

Clients
MTrustee Berhad for Pavilion REIT; Urusharta Cemerlang (KL) Sdn Bhd

Images
Raffles College of Higher Education

Concept perspective

ORIGINAL

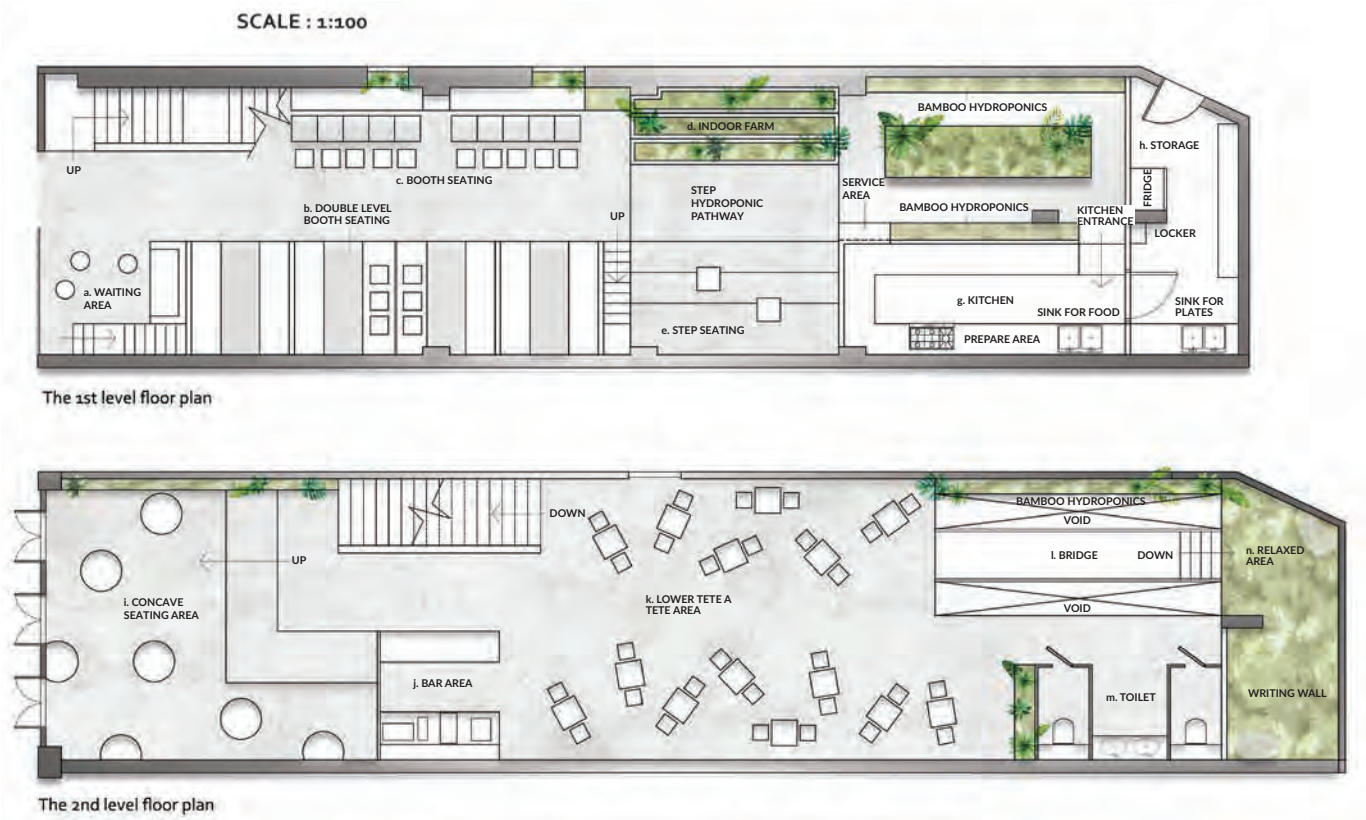
Located at Purvis Street, Singapore, Original is a farm-to-table casual dining restaurant that brings people back to the conventional methods of communication, allowing customers to take a break from social media that is ever-present in our daily lives.

The restaurant's system of assigning random seats to diners aims to create a sense of excitement and anticipation in encouraging them to socialise and interact. The target group is teenagers/youths who may lack communication skills due to the overuse and/or overdependence of technology. Currently, 51 per cent of teens would rather communicate digitally than in person, and 32 per cent of people would prefer to speak on the phone rather than in person. Thus, the restaurant aims to focus on the importance of human interaction.

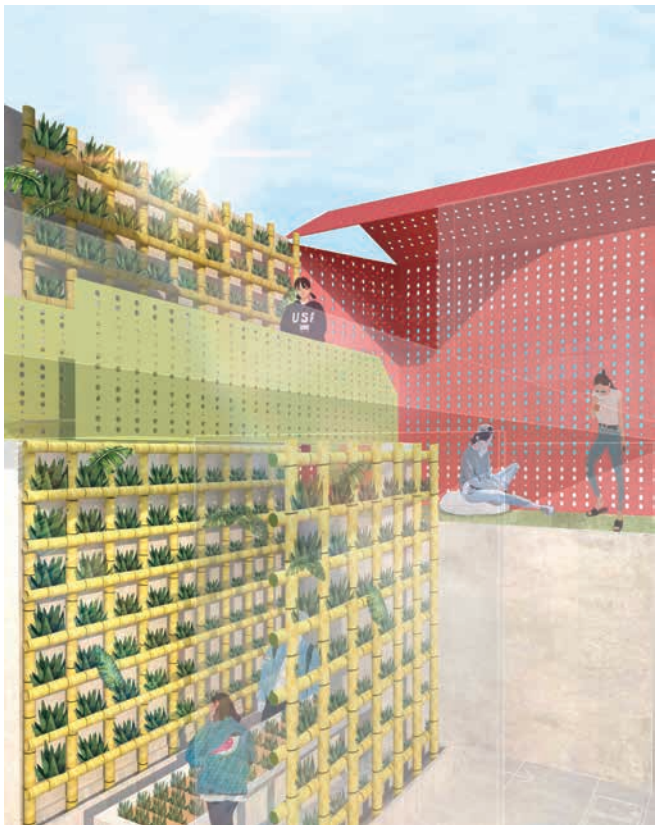
Colours such as grey, pink and green are used in the restaurant to create an ideal atmosphere for comfortable communication. Grey creates a feeling of calmness and reliability; pink a vibrant, youthful, atmospheric energy; and green a feeling of growth, relaxation and sustainability.

The hydroponics within the space allows people to have a closer experience with nature. Since there are only a few restaurants that have incorporated hydroponics within their interior designs, Original provides the rare opportunity for its nature-themed design to flourish.

The main materials used in the project are locally sourced, consisting primarily of concrete, with supporting materials such as wood laminate and grass. The use of glass and perforated metal screens allows sunlight to filter into the space, providing enough light to the hydroponics as well as creating a comfortable environment for customers.



Floor plans



Perspective view of the bridge and hydroponics

PROJECT DATA

Student Name
Piaolei Huang

School
Raffles College of Higher Education

Programme
Diploma in Interior Design

Supervisor/Instructor
Rosa Liane Da Silva Lopes

Project Name
Original

Project Year
September 2018

Location
Purvis Street, Singapore

Site Area
133 square metres

Gross Floor Area
288 square metres

Building Height
First storey: 4.26 metres; second storey: 3.25 metres; mezzanine: 3 metres

Number of Rooms/Units
12

Client
TungLok Group

Images
Raffles College of Higher Education