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September / October 2025

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SG 60

In This Issue

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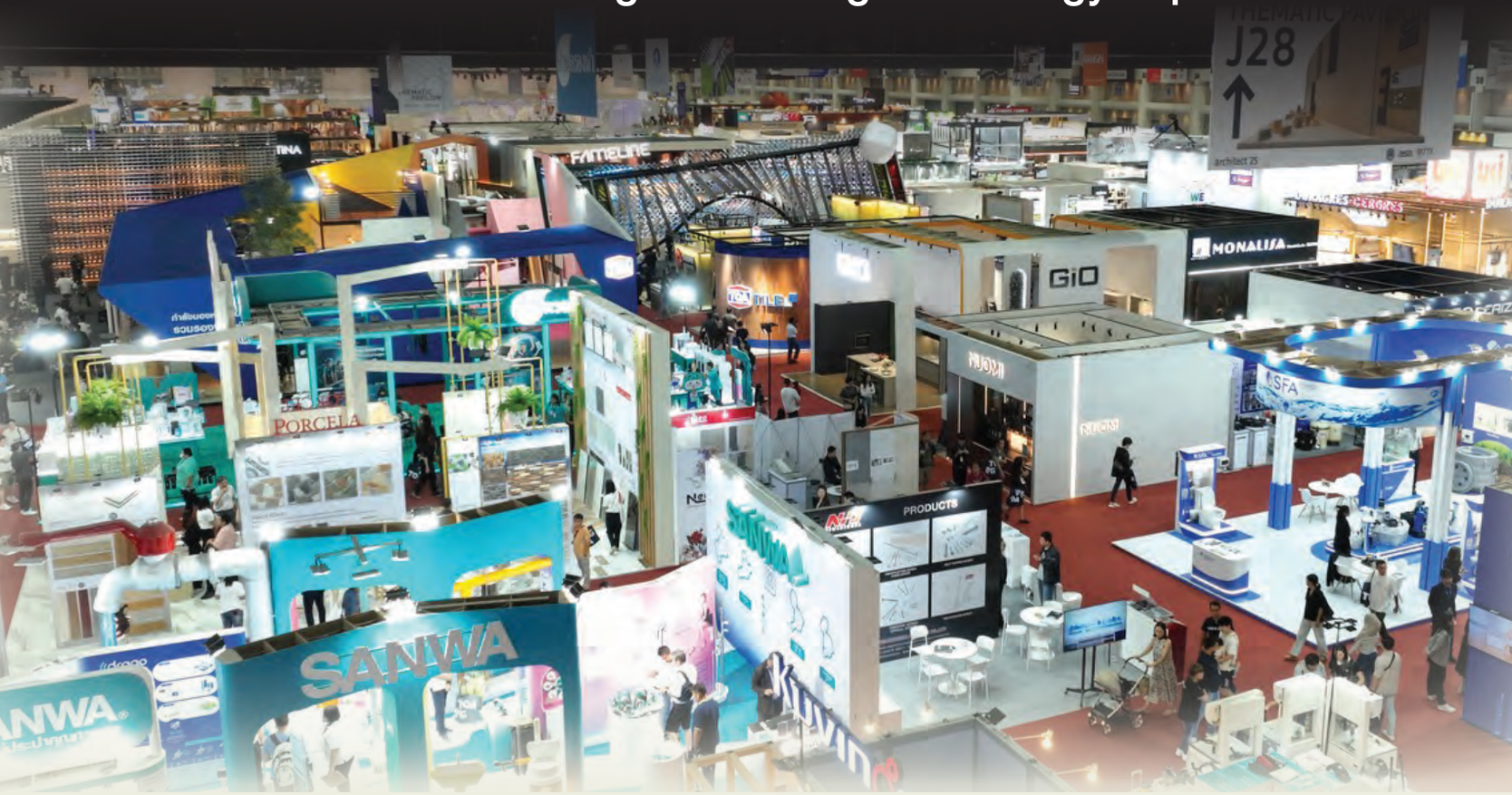

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Welcome to the September/October issue!

We have an exciting issue for you. In celebration of SG60, Southeast Asia Building has a whole section dedicated to highlighting various associations that have contributed to Singapore's built environment over the years. I had the opportunity to speak to amazing people, and I hope you enjoy the various topics that were discussed.

In our design sections, we look at mixed-use developments and club & bar interior designs, going over a wide selection of talent and design philosophies. In our recurring playground & landscaping section, we take a look at a local landscaping project that reflects the astounding fauna that can thrive in Singapore.

Our interview section and exclusive content are both equally enlightening, please take a look through them to discover more about the latest technologies and innovations in architecture and interior design. As always, our news section is chock-full of the current happenings in the industry.

Please reach out if you have any questions; I hope you enjoy reading this edition. See you all in the Nov/Dec issue!

An Jee-Hyun

November/December 2025 Issue

- Projects (Architecture): Sports & Recreation
- Projects (Interior Design): Hospitality
- Interview With Industry Experts On Current Issues
- Exclusive Content: Cooling the Cloud: Passive and Sustainable Strategies in Data Centre Architecture
- Playgrounds & Landscaping

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Philippine Green Building Council

Singapore Green Building Council

Society of Interior Designers (Singapore)

The Hong Kong Institute of Architects

Vietnam Green Building Council

Green Institute Nepal

Interior Designers Association of Nepal

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Las Vegas Sands Breaks Ground on New Ultra-Luxury Development in Singapore

Las Vegas Sands (NYSE: LVS) marked a momentous milestone on the evening of 15 July 2025 with the groundbreaking of its new US$8 billion ultra-luxurious resort and entertainment destination in Singapore, expanding its regional footprint and strengthening its commitment to the Republic's future.

The event was officiated by Singapore's Prime Minister and Minister for Finance, Lawrence Wong; Minister for Sustainability and the Environment and Minister-in-charge of Trade Relations, Grace Fu; Las Vegas Sands co-founder, Dr Miriam Adelson; Chairman and Chief Executive Officer, Robert Goldstein; and President and Chief Operating Officer, Patrick Dumont.

Patrick Dumont said, "With its opening in 2010, our founder Sheldon G. Adelson embarked on a journey in Singapore with Marina Bay Sands and the people of Singapore that promised to change the face of tourism in the region.

"Fifteen years later, we have delivered on these ambitions and more. Marina Bay Sands is the world's most successful integrated resort in history, and the gold standard in the industry. It has been truly incredible to witness Mr Adelson's vision come to life, and we are proud to carry his legacy forward with today's groundbreaking ceremony for our new development here. We have every intention of delivering a product that will be the envy of the hospitality industry and usher in a new era of luxury tourism in Singapore."

View of Las Vegas Sands' new ultra-luxury development in Singapore from across the bay. Credit: Safdie Architects

When completed, the new development is set to redefine industry standards further and push boundaries in the realms of luxury tourism, hospitality, and entertainment, curating the finest and most executive suite of experiences for travellers.

The pioneering project will feature an impressive 570-suite luxury hotel, capped with signature rooftop and dining experiences, luxury retail boutiques, gaming, holistic spa and wellness amenities, and

Left to right: Patrick Dumont, Dr Miriam Adelson, Singapore's Prime Minister and Minister for Finance Lawrence Wong, Minister for Sustainability and the Environment and Minister-in-charge of Trade Relations Grace Fu, Robert Goldstein, Grant Chu

Las Vegas Sands' new ultra-luxury development groundbreaking ceremony. Credit: Marina Bay Sands

approximately 200,000 square feet of premium meeting space. A purpose-built 15,000-seat arena situated against the stunning backdrop of Marina Bay aims to enhance the live entertainment scene in Asia.

The new property is being designed by the acclaimed Safdie Architects, led by Moshe Safdie—the visionary firm behind Marina Bay Sands' world-renowned design.

A World Beyond

Rotated at a 45-degree angle to frame panoramic views of both the Marina Bay and the Singapore Strait, the 55-storey hotel tower rises with its twin wings curving outward, ascending towards the sky.

The development takes inspiration from the island's lush urban greenery, and will see biophillic designs integrated throughout the building, alongside a significant proportion of green amenities.

The crowning achievement of the tower is the revolutionary 76,000 square foot Skyloop—a haven that intuitively combines elevated public and private spaces.

A counterpart to the iconic Sands SkyPark at Marina Bay Sands, the Skyloop's form is defined by overlapping elliptical volumes that spiral in opposing directions, giving the tower a dynamic quality and affording 360-degree views.

The lower Skyloop interweaves several points of public access, including an observatory, destination restaurants, and lush rooftop gardens. Above, hotel guests can enjoy secluded experiences: private cabanas, infinity-edge pools, and shading palms. There will also be a cantilevered wellness terrace designed for yoga, arts, and speciality events.

Situated adjacent to the hotel tower, the podium serves as a bustling hotspot for business, entertainment, and cultural exchange. At its core is a 15,000-seat state-of-the-art arena being helmed by the global design firm Populous. They are responsible for some of the world's most recognisable entertainment venues, including the Las Vegas Sphere and the O2 Arena in London.

An aerial view of the Lower and Upper Skyloop. Credit: Safdie Architects

Specially designed to host the highest calibre of regional and international touring acts, concerts, and large-scale live events, the venue will be optimised for unparalleled acoustics, sightlines, and production flexibility. The venue will also be integrated with new and existing developments within the Marina Bay precinct for greater efficiency and pedestrian connectivity, with direct access to Bayfront MRT Station and linkways between Marina Bay and Gardens by the Bay.

To commemorate the occasion, Marina Bay Sands was illuminated in a wash of golden hues—a stunning public spectacle that spanned the entire property, from its three

The podium, featuring three levels of premium MICE space and an arena designed for the highest calibre live entertainment events. Credit: Safdie Architects

towers and the SkyPark Observation Deck to the Marina Bay Sands Expo & Convention Centre.

In celebration of Singapore's milestone SG60, Marina Bay Sands also commissioned a cinematic tribute, titled "Nothing Comes by Chance". Local director Kirsten Tan reflects on Singapore's commitment to shaping a bright future underscored by resilience, ambition, and constant reinvention—parallel to Marina Bay Sands' growth and spirit. It features prominent Singaporean talents, such as Tan Kheng Hua, Quah Zheng Wen, Pierre Png, and Jasmine Sokko, all of whom have helped define Singapore's presence across arts, culture, sports, and entertainment.

Shaping a Greener Horizon

In line with Marina Bay Sands' global strategy, Sands ECO360, sustainability will remain at the heart of the one building's architecture and operations.

Different approaches towards designing shade and reducing energy consumption are being explored. This includes a self-shading façade system that utilises high-performance glazing, and internal blinds to lower direct solar heat transfer and improve energy efficiency.

Each suite will have its own private terrace and garden, while outdoor dining venues will be fitted with canopies to shield guests from the weather. Tree species native to the Southeast Asian region will also be planted wherever possible, paying tribute to the development's location.

As construction works proceed, best practices will be adopted to lower the project's upfront environmental impact, including the use of materials with reduced environmental impact, such as low-carbon concrete and recycled steel. A construction waste management plan has also been set in place, where on-site segregation and recycling will be implemented, with at least 75% of construction waste being diverted to significantly reduce landfill disposal.

Towards New Heights

Marina Bay Sands has become an iconic symbol for Singapore since its inception, transforming the nation into a leading leisure, business, and entertainment destination in Asia. It hosted a record-breaking 2,200 events lasr year, drawing in 1.2 million MICE delegates. In March of this year, the property welcomed its 500 millionth visitor.

It has also contributed to Singapore's economy through the creation of new jobs and support for homegrown small- and medium-sized enterprises (SMEs). With more than 12,000 Team Members directly employed by the resort and 92% of procurement spent on local businesses in 2025, these figures are set to rise in the coming years as Marina Bay Sands expands its operations.

Patrick Dumont added, " Over the years, Marina Bay Sands has been integral in strengthening Singapore's position as a major tourism powerhouse. By the time our new ultra-luxury development is complete, Las Vegas Sands will have invested more than US$15 billion since we started operations in Singapore in 2010. This speaks volumes to our confidence in this region, and the potential that we continue to see in Singapore. We are privileged to have benefited over the past 15 years from factors that make Singapore great—excellent infrastructure, and a strong and supportive government with a forward-looking vision.

"We are proud of the transformative impact that Marina Bay Sands has had and are highlight optimistic about building on this strong foundation. Our new development will raise the bar and redefine the ultra-luxury hospitality realm on a global scale, fuelling further growth of high-value tourism, while our state-of-the-art arena will attract the world's most popular performers and usher in a new era of live entertainment in the region. We look forward to forging a new chapter together and continuing to contribute meaningfully to Singapore's future success," Mr Dumont concluded.

DBS and Frasers Property Announce Three-Year Partnership to Strengthen the Heartland Economy of Singapore

Singapore, 30 July 2025 — DBS and Frasers Property announced a three-year strategic partnership to strengthen the heartland economy and create social impact through Frasers Property's extensive retail network, aligning themselves with national efforts to revitalise Singapore's heartlands.

The collaboration aims to provide deeper support for over 2,000 retail tenants across 11 owned properties by leveraging Frasers Property's wide tenant network and footprint as Singapore's largest prime suburban mall operator. The properties collectively serve nearly half of Singapore's population and have an average monthly shopper traffic of about 2 million, offering significant reach to uplift local businesses and enhance community engagement.

These include popular suburban malls such as Northpoint City in Yishun, Waterway Point in Punggol, Causeway Point in Woodlands, and Tiong Bahru Plaza, which are strategically connected to key transportation nodes.

The partnership was formalised with a memorandum of understanding signed the morning of 30 July 2025 on the sidelines of Frasers Property's annual tenant appreciation event, Retail Spark! 2025.

Enhancing the local retail ecosystem

To help retail tenants optimise business costs, DBS and Frasers

Property will support their digital transformation by strengthening the adoption of digital payments and collections solutions that help streamline cash management processes.

In addition to DBS' SG60 Heartland Merchant Banking package, Frasers Property's retail tenants will also enjoy exclusive financial solutions and preferential rates from DBS. The package provides comprehensive financing support for small businesses, including savings of up to S$1,8802 per merchant through waivers and cashback benefits.

Other areas of collaboration include enabling shoppers at Frasers Property's malls to unlock greater value from their everyday purchases. This will benefit DBS PayLah!'s 2.9 million customer base and the 1.1 million members of Frasers Property's retail rewards programme, Frasers Experience (FRx). For example, DBS/POSB cardholders can convert their rewards points into digital vouchers, including Frasers Property's FRx gift cards, and redeem them at participating retail tenants with NETS QR codes. DBS and Frasers Property will also collaborate on gamified marketing campaigns to create novel shopping experiences.

(From left to right) Mr Yeo Kia Chiak, Managing Director, Real Estate, Institutional Banking Group, DBS; Mr Adrian Tan, Managing Director, Retail, Frasers Property Singapore and Ms Catherine Tan, Team Lead, DBS Foundation, signed the three-year MOU marking the partnership between DBS and Frasers Property. This was witnessed by Mr Lim Him Chuan, Singapore Country Head, DBS; Ms Soon Su Lin, CEO of Frasers Property Singapore; and Ms Karen Ngui, Head of DBS Foundation and DBS Group Strategic Marketing and Communications.

Mr Lim Him Chuan, Singapore Country Head, DBS; Ms Soon Su Lin, CEO of Frasers Property Singapore; and Ms Karen Ngui, Head of DBS Foundation and DBS Group Strategic Marketing and Communications at the MOU signing ceremony which marked the partnership between DBS and Frasers Property to unlock value for over 2,000 retailers and nearly half of Singapore's population

Creating social impact

Beyond supporting Singapore's retail ecosystem, DBS Foundation and Frasers Property will collaborate on social impact initiatives to benefit the community, especially supporting seniors, persons with disabilities, and the underprivileged. This includes bringing DBS Foundation programmes such as the Nutrition and Social Connection Programme to Frasers Property's malls, which aims to reach out to 6,000 vulnerable seniors across 12 ageing towns over two years and provide twice-weekly nutritious meals.

It complements Frasers Property's flagship Inclusion Champions programme, which equips employees and participating tenants with inclusivity training to better understand and support individuals with dementia and neurodivergent needs, fostering a more compassionate and accessible environment across its properties.

Ms Soon Su Lin, Chief Executive Officer, Frasers Property Singapore, said, "This partnership represents a significant milestone in our journey to elevate the retail experience. As a leading prime suburban mall operator, our malls are strategically located in the heartlands, collectively serving close to half of Singapore's population. Through the combined strengths of Frasers Property's extensive retail network and DBS' deep financial expertise, we are creating a dynamic ecosystem that

(From left to right) Mr Richard Ng, CEO of Manager of Frasers Centrepoint Trust; Mr Yeo Kia Chiak, Managing Director, Real Estate, Institutional Banking Group, DBS; Mr Lim Him Chuan, Singapore Country Head, DBS; Ms Soon Su Lin, CEO of Frasers Property Singapore; Ms Karen Ngui, Head of DBS Foundation and DBS Group Strategic Marketing and Communications; Ms Catherine Tan, Team Lead, DBS Foundation; Ms Molly Lim, Senior Director, Retail, Frasers Property Singapore; and Mr Adrian Tan, Managing Director, Retail, Frasers Property Singapore came together for a group photo following the signing of the three-year MOU between DBS and Frasers Property.

empowers our tenants, rewards shoppers and uplifts communities. Together, we are shaping a more resilient, rewarding and inclusive retail landscape for all."

Mr Lim Him Chuan, Singapore Country Head, DBS, commented, "With our roots as the Development Bank of Singapore, DBS has been a longtime supporter of homegrown businesses and heartland merchants. Our partnership with Frasers Property builds upon DBS' series of initiatives to enable a more vibrant heartland economy, such as our weekly $3 PayLah! cashback that bolsters customer savings, and the Heartland Merchant Banking Package to support small businesses.

"The heartland is where the hearts of our communities meet. As we commemorate Singapore's 60th birthday, we are pleased to leverage the collective strengths of DBS' consumer and institutional banking franchise, as well as DBS Foundation, to uplift the lives of our communities and celebrate what makes our neighbourhoods truly unique."

Waterway Point, a mall under Frasers Property Singapore. Leveraging Frasers Property's wide tenant network and footprint as Singapore's largest prime suburban mall operator, the partnership aims to provide deeper support for over 2,000 retail tenants and nearly half of Singapore's population. Waterway Point in Punggol is one of the malls that will benefit from this partnership.

AN URBAN GREENING MACHINE

Bringing timber structures into our cities can benefit us all. Vert by Dietz Office is an American red oak glulam framework for climbing plants rooted in biodegradable nets. It will cool the surrounding airspace by 8°C and produce more shade than a 20 year old tree. A living ecosystem that enriches biodiversity, provides a sheltered cooling space and brings beauty back to urban development – created from America's most abundant hardwood species.

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Aurecon's Jess Tan Recognised as ACES Young Consulting Engineer of the Year 2025

Jess Tan, Lead Structural Engineer at Aurecon Singapore, has been named ACES Young Consulting Engineer of the Year 2025 in the Civil & Structural category. This award recognises her outstanding contributions to Singapore's built environment and exemplary technical excellence.

The Association of Consulting Engineers Singapore (ACES) Young Consulting Engineer of the Year Award recognises young engineers who have made substantial contributions to their profession through excellent work, demonstrating exceptional design and engineering abilities.

With 13 years of experience, Jess is a registered Professional Engineer (Civil) with PEB Singapore, specialising in structural design. Her extensive portfolio includes major infrastructure projects such as the $157 million C810C Sengkang Punggol LRT Depot Expansion, where she served as Deputy C&S Lead, managing multidisciplinary teams across six disciplines.

Jess has distinguished herself through creative problem-solving; on The Reef at King's Dock, she developed a Vierendeel RC truss frame solution for 7-metre cantilever residential blocks over water bodies. She also supported the implementation of mass-engineered timber for the Kallang Tennis Hub's 53-metre arch roof spanning three indoor tennis courts.

"Working on major infrastructure that leaves a legacy for future generations is incredibly fulfilling. I'm grateful to the mentors who guided me throughout my career and supported me in developing my technical eminence. Now, I'm passionate about paying it forward," Jess said.

Beyond project delivery, Jess actively mentors junior engineers in Aurecon's Building Structures department. Her commitment to professional development and engineering contributions was also recognised by the Building and Construction Authority, where she was featured during International Women in Engineering Day.

"Jess has delivered exceptional work across diverse sectors—from major LTA infrastructure, residential projects like The Reef, to timber structures for Kallang Tennis Hub. Her technical expertise, commitment to mentoring young engineers, and leadership capabilities demonstrate the calibre of expertise we value at Aurecon that drives our project delivery and success. This recognition is truly well-deserved," said Jean-Marc Girard, Chief Operations Officer, Asia, Aurecon.

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ebm-papst SEA and Truwater Jointly Launch High-Efficiency EC Cooling Tower

On 18 July 2025, ebm-papst SEA and Truwater officially launched the i-VX-S Series cooling tower, an energy-efficient solution powered by the DV280 external rotor EC motor.

Held at the ebm-papst SEA's Customer Experience Center, the event brought together sustainability-focused professionals from the built environment sector for an afternoon of knowledge exchange, networking, and innovation. A key highlight of the event was the live product demonstration, which offered attendees an up-close look at the i-VX-S Series' advanced features and high-efficiency performance.

The launch comes at a timely moment for the industry, as demand for greener HVAC solutions continues to accelerate across Southeast Asia. ebm-papst is committed to leading air technology into the next generation, with continuous innovation in EC motor technology playing a central role in this vision.

The DV280 EC motor is a direct result of this ongoing research and development, engineered specifically to meet the demands of large HVAC applications such as cooling towers. In line with this, Truwater, specialists in cooling tower manufacturing for commercial and industrial applications, integrated the DV280 into its latest product line, resulting in the high-efficiency i-VX-S Series.

The i-VX-S Series cooling tower features a high-performance crossflow design integrated with the DV280 EC motor, delivering a compact, all-in-one solution that eliminates the need for external components such as variable frequency drives (VFDs). Its single-cell design supports a cooling capacity of up to 320 HRT. These design features translate into multiple benefits, including high energy efficiency, reduced noise emissions, lower maintenance requirements, ease of installation, and an extended product lifespan.

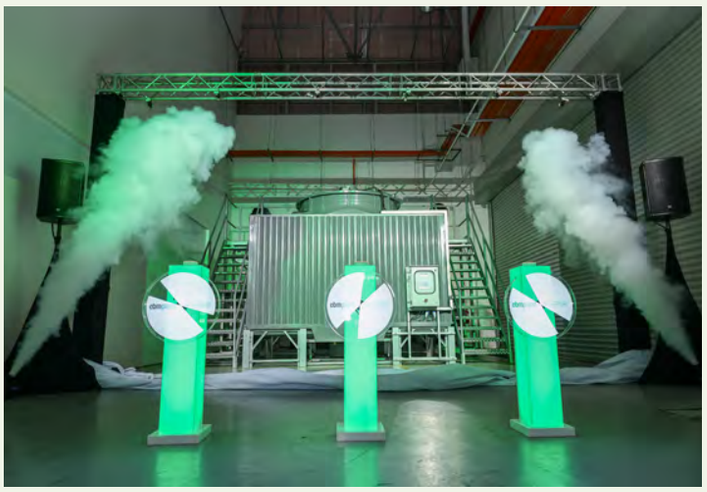
A key innovation of the DV280 is its integrated resonance detection, an advanced feature in ebm-papst's

latest generation of EC motors. This technology supports predictive maintenance, reduces the risk of unexpected downtime, and enhances overall system safety and reliability. Additionally, the EC motor enables seamless integration with Building Management Systems (BMS) and Internet of Things (IoT) platforms, supporting smarter, more connected operations.

In his remarks, Mr. Thomas Schwab shared, "We are very happy to use our advanced EC technology, IoT solutions, and our partnership with Truwater to further improve energy efficiency, and with this, be part of a sustainable future for Singapore and Southeast Asia."

Continuing this focus on sustainable innovation, Mr. Cyril Hsu added, "We believe that strong partnerships and shared values in sustainability are the foundation of lasting innovation. The i-VXS series is a result of technical refinement and a clear vision for more energy-efficient cooling systems."

With its official launch, the i-VX-S Series is now available for commercial and industrial applications in SEA and Australia.



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HKIE Geotechnical Project Excellence Award 2025 Awarded to Aurecon and Bouygues Travaux Publics for Central Kowloon Route – Central Tunnel

International engineering, design, and advisory firm Aurecon, in collaboration with Bouygues Travaux Publics, was announced as the winner of the Hong Kong Institution of Engineers (HKIE) Geotechnical Project Excellence Award 2025 – Tunnels and Cavers Category for their work on the Central Kowloon Route – Central Tunnel (CKR-CT) project.

The project, a landmark in urban infrastructure, is celebrated for its transformative impact on Hong Kong's mobility, setting new standards in geotechnical engineering and urban connectivity.

The CKR-CT project comprises twin 2.8-kilometre tunnels beneath the city and is designed to significantly improve east-west connectivity across Kowloon. The project will reduce travel times between key urban destinations from 30 minutes to just 5 minutes—an impressive 83% reduction.

This engineering milestone will offer urgently needed relief to the city's heavily congested road network, easing traffic flow and improving daily commutes for hundreds of thousands of residents.

What sets the CKR-CT project apart is its bold and innovative approach to one of urban engineering's greatest challenges: tunnelling beneath a living city. Navigating a labyrinth of underground obstacles, including active MTR lines, hospitals, and densely populated residential zones, the engineering team executed the project with surgical precision. With cutting-edge digital solutions, innovative construction techniques, and real-time monitoring systems, they accomplished the extraordinary: delivering a complex underground tunnel while maintaining virtually no disruption to the bustling city life above. This achievement demonstrates not only technical mastery, but also a deep commitment to the communities it serves.

"This award is a meaningful recognition of how our entire team, whose shared commitment made this achievement possible, brought thoughtful engineering to life—creating solutions that serve both commuters and communities they pass through," said Ray Chan, Managing Director, Hong Kong and Macau, Aurecon. "The CKR-CT project demonstrates that large-scale infrastructure can do more than ease congestion—it can be thoughtfully designed to care for surrounding neighbourhoods and our shared environment."

The project team celebrates their achievement, receiving the award on stage and capturing the moment together with pride.

Sustainability was not just a consideration; it was a driving force behind the CKR-CT project. From the outset, the team embraced a bold environmental vision, recycling over 2.9 million tons of excavated material and incorporating low-carbon concrete and other eco-friendly materials into the build. These efforts dramatically reduced the project's environmental footprint while delivering a critical piece of infrastructure for Hong Kong's future.

Equally impressive was the project's commitment to safety and innovation. To maintain accident rates consistently below industry benchmarks, the team sets a new standard for responsible construction. At the same time, they introduced pioneering construction technologies that are now transforming Hong Kong's infrastructure landscape.

Jason Chin, Executive Director, Ground and Underground Engineering, Asia, shared his reflections on the heart of the CKR-CT project. "This tunnel represents more than a feat of engineering excellence—it's a carefully considered solution to the challenges of building beneath one of the world's most densely populated cities. From day one, we prioritised space efficiency, uncompromising safety, and sustainable foundations. By combining advanced geotechnical design with digital innovation and community engagement, we've delivered a project that not only integrates seamlessly into Hong Kong's urban fabric, but also elevates it."

As Hong Kong continues to evolve, the CKR-CT project stands as a testament to how visionary engineering can shape a more connected, resilient, and sustainable urban future. Aurecon and Bouygues Travaux Publics remain steadfast in their commitment to delivering infrastructure that not only meets the demands of today, but also anticipates the challenges of tomorrow, all driven by a shared purpose to enhance lives and protect our planet.

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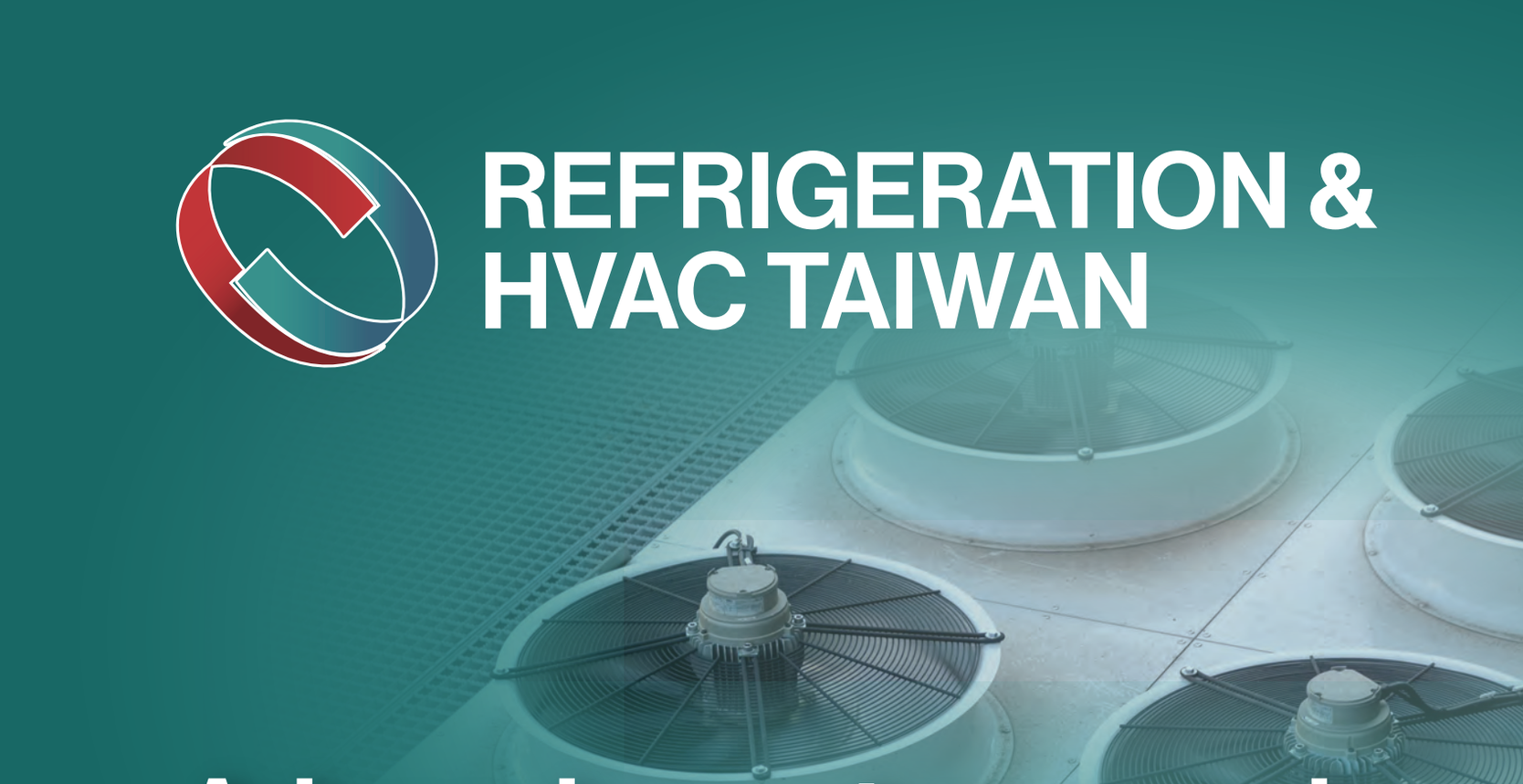

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IES Powers Engineering Futures at NED 2025 with New Initiatives

The Institution of Engineers, Singapore (IES) unveiled new moves to strengthen Singapore's engineering talent pipeline at the National Engineers Day (NED) 2025 and Engineering Innovation Challenge (EIC) Prize Presentation Ceremony held at ITE College Central on 1 August 2025.

Graced by the Senior Minister of State for National Development and Transport, Ms Sun Xueling, the event centred on the theme "Shaping the Future with Engineering Innovation" to underscore the creativity and forward-thinking mindset vital to engineering Singapore's future.

"IES is committed to empowering young talents to build the future we want to live in. To solve complex challenges, we not only need engineers, but a full ecosystem of professionals, from engineering technologists to technicians, to work together. From sparking their interest to offering financial support and professional recognition, we are focused on nurturing the next generation of engineers to lead our nation's growth into the future," said Er. Chan Ewe Jin, President of IES.

To strengthen early engagement and exposure to engineering, IES and the Institute of Technical Education (ITE) signed an enhanced Memorandum of Understanding (MOU) at the ceremony. Under this agreement, all ITE Engineering students enrolled in Nitec, Higher Nitec, Technical Engineer Diploma or Work-Study Diploma programmes will receive complimentary IES Student Memberships, valid until graduation or the end of their studentship, whichever occurs first. These students will have opportunities to participate in dialogue sessions with IES members, local and overseas learning journeys, and STEM-related enrichment activities.

In addition, IES will sponsor book prizes to recognise outstanding ITE engineering students as a form of academic encouragement and professional validation. These efforts aim to ensure that all students, regardless of background, have access to a supported and inclusive pathway into the profession.

IES has also established new Chartership Assessment Centres at ITE and Singapore Polytechnic for Chartered Technicians and Chartered Technologists respectively, expanding formal pathways to professional recognition in the Built Environment and Infrastructure Engineering sectors. Offering students and practice-based professionals an alternative route to certification, these centres are part of efforts by IES to widen access to industry-recognised credentials and grow Singapore's pool of technically-skilled professionals.

The IES Scholarship Fund, launched in 2024 to support financially disadvantaged engineering students, will award its first six bond-free scholarships this year to students from ITE, polytechnics and universities. The inaugural recipients will be honoured at the IES 59th

Annual Dinner in November, and applications are open until 25 August. The fund received a fresh boost of $180,000, raised through the IES Charity Golf 2025 held in July.

Young Innovators Crowned Champions of EIC 2025

Emerging as standouts for their creativity, technical rigour, and future-focused solutions, the winners of EIC 2025 were officially crowned at the prize presentation ceremony. SMS Sun Xueling presented awards to winning student teams across secondary schools, junior colleges, ITEs, polytechnics and universities.

This year's challenge drew strong participation from local and international landscape teams, with nearly 180 teams competing and 79 advancing to the finals. Finalist

teams addressed some of today's most pressing challenges, including renewable energy and materials, digital transformation, healthcare innovation, and food resilience.

Now in its 11th edition, the EIC remains NED's flagship competition and a nationwide challenge that empowers students to tackle real-world problems through engineering innovation. It is organised by IES with support from the Ministry of Education and industry partners.

"We were especially impressed by this year's students. Their ideas were creative, thoughtful and grounded in real-world relevance. The EIC continues to showcase the potential of young minds when given the opportunity to solve meaningful problems. We hope this experience sparks their interest in pursuing engineering as a purposeful and rewarding career," said Er. Deckson Ang, NED 2025 Organising Committee Chairman.

Gearing Up for What's Next

IES also organised the IES Career Fair in partnership with NTUC Youth to connect students and early-career engineers with prospective employers, mentors, and education partners.

Attendees explored booths by engineering firms, government agencies, start-ups, and institutes of higher learning. They also participated in job-matching, resume clinics, and hands-on tech showcases in robotics, AI, and sustainability.

A highlight of the ceremony was a fireside chat with SMS Sun Xueling, who shared her perspectives on the future of engineering and its potential to drive meaningful change. The conversation offered students valuable insights and encouragement as they consider their own paths in shaping Singapore's future.

A New Take on Izakayas: Kaya Restaurant Elevates with American White Oak

The Standard Singapore houses an izakaya that boldly spins the classic Japanese experience in surprising and delightful ways. Kaya Restaurant, designed by Colin Seah of the Ministry of Design, plays up the hotel's love for all things rich in biophilia and mid-century modern with its interior design. The selection of carefully crafted custom furniture, dramatic ceiling scape of hanging greenery, custom feature lighting, and immersive sense-surround mural culminate in a unique dining experience for its patrons.

Photo credit: Jovian Lim

Photo credit: Jovian Lim

For the American white oak flooring, the Ministry of Design worked with timber specialists World of Wood Floors (WOW). Mohammad Zain Bin Abdul Hamid, WOW's managing director, talked passionately about wood. "There's something deeply personal about wood. It has warmth, texture, and character that you just don't get from other materials. Every board tells a bit of a story through its grain, its natural markings, even its imperfections. When we use wood, especially American hardwoods, we're not just thinking about how it looks, but how it feels in a space. It softens a room, makes it more inviting, and adds a kind of quiet depth. People instinctively connect with it. It grounds the design and gives it soul."

This biophilic nature of American hardwood made it an ideal choice for Kaya Restaurant. "The vision for the space in Kaya was all about warmth, connection, and a kind of quiet sophistication. We focused on creating a finish that felt worn-in, welcoming, and a little storied, like it had already lived a few good years. We hand-worked the wood to bring out its natural texture and gave it just the right amount of distressing so it felt authentic, not manufactured. Everything was tailored to the restaurant's palette and lighting, so the floor doesn't just sit there, it really helps shape the mood. It's the kind of space where you want to stay a little longer, and we love that the floor plays a role in that," Zain explained.

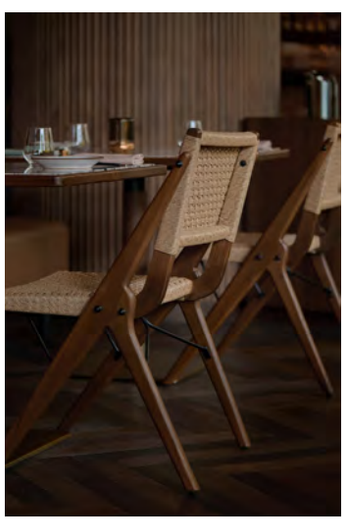


Photo credit: Jovian Lim

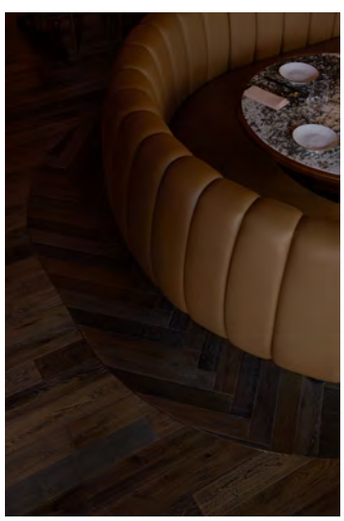
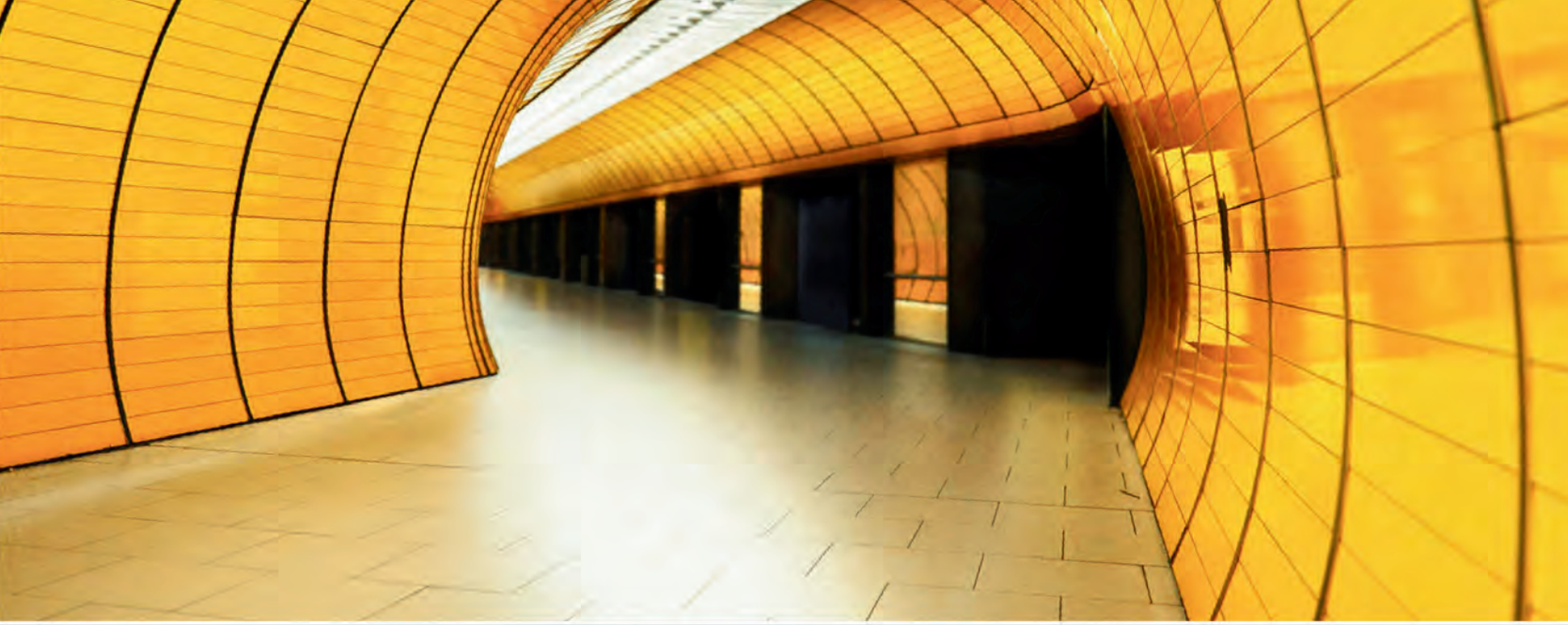


Photo credit: Jovian Lim

WOW used traditional techniques, including hand-brushing, to give new timber the look and feel of a more aged hardwood. This deliberately enhanced the character of the oak, with a one-of-a-kind look in every board. Each board was carefully worked to reveal the natural grain, enhancing its tactile quality and highlighting subtle imperfections that brought warmth and authenticity to the modern interiors. The result is flooring that carries the charm of old wood crafted from sustainably sourced new American hardwood. It's a deliberate blend of old-world soul and modern precision, ideal for a space that demands both beauty and a strong narrative of craftsmanship.

WOW are no strangers to specifying American hardwood species and recognise that each species has its own personality. Zain noted, "Walnut is rich and elegant, hickory is tough and full of contrast, and maple has this soft, subtle charm. One of the things we really value about American hardwoods is not just their beauty, but their reliability and sustainability. They're responsibly sourced, incredibly durable, and they age beautifully. Compared with some other timbers we have available to us, American hardwoods just have this solid, time-tested feel that fits perfectly with our approach to craftsmanship."

American hardwood's variety, beauty, durability, and sustainability support WOW in their continuing quest to create not just floors, but foundations for storytelling, atmosphere, and timeless design.



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New Industry Resources Launched at Singapore-International Green Building Conference 2025 to Accelerate Sustainable Cooling in the Built Environment

On 9 July 2025, the Singapore Green Building Council (SGBC) unveiled two new resources as part of the Go 25 movement to accelerate sustainable cooling, as new research reveals a seismic shift in how businesses value green buildings.

Launched at the Singapore-International Green Building Conference 2025 (IGBC-SG 2025) by the Minister for Sustainability and the Environment, Ms Grace Fu, the resources come alongside new data showing sustainability is now a strategic priority for Singapore's built environment sector.

The new resources—the Go 25 Indoor Comfort Snapshot and the Go 25 Industry Guide for Building Operators—provide practical, data-driven guidance to help Singapore's built environment sector optimise energy use while maintaining occupant comfort.

Go 25 Indoor Comfort Snapshot

This first-of-its-kind publication synthesises data from the Go 25 Indoor Comfort Quiz launched earlier in the year. It offers business owners, building managers, and workplace teams actionable insights on temperature settings. The Snapshot reveals key trends in occupant preferences and demonstrates how commercial spaces can transition to 25°C without compromising comfort.

Based on analysis of quiz data from more than 5000 respondents, over 50% of respondents expressed a preference for maintaining indoor temperatures at 24°C or warmer, indicating a significant shift toward greater acceptance of higher temperature settings in built environments. The Snapshot also provides insights on established research on optimal comfort ranges as well as strategies to Go 25 in the workplace.

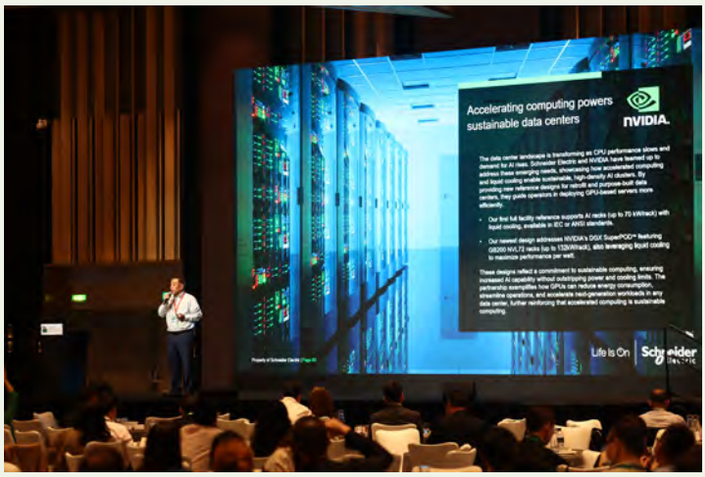
Go 25 Industry Guide for Building Operations

Complementing the Go 25 Indoor Comfort Snapshot, the Go 25 Industry Guide for Building Operations is developed specifically for facilities managers and building operators to deliver practical implementation strategies, including:

- Technical recommendations for system optimisation
- Real-world case studies of successful transitions
- Step-by-step checklists for gradual temperature adjustment

Aligned with national sustainability goals and green building standards, the Industry Guide aims to help optimise cooling systems and facility operations—supporting building managers, engineers, and operators to more efficiently Go 25.

The Go 25 movement aligns with Singapore's sustainability ambitions and green buildings framework. By moving toward 25°C in air-conditioned spaces, businesses can reduce cooling energy use by 12% for every 1°C increase, while maintaining thermal comfort through complementary measures like improved air movement and



adaptive clothing policies.

Both resources can be accessed at https://greenbuildings.sg/go25/.

Mr. Allen Ang, President of the SGBC, stated, "Buildings contribute over 20% of Singapore's carbon footprint, with air-conditioning driving a significant share of energy demand. Rethinking the way we cool our spaces isn't just a good-to-have; it's essential for meeting our climate goals.

"The launch of the new Go 25 resources brings clarity to action. By translating intention into practical guidance, we remove the guesswork and enable developers, facility managers, and tenants to confidently embrace 25°C. This is more than temperature—it's about closing the gap between ambition and execution. With these tools, we are empowering every stakeholder in the built environment to take meaningful, measurable steps toward a low-carbon future."

Pushing Green Building Adoption Amidst a Challenging Business Environment

The newly released 'Awareness to Action: Insights for a Greener Built Environment' report, jointly developed with SGBC Founding Member Schneider Electric, tracks a notable shift in corporate attitudes since its 2023 edition.

Although 74% of businesses plan to increase their use of green buildings in the next 1–2 years, up from 52% in 2023, implementation challenges are increasingly complex. Participants surveyed mostly favour retrofitting over relocation or newbuild construction, with building owners citing a desire to extend the life of existing structures and tenants hoping to avoid incurring relocation costs.

The skew towards retrofitting was more marked among tenants, who would face challenges moving out of their current premises into greener buildings. Landlords showed a more even split between a retrofitting and a newbuild strategy, with some citing newbuilds as a better way to incorporate green building technologies.

In light of these findings, the report lists three recommendations to further accelerate the adoption of green buildings in Singapore:

- Retrofitting must become a priority
- Business leaders should broaden their perspectives when calculating the costs and returns from green building adoption
- A larger pool of green building professionals, such as SGBC's Green Mark Professionals, is needed to support companies in their green transition

Advancing Green Building Leadership at IGBC-SG 2025

More than 700 professionals gathered at IGBC-SG 2025 to explore trends like building climate resilience, whole life decarbonisation, retrofitting, and tropical sustainability. The three-day event culminated in the SGBC Gala Dinner 2025 on 11 July 2025, in celebration of 20 years of the BCA Green Mark scheme.

Building and Construction Authority and Singapore Green Building Council Celebrate Two Decades of Singapore's Green Building Journey with Significant Achievements

At the Singapore Green Building Council (SGBC)'s Gala Dinner, held on 11 July 2025, Singapore marked a significant milestone in its green building journey with the 20th anniversary of the BCA Green Mark certification scheme.

Two Decades of Green Building Excellence

Launched 20 years ago by the Building and Construction Authority (BCA) with just 17 certified buildings, Singapore now boasts 2,590 Green Mark-certified buildings as of March 2025. These green buildings collectively save over 4.2 billion kWh of energy annually, equivalent to powering 1 million 4-room HDB flats and saving S$1.3 billion per year. The carbon emissions offset by these buildings are equivalent to replanting a forest more than 13 times the size of Singapore.

Singapore's green building expertise has also gained international recognition. Local sustainability consultants such as G-Energy Global and GreenA Consultants have successfully globalised their expertise, with notable achievements including Wisma BCA Foresta, HQ of PT Bank Central Asia Tbk, Indonesia's first Green Mark Super Low Energy (SLE) certified building, and Sobha One in Dubai—a new premium luxury condominium estate that is the Middle East's first Green Mark Platinum SLE development.

To commemorate the 20th anniversary of the BCA Green Mark certification scheme, BCA and SGBC recognised the significant support and contributions of 20 firms and building projects to Singapore's green building journey, including City Development Limited (CDL), CapitaLand, Mapletree, Keppel, Lendlease, JTC, HDB, NTU, and NUS.

Economic and Social Benefits of Green Buildings

The business case for BCA Green Mark certification has been proven in Singapore. New commercial buildings with the highest Green Mark Super Low Energy certification can recover their sustainability investments in about 5 to 6 years, while achieving average energy savings of 59%.

Recent market analysis by Cushman and Wakefield also showed that Green Mark-certified buildings in the CBD commanded premium rents up to 12% higher than non-Green Mark-certified properties, with consistently higher occupancy rates.

The benefits of Green Mark buildings extend well beyond financial returns, delivering significant improvements to the health and well-being of occupants. Joint research by BCA and the National University of Singapore (NUS) also showed that Green Mark-certified buildings maintain better indoor environmental conditions, with lower concentrations of pollutants and significantly fewer reported health-related symptoms among occupants.

These findings underscore the BCA Green Mark certification scheme's role in creating environmentally sustainable and healthier workspaces for Singapore's workforce.

Bridging Green Buildings with Sustainable Finance

At the Dinner, Minister Chee also announced the publication of an Insights Report that aims to bridge the gap between green buildings and

sustainable finance in the Asia Pacific region. This is the first in a new series of regional publications developed to support the transition towards a more sustainable, circular, and resilient built environment across Asia Pacific.

Led by the World Green Building Council (WorldGBC), with strong support from OCBC and Asia Pacific green building councils (including SGBC), the Report offers a concise yet strategic overview of the current state of readiness across the sector, presenting key messages and early observations drawn from multi-stakeholder engagement, regional data, and global trends.

The Report highlights the urgent need for systemic change in how we design, build, use, and recover building materials, identifying the policy, industry, and financial levers that can help accelerate this transition. Together, the three-part publication suite will form a common reference point for policymakers and market actors, supporting more coherent action, investment alignment, and measurable progress across the Built Environment sector.

"As we celebrate the BCA Green Mark certification scheme's 20th anniversary, this new series of publications represents the next frontier in our green building journey," said Mr Allen Ang, President of SGBC.

"Singapore's two decades of experience in greening the built environment have laid a strong foundation for this regional initiative.

By analysing regional data and global trends, we've identified critical policy, industry and financial levers to accelerate the transition to circular, low-carbon construction. These findings will serve as a vital reference point to align investments and drive measurable progress across Asia Pacific, building on the success we've achieved with BCA Green Mark."

Charting the Path Forward for Decarbonising the Built Environment To chart the path for Singapore's next set of decarbonisation goals beyond 2030, Minister for National Development, Mr Chee Hong Tat, also announced the development of an updated Built Environment Decarbonisation Technology Roadmap, outlining key emerging technologies and areas for research and development to improve energy efficiency in Singapore's built environment.

Building upon the foundations of the SLE Building Technology Roadmap launched in 2018, this latest development will identify crucial technologies and implementation timelines that will enable the sector to meet its sustainability goals. It will undergo public consultation to gather insights from industry stakeholders and members of the public before it is launched.

Complementing the roadmap, BCA also launched a new technical reference for hybrid cooling, aiming to accelerate the deployment of hybrid cooling systems by providing comprehensive guidelines for the implementation of energy-efficient cooling systems in buildings. This reference will help building owners and developers adopt more sustainable cooling solutions, especially in the context of Singapore's tropical climate.

Mr Tan Chee Kiat, Deputy CEO for Industry Development at BCA, said, "The BCA Green Mark certification scheme has evolved from a pioneering initiative to evaluate a building's environmental impact and performance to become Singapore's hallmark of championing sustainable building excellence. As we mark this milestone, we urge developers and building owners to aim higher—be it achieving Green Mark Super Low Energy certification for new projects, or upgrading existing buildings to higher standards. BCA will continue supporting the industry in charting the way forward. The future is about green real estate, and there has never been a better time to invest in sustainability."

Advanced Schindler R.I.S.E Construction Robot in Singapore to Support Shaw Tower's Redevelopment

With endless demand for speed and efficiency in the construction process, and Singapore's buildings growing taller and faster, the Singapore government is challenging local construction companies to adopt more automated and digital processes through initiatives, such as a joint announcement from the BCA and IMDA to encourage the adoption of robotics and automation.

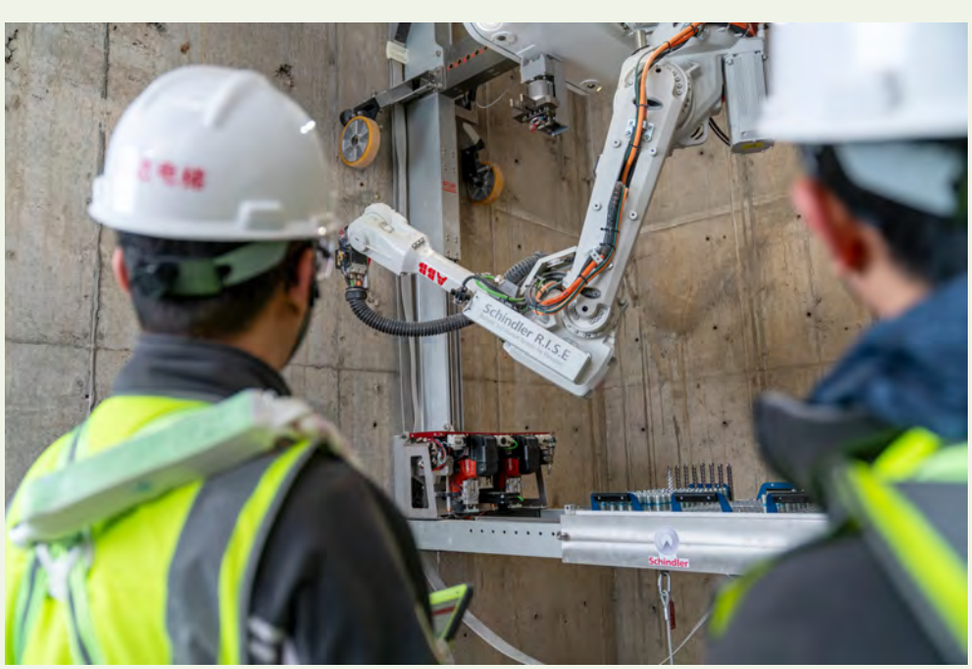
One area that is ripe for gains in automation and robotics is the construction of lift shafts, an infamously time-consuming process. World-leading lift and escalator manufacturer, Schindler, has created the perfect solution: Schindler R.I.S.E, which arrived in Singapore in April to work on the redevelopment of the iconic Shaw Tower located on Beach Road.

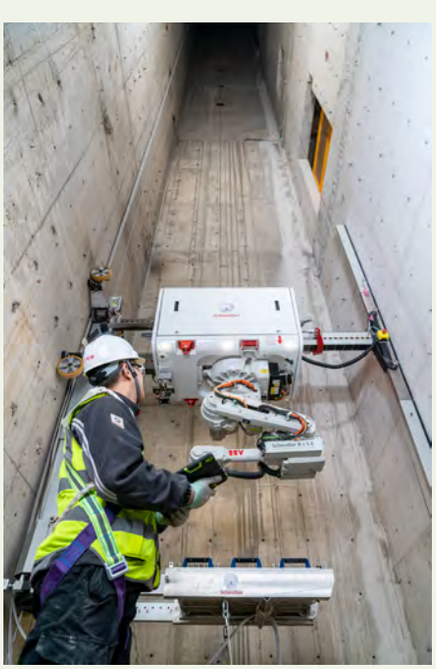
Schindler R.I.S.E is the world's first self-climbing robot that is designed to manoeuvre itself along the building's elevator shaft to install components. It is equipped with tools to drill holes and install anchor bolts with precision and speed.

Traditionally, this part of the construction process is undertaken by construction professionals. However, it is gruelling and time-consuming work. With Schindler R.I.S.E, human involvement in this part of construction is limited to a specialist operator who monitors the robot's movements via a remote-control panel. This not only speeds up work, but [also] reduces the risks of errors, rework, or accidents.

"Schindler has around 70,000 employees globally, and each day, two billion people travel in one of our elevators for an average of 30 seconds. Our commitment is to ensure the safety and well-being of every one of them. It is through pioneering innovations, such as Schindler R.I.S.E, that we fulfil this promise," said Michael Li, Managing Director of Schindler Lifts Singapore.

Schindler R.I.S.E completed its task on the new Shaw Tower in June. This 200-metre, mixed-use tower will boost the ongoing rejuvenation of Singapore's Downtown Core.





With leading credentials, Shaw Tower features technology-enabled features for a scalable and sustainable workplace.

"We are thrilled that Schindler has deployed R.I.S.E. for Shaw Tower," said Alfred Yeung, General Manager of building owner Shaw Towers Realty. "With its speed and accuracy, we achieved time savings and improved safety outcomes compared to conventional installation methods. This also aligns with our corporate philosophy to use technology for better and more efficient solutions—for the construction of the tower now, and more importantly, for building users of Shaw Tower in the future."

Schindler R.I.S.E is the first construction robot of its kind, and uses advanced automated technology to deliver the fastest elevator installation method seen to date. The robot can execute a series of previously manual steps with ultimate precision and autonomously.

"Safety is our top priority, and the use of Schindler R.I.S.E. is an example of initiatives that we support to improve safety on projects like Shaw Tower—working safer and smarter," said Ben Hobbins, Senior Construction Manager of Lendlease, which is managing the development, project management and construction, and operations of the building on behalf of Shaw Towers Realty.

There are currently five robots in existence, which

traverse the world supporting new construction projects. The technology continues to feature great success on projects across Europe, Asia, and the Middle East. It has the potential to change how building contractors approach the process of installing the lift shaft. With the Council for Tall Buildings and Urban Habitats marking Singapore in the top twenty tallest cities, the performance of Schindler R.I.S.E will be keenly monitored.

See a video of Schindler R.I.S.E on the Shaw Tower project here, or learn more about the robot here.

President⋆s Design Award 2025 Celebrates Achievements in Purposeful Design

Nine recipients were presented with the President⋆s Design Award (P⋆DA) 2025 on 31 July 2025, recognising their exceptional achievements in purposeful design that have positively impacted lives in Singapore and the wider global community.

Ar. Alan Tay and Gabriel Tan were crowned Designers of the Year. Alongside them were seven projects that received the Design of the Year award: 21 Carpenter, Bird Paradise, Delta Sport Centre, KartaCam 2, School of Tomorrow, Silver Pride Lion Troupe, and SJ Campus.

The biennial award celebrates designers and projects that demonstrate the transformative power of design across multiple disciplines. Jointly organised by the DesignSingapore Council (Dsg) and the Urban Redevelopment Authority (URA), this year's outstanding recipients address contemporary challenges through innovative solutions that span adaptive reuse, product design, experience design, service design, and architecture—affirming Singapore's designation as a UNESCO Creative City of Design.

"This year's awardees show us that good design is never just about aesthetics. From nurturing our bonds with nature, to shaping sustainable urban spaces, to reimagining how our children learn, their work is at the heart of an inventive society," said Guest of Honour and patron of the P⋆DA, President Tharman Shanmugaratnam. "I extend my warmest congratulations to all P⋆DA 2025 recipients for their captivating and meaningful contributions."

The prestigious P⋆DA accolade, marking its 15th edition in conjunction with Singapore's 60th anniversary, continues to be the hallmark of excellence for designers and design projects across all disciplines. A 15-member panel of jurors comprising local and international architecture veterans, multi-disciplinary design, and impact experts ensure the most rigorous standards.

Ar. Alan Tay, Principal Partner of Formwerkz Architects. Photo credit: Nabil Nazri

Gabriel Tan, Founder of Antimatter and Gabriel Tan Studio. Photo by Paula Holtheuer

The award is presented in two categories: Designer of the Year and Design of the Year.

Designer of the Year

The P⋆DA 2025 Designer of the Year was presented to two visionary Singaporean designers whose work exemplifies design excellence grounded in purpose and place: Ar. Alan Tay and Gabriel Tan.

Both designers have cultivated acclaimed and distinctive practises that span cultures and disciplines—Ar. Alan Tay, through his contextually sensitive architectural work across the region, and Gabriel Tan, through his contemporary reinterpretation of traditional craftsmanship in product and furniture design.

Ar. Alan Tay, Principal Partner of Formwerkz Architects, received the Designer of the Year recognition for his consistent architectural work over two decades across Singapore, China, and Malaysia. From the award-winning Cloister House in Malaysia to the Al-Islah Mosque in Singapore, Tay demonstrates clarity of thought in his designs and leads rigorous investigations to create highly contextual solutions that respond to tropical environments. Tay leverages architecture to address deeper societal issues and inspire reflection on conventional design norms.

Gabriel Tan, Principal, Gabriel Tan Studio, Studio Antimatter, and Co-founder, Origin Made, was recognised as Designer of the Year for his internationally recognised portfolio that bridges cultures and disciplines. His collaboration with leading brands like Herman Miller, B&B Italia and Ariake, as well as his strong engagement with traditional craft, demonstrates a profound respect for heritage while pushing the boundaries of contemporary design. Based in Portugal while maintaining strong ties with Singapore, Tan's practise demonstrates a deep

respect for craft as he expands the boundaries of design, leaving a distinct Singaporean imprint on the world stage.

Design of the Year

Seven projects were awarded the P*DA 2025 Design of the Year for demonstrating the impact of design in uplifting communities, shaping inclusive experiences, and responding creatively to evolving societal needs. These projects reflect excellence across one or more key impact areas: enabling economic transformation, raising quality of life, advancing Singapore's brand and cultural identity, and achieving breakthroughs in design innovation.

21 Carpenter by WOHA Architects is an elegant integration of four conserved 1936 shophouses with a contemporary rear block at the fringe of Singapore's Chinatown. The boutique hotel showcases masterful articulation between heritage and contemporary architecture while incorporating storytelling elements that reflect the building's history as a remittance house.

Bird Paradise by Mandai Wildlife Group, in collaboration with RSP Architects Planners & Engineers, is a world-class immersive wildlife experience that redefines animal conservation in an urban context. The

21 Carpenter, designed by WOHA Architects. Photo credit: Darren Soh

Bird Paradise's Ocean Network Express Penguin Cove, featuring two 7-metre saltwater acrylic tanks. Designed by Mandai Wildlife Group in collaboration with RSP Architects, Planners & Engineers.

Delta Sport Centre, designed by Red Bean Architects.

School of Tomorrow, developed by Kinetic Singapore.

KartaCam 2, created by Grab.

premier attraction at Mandai blends innovative design with education and community engagement, offering visitors meaningful connections with wildlife while advancing Singapore's position as a must-visit destination.

Delta Sport Centre by Red Bean Architects is a successful adaptive reuse project that embraces sustainability and inclusivity, transforming standalone facilities into a seamless flow of activities connecting surrounding neighbourhoods. The project's second-storey thoroughfare creates new linkages to nearby MRT stations and overhead bridges, demonstrating how thoughtful interventions can transform ageing sports infrastructure into a cohesive, inclusive community asset that re-engages its surrounding neighbourhood and revitalises community spaces.

KartaCam 2 by Grab may be the world's smallest professional-grade mapping camera system that empowers drivers to contribute to real-time mapping across Southeast Asia's intricate street networks. Compact, AI-driven, and integrated into a larger ecosystem, it demonstrates how corporate design can deliver impact at scale—meeting everyday needs through thoughtful product and user interface design—while providing them with new opportunities to improve their livelihoods through mapping activities.

School of Tomorrow by Kinetic Singapore transforms the concept of environmental education through an immersive exhibition that reimagines school subjects with a sustainability twist. Its playful, resourceful execution invites audiences of all ages to reflect on climate issues in a relatable and engaging way.

Silver Pride Lion Troupe by NextOfKin Creatives redefines active ageing through the traditional practice of lion dance, which resonates deeply with the silver generation. Besides being Singapore's first lion dance troupe for seniors, including those with mobility challenges, this groundbreaking initiative has adapted a culturally rich but physically demanding art form into one that brings dignity, purpose and intergenerational connection.

SJ Campus, designed by Safdie Architects in collaboration with Surbana Jurong (SJ Group), reconceives the traditional corporate headquarters as a campus that integrates harmoniously with the public realm. The project features publicly accessible spaces, sustainable design strategies, and sensitive integration with the existing Jurong eco-garden while preserving mature trees on site.

SJ Campus. A collaboration between Safdie Architects and Surbana Jurong (SJ Group).

Silver Pride Lion Troupe, created by NextOfKin Creatives.

"The President⋆s Design Award 2025 architecture recipients exemplify how thoughtful design can positively transform both individual experiences and urban environments," says Ar. Yap Lay Bee, Group Director (Architecture & Urban Design), URA. "From adaptive reuse that breathes new life into existing structures, to transforming workspace typologies, these projects demonstrate that exceptional architecture serves communities at multiple scales, creating spaces that are both liveable and inspiring. These works are a testament to architects whose creativity, dedication and vision are shaping a more inclusive and attractive built environment."

Dawn Lim, Executive Director of the DesignSingapore Council, commented, "The President⋆s Design Award recognises designers and designs that go beyond innovation to shape how we live, connect and care. This year's recipients demonstrate how Singapore's design industry continues to mature, offering thoughtful solutions to complex challenges. As a Nation by Design, Singapore's progress has long been guided by bold, strategic, and creative thinking. These designers carry that spirit forward, showing how empathy and cultural intelligence can drive impactful design for both local and global communities."

For more information about the award, please visit pda.designsingapore.org.

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IBEW & BEX Asia 2025: Pioneering Asia's Built Environment Future with Technology, Talent, and Sustainability

Singapore, 3 September 2025—The International Built Environment Week (IBEW) 2025 opened today at the Expo & Convention Centre, Marina Bay Sands, marking a major convergence of innovation, expertise, and sustainability in the built environment sector.

Spearheaded by BCA International, a wholly owned subsidiary of the Building and Construction Authority (BCA), and in partnership with RX Singapore, IBEW is the anchor platform for a week of diverse activities catering to the entire built environment ecosystem.

With industry experts, pioneering startups, and over 200 exhibitors, IBEW serves as a dynamic hub for a wide array of stakeholders—from policymakers and industry leaders to future talent—to engage in knowledge exchange, technology showcases, and strategic collaboration.

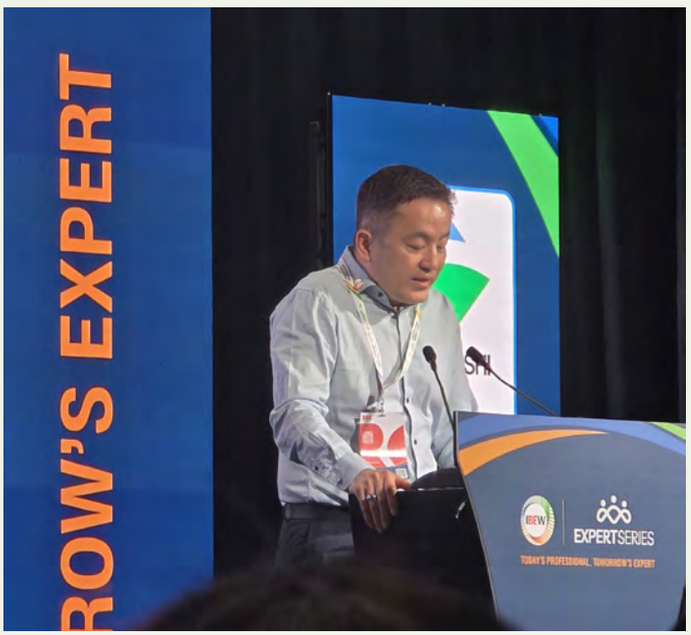
IBEW Expert Series 2025: Elevating professional skills

Under the theme "Today's Professional, Tomorrow's Expert", this year's event introduces the IBEW Expert Series, bringing seasoned practitioners and innovators together to share practical knowledge, lessons learnt, and future-oriented insights for professionals to deepen their technical knowledge and develop or fine-tune real-world skills.

Sessions cover topics such as prefab efficiency, carbon emissions tracking, AI applications in BIM, and other emerging technologies, empowering participants to sharpen their skills and grow into experts themselves.

Contributing to the IBEW Expert Series is Camfil, a global clean air leader, sharing practical tools on Scope 1–3 calculations and carbon reporting. "As the first third-party verified APAC air filter supplier certified under the EPD International System, Camfil is committed to helping the region's built environment sector advance sustainability goals while lowering long-term costs for building owners," said Tobias Zimmer, Senior Vice President, Public Affairs, Sustainability & Corporate Communication, Camfil. "IBEW continues to be an important platform for exchanging ideas and showcasing solutions that can address pressing challenges in the built environment. Through this year's IBEW Expert Series, we are excited to share our knowledge and expertise, helping industry peers gain insights that can be directly applied to their projects."

Mr Patrick Chia, Director at Obayashi Singapore, highlighted the company's commitment to shaping Singapore's future-ready urban landscape. "As Obayashi celebrates its 60th anniversary of building in Singapore, we are honoured to have our experts speaking at the IBEW Expert Series and share their insights on how advanced robotics, climate-positive materials, and smart construction technology can help Singapore build more efficiently, sustainably, and resiliently. We are also proud to showcase our latest innovations at BEX Asia. This is the ideal platform to share our vision for the next decades of construction."



By combining real-world experience with forward-looking innovation, the IBEW Expert Series embodies IBEW's mission to raise professional standards and prepare the industry for a future-ready built environment.

BEX Asia 2025: Showcasing innovation and sustainability

As the anchor exhibition of IBEW, BEX Asia 2025 brings together a diverse array of exhibitors focused on digitalisation, sustainability, and operational efficiency. Notable participants include Doxa Holdings International, Oracle Corporation Singapore, Signify Singapore, and Milipede, each demonstrating solutions that redefine construction, building management, supply chain efficiency, and more.

The exhibition also spotlights the region's booming startup ecosystem, featuring emerging technologies addressing sector challenges such as financing, late payments, safety, and workflow digitalisation. Startups and innovators at BEX Asia are helping the industry adopt smarter, faster, and greener methods of construction and project management.

"Construction works best when everyone wins: developers reduce project risks, contractors gain stability, and smaller suppliers have fair access to capital. At BEX Asia 2025, Doxa is excited to demonstrate how Deep-Tier Financing, developed in collaboration with Visa and regional banking partners, makes this possible by giving developers greater visibility into project health and building a trusted ecosystem that supports every tier of the supply chain. With financial security across the board, projects can be delivered with greater certainty, efficiency and trust,"

commented Edmund Ng, CoFounder and CEO, Doxa Holdings International Pte Ltd.

On 5 September 2025, BEX Asia will also feature focused sessions for attendees. The inaugural WSH Tech & Grants for SMEs session will provide practical guidance and funding insights for small and medium-sized enterprises looking to adopt workplace safety and health technologies. Meanwhile, the Singapore Green Building Council (SGBC) will host a seminar exploring sustainable building advancements, including smart lighting, cooling, and energy-efficient solutions. These sessions give attendees CPD points and connect them with knowledge and tools to strengthen sustainability and safety practices across projects.

Combining the exhibition floor with targeted sessions, BEX Asia 2025 reinforces its role as a launchpad for industry transformation—connecting solution providers, decision-makers, and businesses of all sizes with the technology and insights needed to build smarter, safer, and more sustainable cities.

CORENET X: Streamlining Approvals, Accelerating Progress

A key feature at this year's IBEW is the CORENET X Industry Seminar. Open to all industry stakeholders, this seminar will feature the sharing of key updates, learning points, good practices, as well as industry firms that have cleared a major milestone approval to share their experiences with the industry to better prepare submissions for CORENET X: Singapore's all-in-one digital platform for building approvals.

The new regulatory process and platform will be mandatory starting 1 October 2025 for all new projects with a Gross Floor Area of 30,000 sqm and above. It will allow organisations to navigate multiple agency requirements, spot and resolve issues early, and complete projects faster, saving time and costs.

Key benefits include:

- One-stop approvals: Get all approvals in a single, streamlined process.
- Build with confidence: Know exactly what can be built before starting, avoiding costly changes.
- Save time and money: Complete projects faster with reduced abortive work.

The CORENET X Concierge at BEX Asia offers visitors the chance to get hands-on with the platform and receive recommendations from BCA and partner organisations. From Submission Portal to model export testing, visitors can test drive the system and access curated resources that will accelerate their readiness.

Strategic Partnerships and MoUs

This year's IBEW also spotlights new collaborations that will strengthen the region's built environment ecosystem. BCA International will sign a memorandum of understanding (MoU) with Bridge Data Centres to promote sustainability and innovative construction methods in the development of green and smart data centres across Asia.

"This new partnership with BCA International underscores our shared commitment to supporting sustainable growth and digital transformation in the region. This is reflected in the BCA Green Mark Platinum Certification recently achieved by our data centre in Malaysia—a demonstration of our ability to meet hyperscale demands while safeguarding resources for generations to come. By combining our expertise with BCA International, we can accelerate our journey towards net zero and deliver stronger, greener solutions for the future of data-driven, resilient infrastructure," said Mr Eric Fan, CEO of Bridge Data Centres.

In addition, Singapore Polytechnic will formalise a new MoU with the Singapore Institute of Architects (SIA) to foster a new generation of industry-ready architectural talent and enhance professional capabilities through collaborative training and innovation. This further demonstrates the strong role of educational institutions and professional organisations in preparing the next generation of industry talent.

A Hub for Industry Collaboration and Transformation

IBEW is a dynamic platform that connects, educates, and empowers built environment professionals. This week-long series offers a range of opportunities designed to strengthen industry capabilities and drive innovation.

Alongside the IBEW Expert Series, IBEW also addresses diverse industry needs with targeted offerings such as: the Building Engineering Seminar to share the newest policies, technical knowledge, and gathers industry feedback to boost productivity, innovation, and ensure safety; the Future Talent Programme, which inspires young professionals to explore careers in the built environment; the BCA Awards, celebrating excellence and achievements in the industry; dedicated seminars on key topics like CORENET X and sustainable construction; and specialised exhibition areas like the ConTech Exchange Pavilion.

Together, these immersive experiences empower professionals to deepen their expertise, forge new partnerships, and speed up the transition to a resilient, future-ready built environment.

Singapore Furniture Industries Council (SFIC) Introduces Enhanced Sustainable Furniture Mark to Raise Industry-Wide Indoor Air Quality Standards

Singapore is setting a new regional benchmark in tackling VOC emissions and elevating indoor health standards with the Singapore Furniture Industries Council (SFIC)'s enhancement of the Sustainable Furniture Mark.

Building on existing Level 1 formaldehyde standards, this Mark expands on the framework for indoor air quality by targeting emissions of volatile organic compounds (VOCs), including formaldehyde, in furniture.

The Enhanced Sustainable Furniture Mark is the first initiative of its kind in the ASEAN region, designed to set clear and practicable standards for healthier indoor environments. It was developed using strict, science-backed limits for harmful VOCs emissions from furniture. VOCs, which also include chemicals such as benzene and toluene, are released by common materials and can accumulate in poorly ventilated spaces, especially in air-conditioned environments.

Studies show that indoor air can be two to five times more polluted than outdoor air,[1] with furniture and building materials accounting for over 80% of pollutants found indoors. Health risks[2] stemming from exposure can include eye and throat irritation, headaches, and fatigue in the short-term. Long-term exposure can result in respiratory issues and the worsening of chronic conditions and other health conditions such as cancer, neurological, and reproductive damage. The economic implications are also significant, as VOC-related exposure has been linked to reduced workplace productivity, increased sick leave, and higher healthcare costs.

Admira Pte Ltd, Member of the Singapore Furniture Industries Council

Building on formaldehyde emission limits, the Enhanced Sustainable Furniture Mark introduces Total Volatile Organic Compound (TVOC) thresholds and a tiered structure that allows businesses of all sizes to participate while progressively improving towards international benchmarks. Optional but recommended measures include developing a chemical inventory and adopting practices such as responsible sourcing, circular design, and ethical labour standards to meet growing global market and regulatory expectations.

This ensures greater protection for consumers and a stronger commitment to safety, health, and wellness across the industry. With this in mind, SFIC will also be introducing a distinctive new logo to serve as the Enhanced Sustainable Furniture Mark, making it easy for consumers to identify furniture that meets higher health and safety standards at a glance.

"Indoor air pollution is an invisible threat that many consumers and even businesses overlook," said Joshua Koh, President of the Singapore Furniture Industries Council (SFIC). "The Enhanced Sustainable Furniture Mark fills a critical gap by setting clear, science-backed requirements for VOCs management. It ensures that furniture in Singapore meets stringent safety standards, protecting the health of our people, and supporting a sustainable future for the industry."

To ensure trust and practicality, the Enhanced Sustainable Furniture Mark will follow strict, internationally recognised testing methods and introduce independent checks at every stage. It will also include measures like a public certification list and oversight by an independent panel to maintain transparency.

SFIC also plans to commence accreditation under this new benchmark in 2026, with SFIC

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[1] Department of Statistics Singapore, "Environment," Department of Statistics Singapore, 2025, https://www.singstat.gov.sg/publications/reference/ebook/society/environment.

[2] US EPA, "Volatile Organic Compounds' Impact on Indoor Air Quality," EPA, August 18, 2014, https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality#Levels.

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providing training, technical support, and resources to help businesses transition smoothly. This forms a key part of their broader mission to support companies in transforming towards sustainable business models aligned with emerging global sustainability-related standards.

The development of this benchmark also comes at a time when consumer demand for eco-friendly furniture in Asia-Pacific is projected to reach USD 20.8 billion by 2030, while Singapore's office furniture market alone is expected to hit USD 911.79 million by 2032.[3] For businesses, compliance with VOC standards offers them a competitive edge by aligning with international standards in the EU, USA, Japan, and China, as well as export growth opportunities at a time when global markets increasingly require sustainable certifications.

By working closely with pilot programmes and early adopters, this initiative aims to go beyond compliance and become a trusted industry standard for health, sustainability, and responsible business, helping Singapore's furniture sector stay competitive globally and ready for future regulations.

With the introduction of the Mark, Singapore reaffirms its position as a regional hub for sustainable design and innovation, setting a precedent for ASEAN countries to elevate their indoor health and sustainability standards.

SFIC encourages manufacturers, designers, retailers, and suppliers to begin preparations early, as accreditation is set to commence in 2026. To ensure a smooth transition, SFIC will provide comprehensive training and technical guidance to industry players.

Module Spa by Commune Lifestyle Pte Ltd, Member of the Singapore Furniture Industries Council

[3] Spherical Insights, "Singapore Office Furniture Market Size, Share, Forecast to 2032," Spherical Insights, November 2023, https://www.sphericalinsights.com/reports/singapore-office-furniture-market.

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Passive Design Meets High-Rise: Challenges and Solutions in Southeast Asia

In this issue, ***Southeast Asia Building*** asked industry experts to tell us about passive design in architecture, specifically pertaining to high-rise developments in the Southeast Asia region. Read more to discover the challenges and benefits of passive design in high-rise architecture, and how architects can adapt using various technologies and innovations.

Interview with **Amit Singhal,** Director, GPM Architects & Planners

Amit Singhal has been associated with GPM Architects and Planners since 1999. His passion for architecture has resulted in the company's overall growth, especially in the commercial and retail design sectors. In addition to the daily responsibilities of the firm's operations, he plays an integral role in business development. As the Director of GPM Architects and Planners, he is the pioneering head of the commercial and recreational design teams. Besides being an enterprising architect, Amit plays a pivotal role in project coordination between the site and the collaborators, which is a source of inspiration to the entire team.

Q: What is passive design in architecture?

A: Passive design is all about shaping a building to work in harmony with its environment, rather than against it. It focuses on deliberate yet straightforward decisions, such as orientation, shading, ventilation, and material choices, to manage light, heat, and airflow without relying heavily on mechanical systems. It's the effectiveness of passive design that stems from considering these aspects early in the design process: how the building is situated on the site, where openings are placed, and how materials perform over time. With proper execution, it enhances comfort, reduces energy use, and strengthens the long-term sustainability of a project.

Q: In Southeast Asia, what are the various factors to consider when implementing passive design in high-rise buildings?

A: Considering the climatic realities of Southeast Asia, characterised by high temperatures, persistent humidity, heavy rainfall, and intense solar exposure, passive design becomes an essential strategy for high-rise buildings. Beyond orientation and shading, which directly impact solar heat gain, the design must strategically address natural ventilation to improve air movement in dense urban conditions where wind corridors are often obstructed.

Studies suggest that applying such passive measures in tropical climates can reduce cooling energy demand by more than 60%, making them both environmentally responsible and economically relevant in the long term. Material selection adds another layer of importance; choosing options that are durable, moisture-resistant, and locally suited ensures longevity and reduces maintenance challenges in humid environments. At the same time, integrating daylighting strategies and rainwater management into the building's form helps balance energy efficiency with resilience. Ultimately, passive design in this region is about tailoring every decision to both climate and context, ensuring that tall buildings remain comfortable, efficient, and sustainable over time.

Q: How is passive design incorporated into high-rise architecture? What technologies are used to optimise the process? Please give case studies from your firm that best showcase passive design.

A: In high-rise architecture, passive design begins at the earliest stage of planning. Orientation, massing, façade porosity, and shading strategies

determine how much a building can rely on natural forces, such as daylight, ventilation, and thermal mass, to reduce its dependence on mechanical systems. Technologies such as daylight and energy modelling, and thermal comfort simulations allow us to test and refine these strategies, ensuring that design decisions are measurable in their performance.

A project that reflects this approach is Mahagun Marina Wwalk in Greater Noida (West), a pre-certified IGBC green building. The design prioritises passive strategies that enhance both environmental performance and user experience. Vegetation and water bodies are integrated within the complex to improve the microclimate through passive cooling and natural air filtration. Wide, landscaped corridors and shaded public areas reduce heat gain while encouraging walkability, transforming shopping into an engaging, outdoor-like experience. Features such as mist-cooled piazzas, deep overhangs, and green rooftops balance comfort with reduced cooling loads.

Material and system choices also reinforce the passive-first approach. Building-Integrated Photovoltaic (BIPV) façades serve a dual purpose, acting as both shading devices and electricity generators. High-performance HVAC systems, supported by variant refrigerant technology and BEE-rated equipment, are employed only where mechanical intervention is unavoidable. Water-sensitive design complements this framework, featuring low-flow fixtures and a Moving Bed Biofilm Reactor (MBBR) wastewater treatment system, which enables recycling and reduces strain on local resources.

Marina Wwalk demonstrates how passive design in a commercial high-rise can extend beyond energy efficiency to create a resilient, enjoyable, and socially engaging environment. By allowing natural systems, such as light, wind, and greenery, to shape the design, the project redefines sustainability as the foundation of architecture itself.

Q: What are the current challenges in passive design? How can they be overcome?

A: Adopting passive design in high-rise buildings in India comes with its own set of challenges. One of the foremost is the pressure of urban density; tight sites often restrict optimal orientation, natural

Mahagun Marina Wwalk

ventilation, or daylight access. Climatic diversity across regions adds another layer of complexity; strategies effective in coastal cities may not be viable in arid or composite zones. Regulatory frameworks and development by-laws sometimes focus more on maximising built-up areas than environmental performance, limiting the scope for responsive design.

Although guidelines such as the Energy Conservation Building Code (ECBC) and rating systems like GRIHA and IGBC encourage climate-sensitive design, their implementation is still uneven. In many projects, developers often prioritise short-term cost efficiency over long-term sustainability benefits, making it difficult to invest in high-performance façades, shading systems, or integrated green infrastructure. Furthermore, passive strategies necessitate interdisciplinary collaboration among architects, engineers, and planners, which is not always the norm in conventional project delivery models. Despite these challenges, the growing awareness of energy efficiency, occupant comfort, and resilience is prompting the industry to reassess its design approaches. With evolving policies and advances in digital simulation tools, the integration of passive design is becoming more achievable and more necessary for India's high-rise future.

Q: What are the long-term benefits of passive design? How can more people be encouraged to implement passive design in high-rise buildings?

A: The real strength of passive design lies in its long-term impact. By reducing dependency on mechanical cooling and artificial lighting, buildings achieve lower energy use, improved indoor comfort, and healthier living conditions. Over the years, this translates into reduced operational costs, greater resilience against rising energy demands, and a longer building lifecycle with fewer maintenance challenges. On a larger scale, such approaches support sustainable urban growth by cutting carbon emissions and creating more liveable cities.

Encouraging wider adoption requires both policy support and a shift in mindset. More straightforward guidelines in building codes, fiscal incentives, and performance benchmarking can drive acceptance at an institutional level. Equally, communicating the human benefits, such as improved comfort, well-being, and long-term savings, helps end-users and developers view passive design as an investment rather than an add-on. When its advantages are understood across stakeholders, it naturally becomes embedded in the way we approach high-rise design.

Interview with **Harsh Varshneya,** Director and Head of Design, STHAPATI

Harsh Varshneya is the Director and Head of Design at STHAPATI, an award-winning multidisciplinary architectural practice headquartered in Lucknow and Delhi. Their globally recognised portfolio spans a spectrum of building typologies, from individual dwellings to large-scale urban developments.

Harsh Varshneya leads the firm's innovative ventures into urban mobility projects, both in India and internationally. Over the past decade, he has guided prestigious projects and various redevelopment initiatives within the aviation and railway sectors, shaping the nation's infrastructure landscape. His extensive portfolio includes the redevelopment of major academic institutions such as Delhi University and the transformation of key transport hubs in cities like Bangalore, Mumbai, Hyderabad, and beyond.

Q: What is passive design in architecture?

A: Passive design is about creating buildings that respond intelligently to their environment, optimising natural resources to maintain comfort and efficiency without relying heavily on mechanical systems. It involves harnessing elements like sunlight, wind, shading, and natural ventilation to reduce energy consumption while enhancing occupant comfort. In essence, it's architecture that works with nature rather than against it.

Q: In Southeast Asia, what are the various factors to consider when implementing passive design in high-rise buildings?

A: In Southeast Asia, high-rise buildings face unique challenges. The climate is hot and humid, characterised by intense sunlight and heavy seasonal rains. In dense urban areas, wind flow is limited, and buildings are exposed to more heat reflected from neighbouring structures. In any case, all site factors are carefully considered to optimise everything, from the orientation of the building to the offset of balconies or the placement of green buffers to best suit its context. Small design decisions like these can significantly impact how air moves through spaces and the amount of heat that enters the building. Designing with these conditions in mind is essential for comfort and energy efficiency.

Q: How is passive design incorporated into high-rise architecture? What technologies are used to optimise the process? Please give case studies from your firm which best showcase passive design.

A: In practice, passive design begins with the building envelope. Shading devices, high-performance glazing, and carefully designed façades reduce solar heat gain. Sky gardens, atriums, and ventilation shafts bring natural airflow into the heart of tall buildings, allowing for a more comfortable and healthy environment. We utilise computational tools, including energy modelling, daylight analysis software, and airflow simulations, to test the most effective strategies before construction, thereby making the design process both precise and responsive.

Q: What are the current challenges in passive design? How can they be overcome?

A: The biggest challenges come from the tension between environmental goals and commercial or programmatic pressures. High-rises need to be economically viable, which sometimes limits space or the ability to incorporate passive strategies. Integrating passive design with modern expectations for comfort can also be a complex task. Overcoming these challenges requires collaboration with engineers and developers from the earliest stages of development. Demonstrating the long-term benefits and using data-driven tools can help convince stakeholders. Policy support and incentives for energy-efficient buildings can also encourage adoption.

Q: What are the long-term benefits of passive design? How can more people be encouraged to implement passive design in high-rise buildings?

A: The benefits of passive design are tangible and long-lasting. Reduced energy use lowers operational costs and carbon emissions. Occupants experience healthier and more comfortable spaces, which enhances well-being and productivity. Buildings that embrace passive principles are more resilient and maintain their value over time. To encourage wider adoption, it is essential to demonstrate what is possible through high-profile projects, education, and clear examples of environmental and economic benefits. Our collective vision should be a skyline where tall buildings do more than reflect our pursuit of economic growth; they should respond meaningfully to climate and the needs of the people who inhabit them. Passive design in high-rises is not a choice to make only when convenient. It is a responsibility to the environment and to the communities we shape.

Interview with **Vineeta Singhania Sharma,** Founder Partner & Principal Architect, Confluence]

Vineeta Singhania Sharma is an accomplished architect guided by a sense of innate curiosity and an affinity for creative problem-solving with an impressive work portfolio spanning over two and a half decades. As the Founder Partner & Principal Architect at Confluence, an award-winning, multidisciplinary firm with over 25 years of experience, Vineeta spearheads the firm's design narrative while focusing on systems and processes. With an unwavering commitment to enhancing the firm's growth, Vineeta specialises in transforming architectural and design innovations into reality.

Q: What is passive design in architecture?

A: It is a design approach that reduces a building's dependence on mechanical cooling, heating, and lighting systems. It leverages natural ventilation, daylight, shading, insulation, and building orientation to maintain thermal comfort and energy efficiency. Instead of relying on artificial systems, passive design works with local climate and natural resources to create sustainable and human-centric environments.

Q: In Southeast Asia, what are the various factors to consider when implementing passive design in high-rise buildings?

A: Southeast Asia offers unique opportunities and constraints for passive design due to its tropical and subtropical climate. High humidity, year-round heat, and monsoon conditions necessitate effective adaptive shading, cross-ventilation, and moisture control. Additionally, urban density poses challenges as tall buildings must account for shadowing effects, heat island impacts, and altered wind patterns caused by surrounding high-rises. The solar orientation is another critical factor, with east-west facades receiving maximum solar gain; therefore, strategies such as double skins, louvres, and deep overhangs become essential.

Cultural preferences also play a significant role, as indoor-outdoor living patterns, community spaces, and daylight expectations shape design responses. Moreover, regulatory standards like green building certifications (e.g., BCA Green Mark, LEED, GRIHA) influence the integration of passive strategies. Lastly, resilience to flooding, storms, and climate variability requires adaptable building envelopes and water-sensitive design approaches.

Q: How is passive design incorporated into high-rise architecture? What technologies are used to optimise the process?

Please give case studies from your firm which best showcase passive design.

A: Passive strategies in high-rises are more complex than those in low-rise structures due to factors like wind pressure, structural demands, and vertical stacking. For instance, façade design may involve using double-skin façades, operable louvres, and perforated screens to effectively control solar heat gain. Additionally, natural ventilation can be achieved through the use of atriums, sky courts, and vertical voids that facilitate cross-ventilation at multiple levels.

Daylighting strategies, such as optimised window-to-wall ratios, light shelves, and high-performance glazing, minimise the need for artificial lighting. The selection of materials for thermal mass and insulation is another critical aspect, as they help buffer heat gain and regulate internal temperatures.

Furthermore, integrating green elements like vertical greenery, roof gardens, and shaded terraces can significantly improve microclimate performance. Lastly, the implementation of smart controls, including sensors that dynamically adjust blinds, ventilation, and lighting, allows for the optimisation of these passive strategies.

Case Study: County 107, Noida

A regenerative high-rise group housing with Platinum IGBC Certification, County 107 integrates over 600 trees into its 10–12-foot-deep balconies, forming a biophilic façade that transforms each residence into a vertical bungalow with self-sustaining microclimates. The design combines thermal-efficient glazing, rooftop solar panels, and VRF-based HVAC systems with cradle-supported maintenance and drip irrigation to

County 107, Noida

ensure long-term performance. The project also incorporates recycled materials, wastewater reuse, and advanced energy strategies to establish a new benchmark for high-rise group housing design in the Indian context.

Q: What are the current challenges in passive design? How can they be overcome?

A: Current challenges in passive design include high humidity and cooling loads, particularly in tropical climates where passive cooling alone often fails to meet comfort expectations. Additionally, the urban heat island effect in dense cityscapes traps heat, diminishing the effectiveness of passive strategies. From a financial perspective, developers might perceive the initial costs of implementing passive solutions as high, with slow returns on investment. Structural and safety codes pose another challenge, as regulations for tall buildings may limit the use of operable windows and natural ventilation. There is also a general lack of awareness and training among stakeholders, such as developers, contractors, and tenants, who often still favour mechanical over passive solutions.

Hybrid models that combine passive and active systems, such as mixed-mode ventilation, offer innovative solutions for enhancing energy efficiency in buildings. To promote these designs, providing incentives and subsidies for green-certified projects can greatly encourage sustainable construction practices. Demonstration projects can further illustrate the tangible cost savings and comfort improvements associated with these approaches, making a compelling case for their adoption. Additionally, it is vital to integrate passive design principles early in the planning process rather than treating them as mere add-ons, ensuring that buildings are optimised for performance from the very beginning.

Q: What are the long-term benefits of passive design? How can more people be encouraged to implement passive design in high-rise buildings?

A: Buildings designed with a focus on sustainability offer numerous benefits, including reduced energy consumption through lower dependence on HVAC systems and artificial lighting. This approach not only enhances indoor comfort by utilising natural ventilation and daylight but also creates healthier environments for occupants. Additionally, these buildings exhibit resilience, remaining habitable during power outages or system failures. Over their lifecycle, they generate cost savings by lowering operational and maintenance expenses. The environmental impact is significant, with substantial reductions in carbon footprint and resource usage. Furthermore, green-certified and sustainable buildings hold a market advantage, attracting higher-value tenants and buyers who prioritise eco-friendly living and working spaces.

To enhance energy efficiency in building design, a multifaceted approach is essential. This includes policy pushes that establish mandates and incentives for adopting energy-efficient designs. Education and demonstration play a crucial role, with case studies, pilot projects, and post-occupancy data showcasing the tangible benefits of these approaches. Early-stage collaboration between architects, engineers, and developers fosters innovative solutions and seamless integration of energy-efficient strategies. Additionally, increasing tenant awareness by directly communicating the comfort, health, and lifestyle benefits can drive demand for such designs. Finally, the integration of smart technology enables the management of passive design systems, making them more intelligent and user-friendly for occupants.

ARK Club

Project Name: ARK Club

Project Location: Chengdu, China

Project Area: 800m2

Interior Design: VGC Design

Architecture Design: VGC Design

Completion Time: January 2024

Chief Designer: Michael Chen

Detailed Designer: Ding Fei

Project Management: Wen Ming

Project Construction: Zhejiang Construction Decoration Group Co., Ltd.

Structural Design: Luanlu Structure

Landscape Design: Parallel Vision Landscape Studio, Michael Chen

Soft Decoration Design: VGC Design, Qianmo Design

Lighting Design: Artluci*Owen

Photographer: Yu Space Photography, Liu Wei

Video: Qishijiu

Visual Identity: SAC Design

Installation Art: Green Knight

A medical aesthetics pharmaceutical corporate club located on the top floor of a single commercial building, ARK Club uses modern technological design techniques to provide an immersive experience that transcends the present and ventures into the future.

Designer Michael Chen started working on the "Ark" project in 2022. During the lockdown, he fused many thoughts on life and

destiny into the project's conception. Human imagination of the universe is based on exploration and existential pondering. The fundamental law of time constrains lifespans. Therefore, humanity yearns to slow down the wear and tear of time.

In this project, the designer adopted "time and life" as the theme and created a truly transcendent space. Like an ark carrying the strength of life, it floats in the river of time and space, waiting for people to board, get rejuvenated, and sustain life.

Femtosecond Hall: Listening to the frequency of the moment

The "Second Ring" is the main installation of the lobby, with its scale shining backwards. The "Waterfall of Light" is sprinkled with stars flowing backwards, symbolising the reverse of time and space at this moment.

The "Second Ring" intertwines with the stainless steel columns, presenting a dynamic scene. The waterfall-like light and shadows echo the "Second Ring". Together with the interweaving lights, they give a tangible sense of the passage of time.

Temple of Time: Touch the pulsation of time

"All matter originates from a force which brings the particle of an atom to vibration and holds them together. Behind this force exists a conscious and intelligent mind. This mind is the matrix of all matter."

The entire space is constructed with various types of circles, forming a field grounded in physics. The curved stainless steel wall panels reflect light, injecting flowing energy into the space. When touched with fingers, the LED screens display different visual effects and change with different angles of observation, allowing deeper interactions between viewers and the space. This area emphasises human presence despite the modern technological ambience.

Starlight Hall: Looking up at the brilliant sky

The side glass walls present the traditional cosmology of "round heaven and square earth". The black stone floor creates a profound effect reminiscent of the earth through the reflection and projection of lights. Breaking traditional furniture forms, the designer arranged the tables in the multifunctional hall in the form of scattered planets. Mobile tables and chairs can move like planets, changing the layout of the space for meetings, entertainment and other functions, thus offering guests a unique experience.

Ethereal Hall: Enjoying the exquisite delicacies

In the club, besides the exhibition hall, there is also a welcoming reception that makes guests feel at home.

In the Song Dynasty, people "watched the meal" to stimulate their appetite before eating. At this moment, the dining table shows "magnificence", allowing guests to feel "the greatest of life, from the micro to the macro." The reflection of the honeycomb mirror panels expands the space, giving guests an ethereal experience in the presence of exquisite food.

Fang Yuan: Sitting and watching the breath of the plants

The white surface and ground of the architecture here are particularly prominent against the dark sky. Streamlined white strips go through the outdoors, like star trails left when passing through a wormhole. Carefully selected and arranged plants evoke a vivid sense of alien planets and the future. The "Fang Yuan" connects the interior and exterior, sailing through the past and into the future.

Front view of the entire compound

Camo Modern Cookhouse

Project Name: Camo Modern Cookhouse

Office Name: Studio Dashline

Completion Year: January 2025

Gross Built Area: 929 sqm / 10,000 sqft

Total Land Area: 1393 sqm / 15,000 sqft

Project Location: Noida, Delhi NCR, Uttar Pradesh, India

Building Function: Hospitality, Restaurant, Restobar, Public

Founder & Lead Architect: Dheeraj Bajaj

Co-Founder & Lead Designer: Pranav Dakoria

Co-Founder & Lead Architect: Shriya Sohi

Photo Credits: Yash R Jain

Located in Noida, Delhi NCR, Camo is a 10,000 sqft fine-dining restobar that redefines experiential dining by weaving architectural poetry into every inch of its design. Built around the angular lines of an existing structure, the layout begins with a captivating dialogue between two forms—a mirrored angular addition that complements the original, creating a central courtyard that becomes the heart of the space. The courtyard, acting as a theatrical prelude with its angular wrapped staircase, draws guests upward to the rooftop terrace while inviting them inward through a


Left volume; planter seating and cane hanging light

Right volume; live kitchen

Right volume at night

Outdoor seating

central pathway. Framed by glimpses of outdoor seating, the courtyard's architectural grace, and a linear fountain tracing the edge of the compound, the entrance sets an evocative tone for the journey ahead.

Camo's essence is rooted in its culinary focus: an Indian speciality menu, highlighting tandoors and grills. In turn, the design is rustic, muted, and deeply rooted, aligning seamlessly with the warmth and vibrancy of the cuisine. Drawing inspiration from the modest grandeur of Turkish bazaars, the spatial design integrates courtyards, water elements, and outdoor seating, all while enveloping the structures in a warm, earthy palette of muddy Mediterranean lime-clay plaster. The result is a space that radiates both comfort and quiet sophistication.

Though harmonised by materiality, the two angular volumes express unique identities. The rectangular form on the left invites casual indulgence, with its thoughtfully planned bench seating adorned with planters, linear cane pendant lights, and sofa seating along the edges. Anchoring this space is a striking bar, which acts as both a visual and functional centrepiece. The bar is clad in black cobble tiles, with a sleek black grooved granite counter, topped by an elegant black, grey, and white marble slab. Its shelving, also grooved in black granite, is highlighted by an overhead rafter structure with integrated stretch ceiling lights. On the opposite side, the long, linear wall features debossed abstract shapes, a subtle nod to Persian motifs that evoke an understated textural richness.

In contrast, the right volume boasts a pyramidal roof crowned with a skylight, creating a sublime play of natural light and shadows. The stepped ceiling cascading inward and the live kitchen clad in dark chocolate terracotta bricks exude a sense of grounded luxury. The juxtaposition of the terracotta with the lime-clay plastered walls creates a textural harmony. The space offers formal seating at community tables, interspersed with casual bench arrangements along the periphery. Planters and courtyards flank this structure, and six full-height windows (three of which open into the outdoor seating) blur the line between indoors and outdoors, enhancing spatial depth and serenity. A bridge connects the two volumes, arching over the central reception area and symbolically unifying the experience of choice, allowing visitors to decide which world to explore first.

Staircase

Beyond the interiors, the compound expands into an outdoor oasis, featuring intimate rooftop seating at Sora—a private bar for events—and casual spaces for relaxed evenings with stunning views. The compound's thoughtful integration of fountains, greenery, live kitchens, and community tables transforms it into a self-sustained retreat; a sensory escape in the heart of the city.

Camo is not just a space, it's an experience. A harmonious blend of architectural storytelling and culinary celebration, where every detail contributes to an atmosphere of understated luxury and timeless charm.

Cang 41

Project Name: Cang 41

Project Location: Chongli, Hebei, China

Project Area: 270m²

Design Date: March 2023

Opening Date: October 2023

Design Firm: JUMGO Creative

Design Service: Strategy, Brand, Space Design, Furnishings

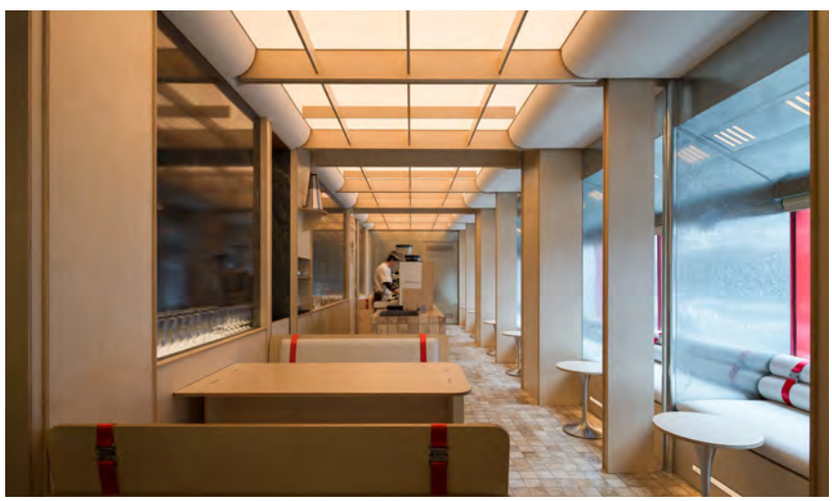
Chief Designer: Holy He

Design Team: Ciyoung Chen, Lemonda Luo, Jekker Zhang, Andy Xing

Photographer: Chuan He

After the 2022 Beijing Winter Olympics, people's enthusiasm for winter sports was reignited. Chongli, a town known for skiing, has likewise recaptured people's attention. For skiers, Chongli is more than a small town in Hebei. Therefore, a group of passionate skiers came up with an idea to establish a unique and professional coffee bar here.

The new business model and local culture have generated new collisions and integration. The brand invited JUMGO as one of the founders responsible for the strategic design, creating the concept of



"North Latitude 41° Ski cellar", which is the origin of its name—"Cang 41."

The key considerations were: an appealing storefront to attract consumers, and a brand that integrates with the local environment. Considering the prime operating season of Cang 41 is undoubtedly the snowy season, the designer came up with the concept of a "sanctuary in snow", drawing inspiration from polar research stations. With this concept, the storefront of Cang 41 was designed to be the most visually striking in a snowy world.

"Attracted by the outside, but ultimately enchanted by the inside." This applies to not just romantic relationships, but brand development as well. In terms of functional planning, the designer incorporated various business forms into the space, with the relationship between the "inside" and "outside" established through an "indifferent" door. Once guests step inside, a warm scene that contrasts with the snowy world will unfold before their eyes in an untraditional way.

The spatial planning separates the areas of darkness and lightness, integrating a unique form in a daytime café and a nighttime bar. Visitors can experience the gradual transition of spatial functions within the limited space. A small yet exquisite space, the designer hopes that customers can find their own nook within the space, regardless of the time or mood.

For Cang 41 to maintain popularity and continue attracting customers, the brand placed great emphasis on product development and meticulous attention to detail. Independent artists customised a series of installations called "Seed Repository" for Cang 41. This creative concept brings rare greenery to the winter landscape of Chongli, creating a soothing atmosphere that uplifts the mood. The furniture was also independently developed, adding more playful elements while maintaining the brand's overall tone and style.

With the idea of establishing a unique business model, Cang 41 has committed itself to its aesthetics and experience, aiming to create an atmosphere where customers can truly feel the brand's meticulous attitude. As an "ideal sanctuary" born in this skiing paradise, the brand has already begun planning for its next store, with the goal of further expanding its influence.

Photo credit: Yash R Jain

Notorious

Project Name: Notorious

Office Name: Studio Dashline

Completion Year: 2023

Gross Built Area: 1115 sqm / 12000 sqft

Project Location: Jalandhar, Punjab, India

Building Function: Architecture & Interiors, Public, Restaurant

Co-Founder & Lead Architect: Dheeraj Bajaj

Co-Founder & Lead Designer: Pranav Dakoria

Co-Founder & Lead Architect: Shriya Sohi

Photographers: Yash R Jain & Talib Chitalwala

Situated in the city of Jalandhar, Notorious is a dazzling 12,000 sqft architectural and interior design masterpiece. A fusion of botanical aesthetics, pastel elegance, and timeless craftsmanship, Notorious creates an immersive experience unlike any other.

Photo credit: Yash R Jain

Photo credit: Talib Chitalwala

Photo credit: Talib Chitalwala

Photo credit: Yash R Jain

Photo credit: Yash R Jain

Photo credit: Yash R Jain

This project's brief was as intriguing as it was challenging, with the goal of incorporating two contrasting worlds into one cohesive space. Notorious seamlessly merges an outdoor tropical haven, vibrant with greens and bright colours, with a dark and secluded speakeasy, resulting in a surprising yet harmonious blend of opposites.

Ascending to the open rooftop, a botanical paradise inspired by greenhouses and luxurious cabanas unfolds. Pastel hues dominate the space, exuding sophistication and creating an inviting ambience. Long seating benches adorned with highlighters, granite tables with intricate grove details, and solid rustic pastel cutlery set the stage for a visual feast.

The heart of Notorious lies in its three distinct cabanas, enveloped by lush landscapes, vertical gardens, and tranquil water bodies. Breaking the spatial flow of the cabanas, a private dining area and an outdoor bar feature vaulted arches and brass shelving details. A brass skylight crowns the bar, casting a gentle glow over the atmosphere. Connecting these spaces are walkways with jute fabric shading above, ensuring a seamless flow and providing a serene retreat.

Architectural elements come to life with metal members, and hut-shaped cabanas invite natural light to play within. Notorious becomes a visual masterpiece where every corner holds a piece of botanical allure.

On the opposite end, discreetly concealed behind a crafty artwork-framed door, lies the speakeasy—a captivating shift in ambience where the dark allure of yesteryears meets contemporary sophistication. While shrouded in mystery, it exudes refinement with brass finishes, handmade tiles, marble inlay flooring, and intricate details. The vaulted ceilings with linear tube lights create a sense of grandeur, while plush tan leather sofas and patterned green upholstery chairs offer a luxurious seating experience.

More than just a rooftop restobar and speakeasy, Notorious is a journey through time and design. It's a place where hidden treasures await discovery, and where every corner tells a story of elegance and creativity. Notorious promises a world where imagination takes centre stage, and the fusion of classic and contemporary design creates a timeless allure that captivates and delights.

ONE CENTRAL PARK, Shanghai

Project Name: ONE CENTRAL PARK, Shanghai

Project Location: No.1600 Zhonghua Road, Huangpu District, Shanghai

Client: Shanghai Yalong Gucheng Real Estate Development Co., Ltd.

Interior Design: CCD / Cheng Chung Design (HK)

Lighting Design: CCD / Cheng Chung Design (HK)

Art Consulting: CCD · WOWU Art Consultancy

Project Area: 960 sqm

Completion Time: December 2024

Photos: QIWEN PHOTOGRAPHY

Video: BridgeHouse

Deeply rooted in the fabric of Shanghai's old city, ONE CENTRAL PARK stands as a silent witness to seven centuries of cultural and urban evolution. Revered as the cradle of Haipai culture, the historical neighbourhood has long stood as a vital crossroads of East-West cultural exchange, from the Yuan Dynasty to the flourishing port era.

The project's cross-temporal architectural wisdom is vividly embodied in a warm, timeworn red—a hue distilled from the fading terracotta tiles of historic Shanghai-style villas, their distinctive brick-red tones mellowed by the passage of time. This chromatic legacy conjures both the glamour of 1930s

cosmopolitan Shanghai and the everyday warmth within Shikumen alleyways.

In conceiving the interiors, CCD reinterpreted this historically resonant red through a contemporary design language. Stepping into the entrance foyer, a chromatic narrative begins to unfold, inviting every visitor into a poetic dialogue with the golden era of Haipai culture.

Within a modern skyscraper, CCD curated a spatial journey woven from light and shadow, like an immersive passage through time. At the elevator hall, copper cladding gently sweeps from walls to ceiling, evoking the graceful diffusion of ink across a scroll. The subdued ambience hushes the city's clamour, rendering philosopher Zhou Guoping's vision of "rich tranquillity" into a physical, contemplative experience.

As the door opens, the art installation "Metamorphosis" emerges like a cocoon of light suspended in a fissure of time. Handwoven by 15 artisans using ramie threads, it unfolds as a fluid epic of transformation. Co-created by CCD founder Joe Cheng and artist Huang Wanbing, the piece took over a month to complete, capturing the moment of a silkworm cocoon's metamorphosis through an intricate weaving of metal frames and natural fibres. Stretching across the elevator hall, model display area, and urban lounge, it composes a trio of time, craft, and vitality, where natural materials encounter digital fabrication, and historic context undergoes transformative rebirth.

The model display area reawakens the city's memory through a narrative in shades of red. Red travertine, textured paint, and bricks sweep across the space, engaging in a continuous dialogue with red-hued old Shanghai villas long etched into the city's fabric. Enveloped in a unified brick-red palette, the space becomes a vessel where bygone dreams are gently rekindled.

CCD skillfully infused the real estate sales centre with the warmth of daily life and aesthetic refinement. A professional-grade kitchen crafted from copper and red travertine evokes the intimacy of a private residence,

inviting visitors to envision future moments of everyday life. Here, the experience moves beyond real estate display or transaction, unfolding a shared vision of lifestyle.

Questions of presence and absence, being and not being, are subtly embedded in the narrative, lending the space a sense of interpretive transparency. Hand-fired red bricks, crafted with contemporary sensibility, are meticulously laid throughout, where the rhythm of solid and void orchestrates a contemplative conversation between past and present.

The west zone is a multifunctional space, integrating a bar, reception, and lounge areas. Through a contemporary design approach, CCD created a sculptural fireplace as a visual anchor, imbuing the space with artistic resonance and fostering a quiet dialogue with the centrepiece.

"The character and spirit of the horse have long been at the core of our design aspirations. A 'horse' leaps vividly within the space, yet soars beyond the mundane, carrying profound symbolic meaning," explained Joe Cheng.

The artwork "If I Were You" by artist Huang Cheng navigates shifting identities and perspectives, embodying philosophical reflections on humanity and injecting primal force into the space.

"We hope this space feels less like a real estate sales centre and more like a social lounge for the city's elite—evoking an afternoon tea in a historic villa of old Shanghai," said Joe Cheng.

A space can be emotional, natural, and healing. Thus, sensory design became a key methodology. An Oriental-style tea pavilion is introduced indoors, creating a garden-like journey that resonates with the future landscape vision of a "Cosmopolitan Garden." Artistic screens integrate contemporary minimalism with traditional Eastern proportions, echoing the architectural ethos of "Chinese essence, Western techniques."

Sogetsu Ikebana artist Xu Yanya joined this creative journey, curating rich indoor landscaping and floral art that breathes nature's vitality into the space. In quiet resonance with the classical gardens of the old city, these elements subtly weave the refined elegance of Wu-Yue culture into contemporary everyday life.

Amber light flickers softly against the lattice windows of the side rooms, conjuring the tender memories of Shikumen's bygone days. Warm yellow lighting, layered with a palette of deep reds, envelops the space, gently transporting visitors from the metropolitan glamour of Shanghai to its cultural soul, touching the tranquillity behind the splendour of the old city.

Likewise, the restrooms were conceived with meticulous attention. The same red travertine used in public areas was sculpted into walls and countertops, creating a strong sense of cohesion. Vanity mirrors are subtly aligned to enrich visual interaction, with all else pared down in restrained simplicity. In mirrored reflections, time and space stretch into infinity—where reality meets illusion, and the present echoes the past.

CapitaSpring

CapitaSpring, the 280-metre high-rise oasis, proudly symbolises Singapore's vertical urbanism. With a diverse neighbourhood of restaurants, office space, a serviced residence, and sky gardens reaching the 51st floor, it is currently among the city's tallest towers.

The project was jointly designed by BIG-Bjarke Ingels Group and CRA-Carlo Ratti Associati, who collaborated on its architecture, public space, and digital user experience (respectively).

Located at the heart of Singapore's financial district on the site of a former public car park and a hawker centre, CapitaSpring was completed after four years of construction for CapitaLand Development (CLD), CapitaLand Integrated Commercial Trust and Mitsubishi Estate Co., Ltd.

CapitaSpring is defined by a dynamic interplay of orthogonal lines, lush greenery, and contrasting textures, though it doesn't stop there. In addition to the abundant sky-gardens and rooftop park, CapitaSpring includes premium Grade A office space, a Citadines serviced residence, a hawker centre, restaurants, and public spaces.

In 2022, Mr. Tan Yew Chin, CEO of CLD (Singapore), said, "CLD and our partners are delighted to mark the completion of CapitaSpring, a biophilic skyscraper that represents CapitaLand's vision to build a greener and sustainable future as laid out in our 2030 Sustainability Master Plan. From Funan in the Civic District to Canning Hill Piers along [the] Singapore River, CapitaLand has been playing a key role in injecting holistic work-live-play elements to activate precincts and rejuvenate Singapore's city centre to keep up with evolving lifestyle trends.

"With CapitaSpring, we are setting a new benchmark for the office of the future by bringing a premium, multi-faceted workplace experience to building occupants, complemented by our core-flex solutions that cater to the increasing adoption of hybrid work strategies."

At multiple elevations, the vertical elements comprising the building's exterior are pulled apart to allow glimpses into the green oases blooming from the base, core, and rooftop "sky garden". The tower reinforces Singapore's reputation as a garden city, housing over 80,000 plants, with a Green Plot Ratio of more than 1:1.4, translating to a total landscaped area of more than 8,300 square metres (90,000 square feet)—equivalent to 140% of its site area.

"As someone with Singaporean heritage, I have been honoured and humbled by the opportunity to contribute to the ongoing evolution of architecture in Singapore as a distinct blending between the contemporary and the tropical," said Brian Yang, Partner in Charge, Bjarke Ingels Group. "In our design, this manifests as a seamless transition between the garden and the city, articulated in the facades and a series of lush spiralling gardens connecting between various programmes and filled with amenities representing a spectrum of use."

On the street level, CapitaSpring

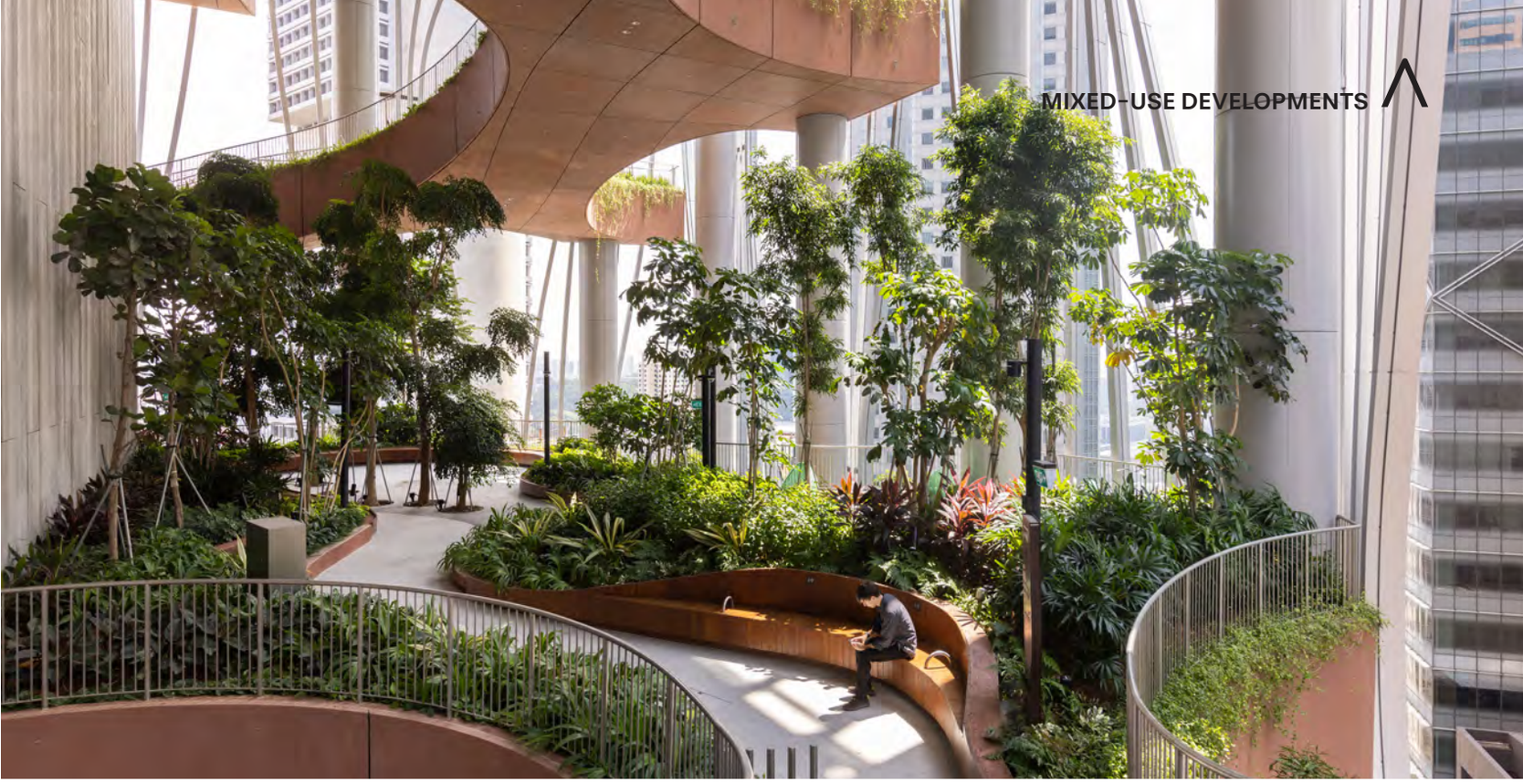
restores a portion of the historically significant Market Street to the public realm by pedestrianising the stretch and creating an expanded landscaped area, creating new green breathing space in the high-density CBD for the neighbouring tenants and passersby.

Winding garden paths create natural entryways into the City Room, an 18-metre-tall generous open space at the foot of the tower. It creates shelter from the tropical sunlight and showers, welcomes both tenants into separate lobbies for the offices and residences, and shoppers and diners into the food centre. The iconic Market Street Hawker Centre was recreated at the building's second and third floors with 56 food stalls, solidifying the location as the heart of Singapore's culinary experience and the role it plays in maintaining local culture.

Bjarke Ingels, Founding Partner, BIG, commented, "Our design seeks to continue Singapore's pioneering vertical urbanism with the 280m tall diverse neighbourhood of places to work, live and play inside as well as outside. Due to the unique character of Singapore's urbanism—both extremely dense and green—we decided to make the design a vertical exploration of tropical urbanism. At grade, the street is closed to form a new linear park and public plaza. A vertical park in the middle of the tower forms a spiralling promenade ascending among tropical tree trunks and canopies. On top, an urban forest feeds all the restaurants and cafes in the building and allows visitors to enjoy the lushness of the summit. CapitaSpring is like a vision of a future in which city and countryside, culture and nature can coexist, and urban landscapes can expand unrestricted into the vertical dimension."

The first 8 floors of the tower are dedicated to the serviced residence, including a wide range of facilities such as: a swimming pool; jacuzzi; jogging track; gymnasium; social kitchen; residents' lounge; and barbecue pits. The top 29 floors offer premium office spaces with panoramic views of the Singapore River and Marina Bay.

"When we first got invited to join the architectural competition, we saw a great opportunity to team up




Tray Return

and join forces with BIG to achieve a uniquely bold result together. It has been enriching to combine our approach with design and innovation with BIG's skill in architectural scale. As CapitaSpring is open to the public today, I am proud of how we enhanced the public spaces across the building, creating the best experience for all users, leveraging both technology and unprecedented integration with natural elements," said Carlo Ratti, Founding Partner, CRA-Carlo Ratti Associati and Director, MIT Senseable City Lab.

Between the hardscape of the offices and residences, four connected levels of organic softscape lie at the building's core. Dubbed the "Green Oasis", it is a 35 metre open-air garden for work, casual strolls, relaxation, exercise, and events. By seamlessly weaving nature vertically into the architecture, the Green Oasis satisfies spatial limitations while granting tenants and residents abundant access to green spaces. The harmonious blend of modern architecture with the ubiquitous tropical nature of the region is a staple of Singapore's urban landscape.

The overall vertical softscape of the Green Oasis mimics the plant hierarchy of tropical rainforests—the hierarchical leaf growth of the plants is in direct proportional relationship to light availability within the vegetation layers. Shade-tolerant plants with large leaves are found on the "rainforest floor", requiring the least amount of direct light. Moving towards the canopy layer, the "roof" of the rainforest, trees are defined by their smaller leaf structure.

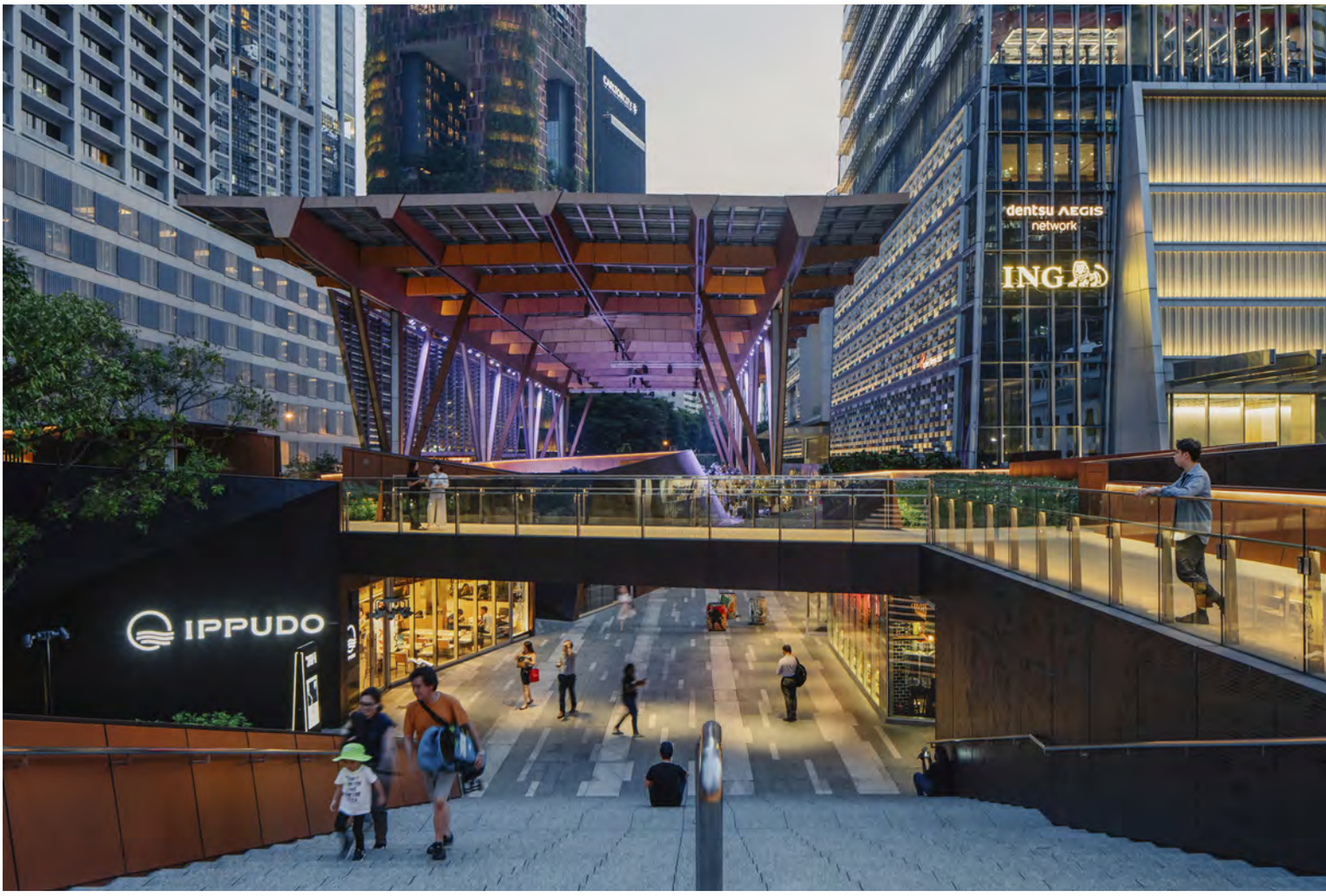
The rooftop garden, offering stunning views of the city, is home to Singapore's tallest urban farm operated by 1-Group. Currently, over 150 species of fruits, vegetables, herbs, and flowers are grown across five thematic plots to supply the rooftop restaurants with fresh greens.

CapitaSpring has been accorded Green Mark Platinum & Universal Design GoldPLUS certifications by the Building and Construction Authority of Singapore. The building also has amenities in support of the sustainable transport vision in the Singapore Green Plan 2030. 165 bicycle lots, fully equipped end-of-trip facilities, and a 600-metre cycling path around the building's perimeter along Malacca Street and Phillip Street form part of the Central Area cycling network connecting to Singapore's larger cycling network.

› PROJECT DETAILS

Designers: BIG-Bjarke Ingels Group and CRA-Carlo Ratti Associati
Size: 93,000 sqm
Location: Singapore
Completion date: 2021
Client: CapitaLand Development, CapitaLand Integrated Commercial Trust, and Mitsubishi Estate Co., Ltd.
Collaborators: RSP Architects Planners & Engineers (Pte) Ltd, ARUP Singapore Pte Ltd, Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd, Arcadis Singapore Pte Ltd, COEN Design International Pte Ltd, Takenouchi Webb Pte Ltd, Nipek Pte Ltd, Asylum Creative Ptd Ltd, Jacobs International Consultants Pte Ltd, Ignesis Consultants Pte Ltd, PH Consulting Pte Ltd, TSM Consultancy Pte Ltd, Dragages Singapore Pte Ltd, Meinhardt Singapore Pte Ltd, Squire Mech Pte Ltd.
Photo credit: Finbarr Fallon

Guoco Tower



In the heart of the historic Tanjong Pagar district, Singapore's tallest tower stands proudly as a beacon for several prominent neighbourhoods in Singapore. Bringing together apartments, offices, boutiques, restaurants, and a hotel, Guoco Tower takes the concept of a "vertical city" and not only brings it to life, but elevates it.

At an impressively tall 290 metres, Guoco Tower has become a civic landmark for the Central Business District, Chinatown, and rapidly developing neighbourhoods to the south and east. As a central building in these busy sectors, Guoco Tower welcomes all with its connectivity, shopping experiences, and natural scenery, realising the shared vision of the Singapore Urban Redevelopment Authority and GuocoLand in creating a lively community space that serves both residents and the public.

The project consists of two buildings—the main 64-storey tower and the free-standing 20-storey Sofitel Singapore City Centre hotel. The main tower's wedge-shaped form is an expression of the activities within; it tapers as it rises, extending from deep, flexible Grade-A office levels to the long, slender floor plates of the Wallich Residences at the top. Two-thirds of the way up, the tower has a prominent setback. This purposeful design goes beyond visual appeal into the realm of symbolism: the eastern and western profiles of

the complex resemble the Chinese symbols for "entry" and "people", respectively, promoting Singapore's global and welcoming presence.

Lucky residents of the aforementioned Wallich Residences are in for a treat. Different dimensions of the floors enable a variety of creative configurations. Breathtaking views can be seen from multiple points in the tower, including a sky deck, an infinity pool, and two additional sky gardens. Should you gain access to the Wallich Residences, be sure to take in the plethora of sights waiting for you atop Guoco Tower.

Down below, the six-storey podium that's open to the public promises to provide a fulfilling experience for all who visit. With multiple carpark levels, retail, restaurants, entertainment venues, and an underground link to the Tanjong Pagar Mass Rapid Transit (MRT) station, there is no reason not to visit Guoco Tower for a day of relaxation and bonding with loved ones.

Finally, there is the redesigned Tanjong Pagar Park—the site's central jewel. Though there are several entry points, the series of diagonal paths all lead towards the centre, where pedestrians are met with the "City Room", a 3,000-square-metre canopied area designed for community events and public art displays. Even here, guests have no shortage of cafes and eateries to try out amidst the lively cluster. Every visit to Guoco Tower and its adjacent park is a new experience waiting to happen.

With sustainability at the forefront of everyone's minds, Guoco Tower reassuringly sets a prime example in Singapore for its achievements in Green Mark Platinum and LEED Platinum certifications. The City Room displays one such innovation with its BIPV technology. Built into the canopy glass, the BIPV panels allow soft light to filter through while absorbing up to 2 percent for later use, and even cool the environment and promote airflow. The exterior glass walls of the buildings use double silver, low-e coating to reduce solar heat gain while maximising natural lighting inside.

Guoco Tower is a crowning achievement in design, luxury, and sustainability. It attracts locals and tourists alike to come and experience the pinnacle of Singaporean excellence, ensuring an experience unique to the island-city many call home.

› PROJECT DETAILS

Architect: Skidmore, Owings & Merrill (SOM)
Client: GuocoLand Ltd.
Services: Architecture
Completion: 2018
Location: Singapore
Gross Floor Area: 157,600 sqm
Site Area: 15,000 sqm
No. of Units: 495
No. of Storeys: 64
Construction Value: $2.4B
Sustainability: LEED BD+C NC Gold, LEED BD+C CS Platinum, BCA Singapore Green Mark Platinum
Programme: Hospitality, Residential, Retail, Office

Shenzhen Yanlord Luohu Mixed-use Development

Within the bustling district of Luohu, a remarkable high-end residential tower transforms the Shenzhen skyline as a new landmark. Yanlord Tower's neat design and emphasis on public spaces seamlessly blend luxury living with community engagement.

Boasting 336 meticulously crafted units, Shenzhen Yanlord Luohu also provides thoughtfully planned public spaces and underground retail units for a holistic experience. The tower was strategically rotated approximately 45 degrees to integrate with existing buildings and optimise views.

Spiral public space occupies the first three floors, serving the community and symbolically representing the vibrant spirit of Shenzhen. Encompassing a sprawling 6,600 sqm of public space, guests are offered a 24-hour shared area and multi-functional rooms for leisure and entertainment. The design incorporates environmentally-friendly elements—including lush vegetation—which enhances the aesthetics and creates a serene and inviting atmosphere.

Residents are provided exclusive access to a clubhouse located on the fourth and fifth floors. Within, residents can find state-of-the-art facilities, including a gym, swimming pool, and other amenities—an oasis for residents to relax and rejuvenate.

A sunken pedestrian street adds an exciting dimension to the tower, housing 2,500 sqm of underground retail space. The amphitheatre on the street level creates an engaging event space, while the elevated first floor enhances the visibility of shop fronts from ground level, leading visitors to explore the diverse retail offerings.

The tower's façade boasts a dynamic surface, creating a highly functional and visually captivating aesthetic. The cantilever spandrel design on the west side provides ample shading, ensuring optimal comfort for residents. Insulated glass panels with low-E coating control

glare and unwanted reflections, creating a harmonious indoor environment.

The high-end residential tower in Luohu stands as a testament to visionary design. With its generous public spaces, engaging underground retail, captivating atrium, and a host of amenities, it redefines modern urban living and becomes an iconic landmark in Luohu. With its multi-faceted approach to public space planning, Yanlord Tower fully explores the community's potential to create a cohabitable space between private and public.

› PROJECT DETAILS

Project: Shenzhen Yanlord Luohu Mixed-use Development
Location: Shenzhen, China
Client: Yanlord Land
Design and Project Architect: Aedas
Gross Floor Area: 60,000 sqm
Completion Year: 2024
Design Director: Cary Lau, Global Design Principal
Photography: CreatAR Images

Houhai Hybrid Campus

On 21 August 2025, architecture firm Büro Ole Scheeren unveiled the design for the new Houhai Hybrid Campus in Shenzhen, China—a visionary development that integrates work, living, culture, commerce, leisure, recreation, and nature into a unified urban ecosystem.

Located in the Houhai district, a strategic area within the original Shenzhen Special Economic Zone (SEZ), the

campus bridges the city's commercial centre and the scenic Shenzhen Bay waterfront.

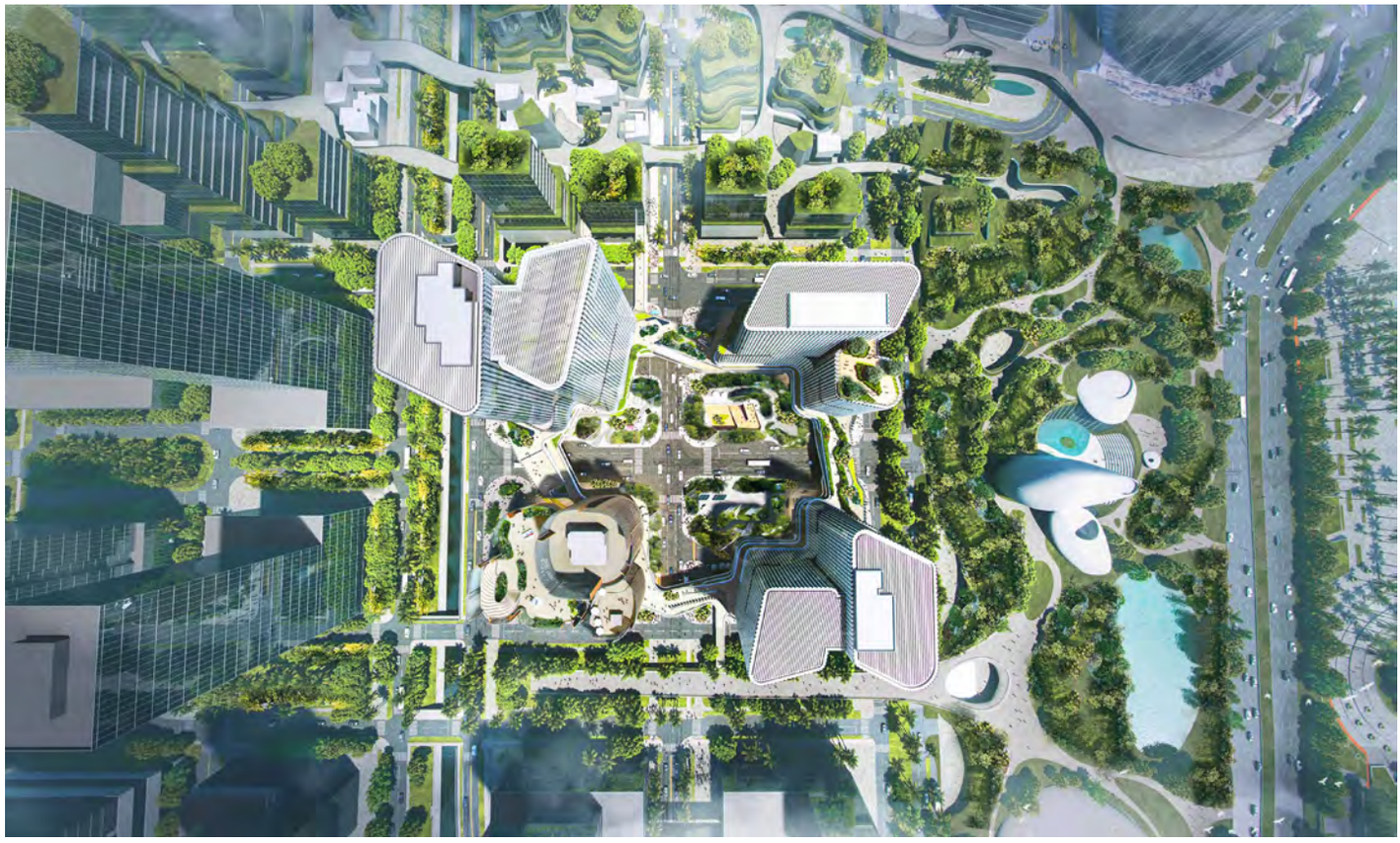
Known for its culture-led planning and human-scale urbanism, Houhai has become a focal point of Shenzhen's urban evolution. Ole Scheeren's design for the Houhai Hybrid Campus is a key component of the city's ambition to merge urbanity with nature and redefine the quality of city life.

The unveiling of the Hybrid Campus commemorates the 45th anniversary of Shenzhen's designation as a Special Economic Zone (SEZ), a milestone that marks the city's meteoric rise from a fishing village to a global innovation hub. Over the past four decades, Shenzhen has become a symbol of China's economic progress and urban experimentation, with Houhai emerging as a model for integrated, sustainable development.

The Hybrid Campus comprises four towers distributed across four urban plots, spanning over 1.3 million square feet. The towers feature curvilinear forms that soften their scale and create a dynamic silhouette within Shenzhen's skyline, while staggered interlocking volumes present a playful architectural rhythm.

The towers are connected by a three-dimensional promenade of elevated bridges, forming a ring that frames a central oasis. The architectural concept of the oasis introduces a layered circulation system, with a ground level and three elevated levels, offering a continuous park experience that blends nature and leisure. The connective band links the towers and integrates with Shenzhen's multi-level pedestrian networks, creating a fluid, human-scale environment that is both bicycle- and pedestrian-friendly.

The Hybrid Campus is designed for 24-hour use by a multigenerational community, with each tower serving a distinct function; from flexible office spaces and co-living apartments to hotel rooms for short-term guests and serviced suites for long-term residents. A cultural venue anchors the campus, while the network of elevated walkways acts as a social connector, enabling seamless movement between the towers and their functions. Roof terraces and outdoor gathering spaces offer panoramic views of the city and the South China Sea, providing moments of respite and reinforcing the connection between people, nature,



and the urban fabric.

Ecological designs are employed throughout the campus. Shaded walkways and natural ventilation, created through strategically carved massing, are complemented by fountains and reflective pools, both regulating temperature and enhancing the sensory experience of the central oasis. The soft landscape incorporates a diverse tapestry of local species, including evergreens, flowering plants and trees, that respond to Shenzhen's seasonal changes and contribute to biodiversity and human comfort.

The campus is directly connected to the Shenzhen Metro system with integrated metro exits and retail-lined basement access that promote sustainable urban mobility. The landscape design draws in the surrounding green spine and adjacent Shenzhen Talent Park, using fluid lines, natural stone paving and lush planting to create a harmonious environment.

Ole Scheeren commented, "The Houhai Hybrid Campus manifests our long-standing engagement with the city of Shenzhen and our commitment to elevating the quality of life for its people. It is a place where architecture and nature converge to form a human-centric environment that completes the experience of a new urban ecosystem that reflects the diversity of city living, bringing to life spaces for innovation, collaboration, and community."

The Houhai Hybrid Campus creates new connections between city and nature, technology and culture, and transit and commerce. Currently under construction, it is set to be a landmark of architectural and cultural significance upon its scheduled opening in late 2026.

› PROJECT DETAILS

Name: Houhai Hybrid Campus
Design Firm: Büro Ole Scheeren
Location: Shenzhen, China
Area: 1.3 million sq ft
Completion: Late 2026
Image credit: Büro Ole Scheeren

LyndenWoods

LyndenWoods, the first residential development within the rejuvenated Singapore Science Park (SSP), is a landmark project marking a major milestone in the precinct's transformation into a vibrant, mixed-use innovation hub.

Developed by CapitaLand Development (CLD), the development arm of CapitaLand Group, the announcement of LyndenWoods in June 2025 presented a unique

opportunity for homeowners and investors seeking long-term value, lifestyle convenience, and first-mover advantage.

Strategically located next to the next-generation life sciences and innovation cluster Geneo, LyndenWoods offers discerning homeowners and investors an opportunity to be part of a holistic work-live-play innovation district that seamlessly integrates purpose-built infrastructure, biophilic living, community-driven amenities, and thoughtfully designed placemaking programmes.

LyndenWoods will comprise 343 units across two 24-storey towers, reinforcing CLD's commitment to creating vibrant work-live-play neighbourhoods. Residents will have easy access to Kent Ridge MRT, located a 5-minute walk away, and food & beverage and retail options there and at Geneo. Other key landmarks include: the National University of Singapore, National University Hospital, one-north, Rochester Commons, Fairfield Methodist School (Primary), Anglo-Chinese Junior College, and Singapore Polytechnic. With a 15-minute train journey to Orchard Road and the Central Business District (CBD), LyndenWoods promises both connectivity and convenience.

Mr Ronald Tay, CEO of CLD (Singapore), said, "LyndenWoods is a pivotal milestone in the ongoing transformation journey of SSP. CLD's first residential development within SSP reflects our vision to rejuvenate the area into a dynamic, mixed-use innovation cluster. Alongside Geneo, LyndenWoods anchors a new urban ecosystem designed around curated social spaces that foster community interaction, collaboration, and wellness. The upcoming development benefits from its proximity to Kent Ridge Park, which connects seamlessly to the Southern Ridges' nature trails and the National Parks Board's 150-kilometre Round Island Route park connector network.

"With easy access to Kent Ridge MRT and surrounding F&B and retail amenities, supported by improved

pedestrian and cyclist infrastructure, LyndenWoods addresses the growing demand for well-located, high-quality housing and exemplifies how integrated urban districts can deliver both future-ready liveability and enduring investment value."

LyndenWoods is a prime example of how private sector developments can support the shift towards self-sustaining regional hubs, following Singapore's decentralisation strategy under the URA Master Plan. Embedding residential, commercial, and recreational spaces within a single connected district, projects like LyndenWoods reduce the reliance on the core CBD and promote a higher quality of life at the district level.

Rooted in the architectural concept of "Tree of Life", LyndenWoods offers a distinctive design that brings residents closer to nature while connecting vertical communities. The two residential towers are each interlinked by communal sky terraces on every floor, creating a unique experience of living amongst greenery at the doorstep. These elevated gardens not only foster community and well-being, but also sculpt each tower into a dual point-block design, enhancing natural ventilation and daylight throughout the building and residential units. The development adopts a visually fenceless design, with residential units lifted off the ground plane, allowing the surrounding landscape to flow uninterrupted across and blend naturally with the architecture.

The landscape design further reinforces this connection, offering a layered, immersive experience that mirrors Singapore's natural rainforest ecosystem. The landscape deck forms the understorey, providing shaded and thermally comfortable communal areas. Above, the residential towers and sky terraces represent the emergent layer, bringing greenery and shared spaces to every floor. LyndenWoods offers a biophilic lifestyle with its forest sanctuary approach that is deeply attuned to its surroundings, echoing the adjacent Kent Ridge Park and extending the green spine of the Southern Ridges into residents' everyday lives.

The development is slated to achieve the BCA Green Mark Platinum certification, achieving all five badges for excellence in Health and Well-being, Whole Life Carbon, Resilience, Maintainability, and Intelligence. Designed with occupant comfort and environmental sustainability in mind, the development includes green features such as water-efficient fittings to optimise water usage, blocks oriented to minimise heat exposure, and energy-efficient air-conditioning systems in each unit to maintain cool temperatures while reducing energy consumption.

LyndenWoods features a range of unit types, from 635 sq ft for a two-bedroom unit to 1,647 sq ft for a four-bedroom unit. All units are designed for modern hybrid living and are equipped with smart-home technology, bespoke finishes, and are complemented by a co-working lounge and flexible third spaces. Residents also have access to a range of wellness amenities, including a 50-metre infinity lap pool, recreational tennis court, pickleball court, pets' park and the Lynden Club—a multi-level hub featuring a gym, social lounge, and function room.

CLD received a strong market response for LyndenWoods, with over 94% of units sold on the launch day. The development achieved an average selling price of S$2,450 per square foot (psf), reflecting buyers' confidence in the project's strategic location, unique positioning and long-term investment appeal.

Mr Ronald Tay, CEO of CLD (Singapore), concluded, "The strong sales of LyndenWoods affirm growing demand for high-quality wellness living strategically located in future-ready innovation districts like Singapore Science Park. LyndenWoods has appealed to buyers who value the convenience of living near work, with access to modern amenities and green spaces. It also represents CLD's blueprint to develop more homes that meet the evolving lifestyle needs of homebuyers while delivering long-term investment value."

› PROJECT DETAILS

Developer: CapitaLand Development (Singapore)
Project Name: LyndenWoods (风之林)
Address: 69 Science Park Drive, Singapore 119317, 71 Science Park Drive, Singapore 118253
Planning Area Queenstown: (RCR, District 5)
Total Units: 343
Building Height: Approx. 123m (Singapore Height Datum)
Land Area: 11,556.9 sqm
Expected Vacant Possession: 30 June 2029
Expected Legal Completion: 30 June 2032
Architect: ADDP Architects LLP
Landscape Consultant: Coen Design International Pte Ltd
Builder: Nakano Singapore (Pte) Ltd

Oasis Terraces

Oasis Terraces is a new generation of community centres developed by Singapore's Housing and Development Board to serve its public housing neighbourhoods. It comprises communal facilities, shopping, amenities and a government polyclinic.

Completed in 2018 by Serie Architects in collaboration with Multiply Architects, the Punggol Neighbourhood Centre and Polyclinic utilise a series of lush garden terraces that

slope towards the waterway as one of the key elements to generate communal activities. These lush gardens act as common spaces, children's playgrounds, and a natural amphitheatre.

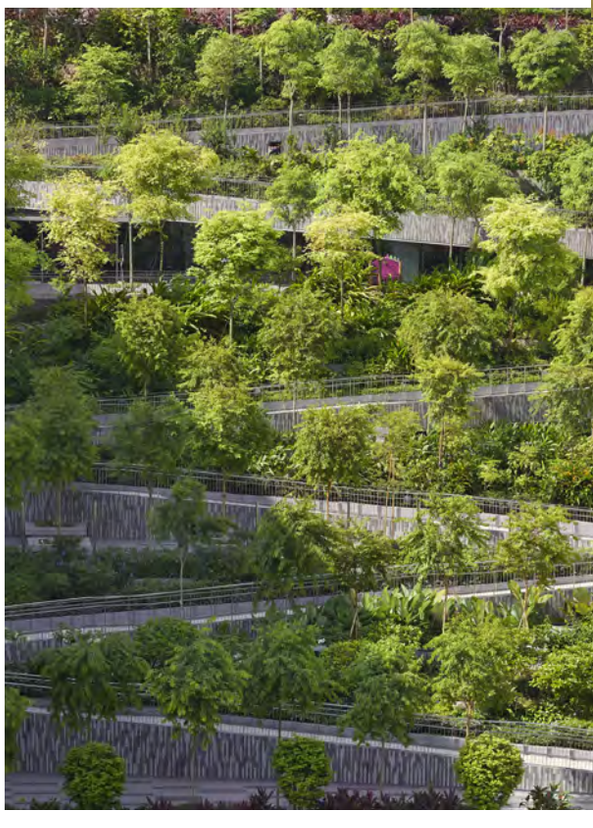
The roof is also heavily landscaped and features planting beds for urban farming. The gardens play more than just an aesthetic role in the community; they are a collective horticultural project. By bringing residents together to plant, maintain, and enjoy, the gardens help nourish community bonds.

Overlooking the gardens on platforms are communal rooms and outdoor areas, restaurants, education centres, and polyclinic services. The spaces, directly connected to the terraced garden, allow dining activities to spill out into these areas. Likewise, the waiting areas of the polyclinic enjoy views of the garden terraces and waterways.

A large sheltered plaza fronting the waterways creates the vibrant heart of the community. Used for a wide range of shared activities and events, this plaza sits at the crossing point of the east-west and north-south thoroughfares of the site. All circulation through the site and from the adjacent Oasis LRT station culminates at the plaza.

Every visible elevation of the building is covered with lush planting. Together with the veranda spaces that wrap around the restaurants and polyclinic, the plants act as an environmental filter between the exterior and interior spaces. The architecture is also characterised by a sense of lightness and openness, allowing daylight and breezes to permeate the building, promoting the use of natural ventilation.

Christopher Lee, Principal of Serie Architects, commented, "Our design is informed by the open frames



commonly found in the façades and corridors of HDB's housing blocks of the 70s and 80s. We've transformed this precedent into a light and open frame that captures and accommodates diverse programmes for the community in a landscape setting—it is an architectural framework for communal life to unfold."

Oasis Terraces is a culmination of community and nature. With its connection to nature and open spaces, people of all ages can gather here and bond over shared experiences, food, and the tranquil surroundings.

› PROJECT DETAILS

Location: Singapore
Year: Completed 2018
Use: Commercial/Medical
Area: 27,000 sqm
Client: Singapore Housing & Development Board
Design Architect: Serie Architects
Executive Architect: Multiply Architects LLP
Civil and Structural Engineering: KTP Consultants Pte. Ltd.
Mechanical and Electrical Engineering: Bescon Consulting Engineers Pte.
Quantity Surveying: Northcroft Lim Consultants Pte. Ltd.
Fire Engineering: C2D Solutions Pte. Ltd.
Façade: Aurecon Singapore Pte. Ltd.
Landscape: WNE Integrated Design Pte. Ltd.
ABC: Netatech Pte. Ltd.
Greenmark: Afogreen Build Pte. Ltd.
Acoustic and Audio Visual: Alpha Acoustics Engineering Pte. Ltd.
Lighting: Light Cibles Pte. Ltd.
Interior Design: Multiply Interiors Pte. Ltd.
Medical Planning: DP Healthcare Pte. Ltd.
Project Management: SIPM Consultants Pte. Ltd.
Main Contractor: Rich Construction Company Pte. Ltd.
Piling Contractor: Keat Seng Piling Pte. Ltd.
Instrumentation Contractor: Geo Application Engineers
Photography: Hufton + Crow

Zhuhai Hengqing CRCC Plaza

Floating above the bustling coastal city of Zhuhai, China, Hengqin CRCC Plaza is an architectural masterpiece that embodies the harmony between nature and modernity. Its golden curves mimic ocean waves, while vast glass façades frame panoramic views of Zhuhai's seascape and Macau's skyline.

Designed by Aedas Global Design Principal Dr. Andy Wen, Hengqin CRCC Plaza integrates 'Loop, Communication, and Integration' concepts. A sky bridge symbolises connectivity, social spaces enhance interaction, and the mixed-use complex blends office, retail, and leisure. The result is a new urban landmark in the heart of Hengqin.

Hengqin CRCC Plaza, with its prime location, benefits from excellent connectivity and stunning natural landscapes.


Photo credit: CATOPTOGRAM


Photo credit: CATOPTOGRAM

With 24-hour border clearance, the plaza plays a key role in Zhuhai-Macau integration, emerging as a modern, high-efficiency service hub with regional influence.

The project consists of four towers and a retail podium, with its design centred around the concept of the sky bridge. This bridge connects the four towers, creating seamless circular circulation and a unique urban spatial experience where visitors can enjoy both coastal views and leisure activities.

The design integrates stepped rooftop terraces on the sky garden, forming a dynamic multi-functional complex. A panoramic elevator leads from the podium to the sky bridge, offering breathtaking views from the cityscape to the vast coastline—an experience akin to standing atop an urban mountain while maximising the value of the tower's upper levels.

Arranged along the street, the ground-level retail podium follows


Photo credit: CATOPTOGRAM


Photo credit: Marcus Oleniuk

the 'circular' theme and creates a continuous commercial loop that connects both interior and exterior shopping streets. The enclosed layout forms a central plaza, injecting vitality into the future Central Business District.

The podium's box-like and cloud-inspired shapes complement the tower design, while anchor stores at street corners define key plazas. Along the retail street, a structured façade integrates alternative commercial elevations, strategically considering advertising spaces. Curved podium forms blend seamlessly with main entrances, guiding foot traffic into the retail flow. Landscape plazas and lush greenery, combined with rooftop gardens, shape a dynamic three-dimensional vertical urban environment for the future Central Business District.

The sky bridge's flowing curves are accentuated by a combination of gold and silver aluminium panels on the façade. To withstand coastal winds, sliding bearings are incorporated into the bridge's underside, ensuring structural stability. The tower façades feature vertical glass curtain walls with louvred and operable windows, creating an elegant yet practical greeting effect.

"Hengqin CRCC Plaza integrates nature, technology and people, creating a diverse urban environment," Dr. Andy Wen shared. "Rooted in cultural context, our design reimagines the spirit of place through poetic architecture, offering a new landmark that bridges the present and future between Zhuhai and Macau."

› PROJECT DETAILS

Project: Hengqin CRCC Plaza
Location: Zhuhai, China
Client: China Railway Construction Investment Group Corporation Limited
Design and Project Architect: Aedas
Gross Floor Area: 200,700 sqm
Construction Year: Ongoing
Design Director: Dr. Andy We


Photo credit: CATOPTOGRAM


Photo credit: Marcus Oleniuk

Beyond Traditional Office Designs

Utsav Shah explains the need for neuro-inclusivity in workplace design

Utsav Shah, Design Strategist and Architectural Designer.

As the world becomes more understanding of varying neurological differences, workplaces should adopt new design philosophies to support growth and culture, regardless of the individual.

Utsav Shah is a strong advocate for adapting office layouts to support neurological diversity, promote well-being, and improve productivity. Operating at the intersection of space, systems thinking, and people-centric design, Utsav Shah has extensive experience in commercial, residential, and hospitality projects.

Southeast Asia Building talked to Utsav Shah about his work, his design approach, and the increasing need to move away from traditional workplace designs to foster a more holistic work experience.

Q: Please introduce yourself and your background in design strategy. What led you to embrace a more people-centred approach to design?

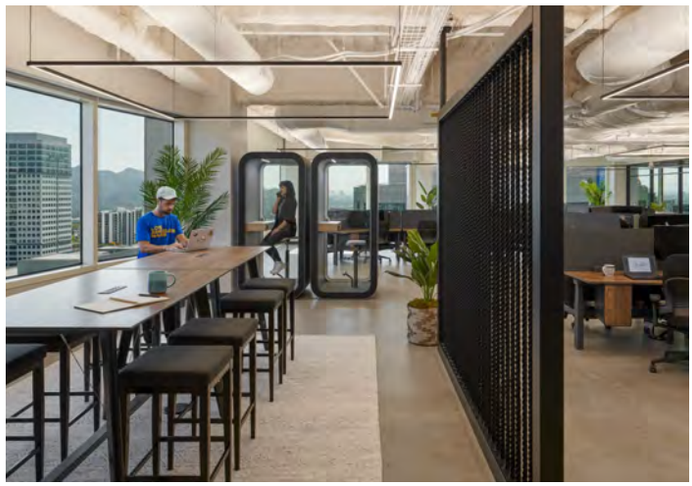
A: I'm Utsav Shah, a Design Strategist and Architectural Designer with over seven years of experience leading commercial and residential projects, including high-growth tech workplaces and luxury hospitality spaces. My work has spanned from co-leading workplace strategy for an 800-person tech startup in Los Angeles to shaping the spatial strategy for a LEED Platinum-rated office in New York.

What drew me to design strategy was the opportunity to go beyond aesthetics—to use space as a tool to support human behaviour, culture, and well-being. Over time, I began focusing more intentionally on neurodiversity and sensory inclusion after seeing how often "standard" design excluded entire ways of thinking, working, or interacting with space. A people-centred approach, to me, isn't just about comfort—it's about equity, functionality, and creating spaces that allow everyone to do their best work.

Q: What are the characteristics of traditional office spaces that do not accommodate neurodiversity? In contrast, what are the key aspects of modern office design that should be considered when including neurological diversity?

A: Traditional office spaces often follow a one-size-fits-all logic—open floor plans, uniform lighting, rigid workstations, and an emphasis on visibility over privacy. These environments can be overstimulating or distracting for many neurodivergent individuals, and they often leave little room for personal control over sensory input.

In contrast, neuro-inclusive office design begins by recognising



sensory variation as a baseline. This means offering different zones: quiet focus areas, sensory retreat spaces, and more adaptable lighting and acoustic conditions. It also means giving employees choice and agency—whether through adjustable workstations, access to natural elements, or the ability to regulate their environment in small but meaningful ways. The goal isn't to prescribe one environment but to offer a range that accommodates different modes of working and processing.

Q: With a wide array of neurological differences that could present themselves in an office setting, how can offices adapt and support workers in a cohesive and uplifting manner?
A: Adaptability is key—and so is intentionality. Offices can support a wide spectrum of neurological needs by designing with flexibility baked into the system. Through persona-based planning (a tool I've been developing), we can translate abstract neurological differences into tangible spatial needs.

For example, a "Seeker" persona might thrive in high-stimulation, collaborative environments, while an "Avoider" might require retreat spaces and minimal noise. This doesn't mean every office needs to become a maze of zones—it means rethinking design strategy to support sensory choice. Cohesion comes from a consistent underlying logic: spaces that feel intuitive, inclusive, and responsive. Uplift comes from employees knowing that the space acknowledges and adapts to how they work best, not the other way around.

Q: How can more companies be encouraged to adopt such design practices? How would this changing office approach intersect with bigger cultural shifts towards neurodiversity?
A: It starts with reframing neuro-inclusive design not as an "extra" but as a strategic investment in people and performance. As companies rethink how and why people come into the office—especially post-COVID—neuro-inclusive design offers a way to create environments that feel worth the commute. It also aligns with broader cultural shifts toward psychological safety, equity, and wellness.

Education is essential. When clients understand how these strategies can improve retention, focus, and well-being—not just for neurodivergent employees, but for everyone—they start to see the ROI.

At a deeper level, this is part of a growing cultural redefinition of what inclusion actually looks like. And space, when done right, becomes a powerful communicator of those values.

Q: What do you envision the future of office design to be? What sort of features can be improved upon with improvements to both neurological awareness and design philosophy?
A: The future of office design is less about "styles" and more about systems that respond to human needs dynamically. I see a shift toward modular, multi-sensory environments that balance tech integration with biophilic and tactile design. Offices will function more like ecosystems—with areas that energise, calm, focus, and restore—rather than static layouts.

Advances in workplace analytics, paired with a deeper understanding of sensory diversity, will allow us to design spaces that are not only more inclusive but also more intelligent. Features like tunable lighting, noise-sculpting architecture, micro-environments for hybrid work, and embedded feedback loops can make workplaces both responsive and humane.

Ultimately, good office design will be measured less by aesthetics or square footage, and more by how well it supports the minds and bodies inside it.

Transforming Operational Management Through AI

Groundup.ai Founder Leon Lim explains the power of AI in driving smart sustainability and efficiency

Leon Lim, CEO and Founder of Groundup.ai.

The rapid rise of AI technology has led to many industry changes across the globe. Amidst these changes, an ever-lingering question remains: how can AI be used to improve real-world situations?

For maintenance and asset management, Groundup.ai stands out as a Singapore-based startup helping industrial companies prevent unplanned downtime through industrial Internet of Things (IoT) and Artificial Intelligence. Southeast Asia spoke to Leon Lim, CEO and Founder, to learn about how AI can transform how we maintain critical infrastructure, extending asset lifespan, reducing downtime, and driving measurable ROI.

An alumnus of the National University of Singapore (NUS), Leon remains actively involved in the ecosystem as a mentor and early-stage investor in local VC firms. His passion for technology is matched by his commitment to giving back to the next generation of entrepreneurs.

Recognised by top media such as The Straits Times, Tech in Asia, The Business Times, and MoneyFM 89.3, Leon, together with Co-Founder & COO Alex, have been spotlighted as Southeast Asia's rising voices in deep tech. Under their leadership, Groundup.ai has gained international visibility—featured in TechNode Global, KrASIA, Zawya, and e27—for redefining how industries approach predictive maintenance and asset performance.

Q. Please introduce yourself and Groundup.ai. How and why did you start this venture?

A: I'm Leon, Founder and CEO of Groundup.ai. It all started with a breakdown. Back when I was running a cryptocurrency mining operation, our machines kept overheating and failing. Every minute of downtime meant money lost. I realised fast: waiting for something to break before fixing it? That's not a plan. That's a problem.

But here's where it gets interesting—I'm also a musician. And musicians are trained to hear subtle changes. One day, it hit me: machines, like instruments, speak. When something's off, you can hear it, if you're listening the right way. That insight sparked Groundup.ai. We started with sound-first AI to catch problems before they happen. Then we layered in vibration, temperature. And today, we're going beyond predictive maintenance; we call it Cognitive Maintenance (AI that listens, thinks, and acts before failures strike). We are on a mission to turn downtime into foresight, and maintenance into a profit centre.

Q. How does Groundup.ai utilise industrial AI and IoT in the maintenance and upkeep of infrastructure? How does Groundup.ai's platform differ from other programmes?

A: Most platforms stop at prediction; we go beyond. Our Cognitive Maintenance system combines autonomous AI agents, proprietary sensors, and contextual analytics to detect faults early, and to prescribe exactly what action to take, and when.



That means instead of getting 30 alerts and no answers, maintenance teams get one clear recommendation that saves time, money, and headaches. Our AI adapts to your environment, learns from machine behaviour, and improves over time. That's what sets us apart. We watch the machine, and teach it to think.

Q. Groundup.ai is being increasingly adopted for facilities management of key systems. How does the use of AI bring about better efficiency, results, and sustainability?

A: AI changes the economics of maintenance. Instead of running equipment until it breaks, or over-servicing it just in case, our platform ensures the right action is taken at the right time. That means fewer breakdowns, longer asset life, and less energy and parts wasted.

In real terms, our customers see:

- 30 to 50% reduction in unplanned downtime
- 20% lower maintenance costs
- Extended equipment lifespan, which is a big win for sustainability

When you shift from firefighting to foresight, everyone wins. Teams, businesses, and Planet Earth.

Q. Please tell us about Groundup.ai's AI-powered maintenance in real-world deployments, particularly in Asia. Were there any challenges, and how were they overcome?

A: We are deployed across sectors from manufacturing to maritime to critical infrastructure; in Singapore, Saudi Arabia, and across the Middle East. We are proud to call some big names, such as the Republic of Singapore Navy, Hamad International Airport, and Doha Metro, our customers.

The first big challenge was proving that sound is more than just noise, and that it's a signal. Every machine has a rhythm. And when that rhythm shifts, something's usually wrong. But to teach an AI to pick up on those shifts, we needed data. Lots of it. We spent months crawling around factories, ships, and plants across Asia, capturing audio data from pumps, compressors, chillers, you name it. Each one had its own "accent," and the AI had to learn them all.

Once we trained the models, the next challenge was trust. People are sceptical when a system tells them, "This machine will fail in 7 days." So we back it up with facts. Our AI presents the evidence in root cause analysis. Once teams see the results, the ROI speaks for itself, and adoption naturally follows.

Q. How do you foresee AI and IoT driving efficient and sustainable changes across the industry? How does Groundup.ai plan to develop alongside these changes?

A: Most people are still stuck talking about predictive maintenance. We've moved past that.

We are building for a world where machines evolve from reporting problems to actively solving them. It's a new era of agentic infrastructure, and we call it Cognitive Maintenance.

More than predicting that a pump might fail in two weeks, teams need to understand why, adapt in real-time, and fix the issue before it becomes one.

Think of it this way: if predictive maintenance is like a weather app warning you about a storm, Cognitive Maintenance is the smart system that adjusts the thermostat, tells you whether to bring the laundry in and reshuffles your schedule- all before the first drop hits.

AI and IoT are the backbone of this future. Whether it's metro train motors that flag anomalies and book their own service slots, or a building's HVAC system that optimises airflow, energy use, and filter changes based on equipment fatigue, we're witnessing the rise of self-optimising operations.

Groundup.ai is building the brains for systems like these. This shift will define the next era of industrial AI. The industry's moving fast. But we're already running.

Holistic Sustainability in Design

How TA.LE Architects tackles environmental challenges with a whole-life perspective

Lionel Leow, Co-founder and Principal Architect of TA.LE Architects

As countries around the world accelerate their climate goals, the built environment is under mounting pressure to reduce its carbon footprint—not only during construction, but throughout a building's entire lifespan. Though buildings account for nearly 40 per cent of global carbon emissions, much of the design conversation still centres on the final product, neglecting the construction process itself and the building's long-term performance.

TA.LE Architects, a Singapore-based firm, addresses these challenges with a whole-life approach to sustainable design. From selecting energy-efficient materials and low-impact construction methods to integrating natural ventilation, TA.LE Architects takes a holistic view of environmental performance.

Southeast Asia Building had the privilege of discussing TA.LE Architects' green approach with Lionel Leow, Co-founder and Principal Architect of TA.LE Architects, who provided commentary on TA.LE Architects' design philosophy, sustainable design trends, and the context of design within Southeast Asia.

Q. Please introduce yourself and TA.LE Architects. How does your practice differ from other firms in Singapore?

A: I'm Lionel Leow, Co-founder and Principal Architect of TA.LE. Our firm was founded on a human-centric philosophy, where every space we design prioritises the needs and experiences of its occupants. This core belief naturally evolved to place sustainability at its heart. For us, a truly human-centric approach must also consider the world we inhabit, as caring for the planet is a direct extension of caring for people.

What's distinct about our practice is that we don't treat sustainability as an add-on or a box to tick; it's deeply integrated into our design ethos. This leads us to an inventive and resourceful approach, where we explore unconventional, upcycled materials, such as bamboo chopsticks and PET bottles, and prioritise adaptive reuse.

3-CDL Eco Train.png: CDL Eco Train

The Singapore Sustainability Academy (SSA) Annex

This blend of humanism and creative resourcefulness is central to our work, whether we're designing for smaller, private projects or large-scale public spaces.

Q. Please tell us about TA.LE's sustainable approach to design. What methods does TA.LE implement during the process that ensures a holistic strategy to sustainability?

A: Our holistic approach to sustainability is guided by a circular design mindset that considers a building's entire lifespan. Our strategy focuses on two key areas. First, we address embodied carbon from the outset. This involves prioritising the adaptive reuse of existing structures to minimise demolition waste. When new materials are needed, we opt for lower-carbon options like Mass Engineered Timber (MET) and creatively incorporate upcycled materials recovered from waste streams, such as recycled bubble wrap and tennis balls.

Second, we design for long-term operational performance, which responds directly to our tropical climate. We implement passive design strategies, like high ceilings, cross-ventilation, and façade shading, to naturally reduce energy demand. We then integrate active systems like solar panels and hybrid cooling to further enhance that efficiency.

This two-pronged approach ensures our buildings are not only built responsibly but also perform efficiently and adaptably for years to come, minimising environmental impact to the best of our abilities.

Q. How has the shift towards green regulation impacted the way firms, such as yourself, approach design? How have the general population's sentiments changed as a result of green policy?

A: Green regulations, such as Singapore's goal of greening 80% of buildings by 2030, have established an essential new baseline for the industry. For TA.LE, these regulations are more than a ceiling to reach; they are also an opportunity to go above and beyond compliance and to push the boundaries of what a sustainable building can be.

As for the general population, there's been a definite shift. We see this in our clients, who are more educated and aware than ever before about the environment. There's a growing understanding[1] that sustainability is a long-term,

[1] *Teh Shi Ning, "Green Buildings: Reaching beyond Energy Efficiency to Tackle Embodied Carbon," The Straits Times, August 8, 2021, https://www.straitstimes.com/singapore/environment/green-buildings-reaching-beyond-energy-efficiency-to-tackle-embodied-carbon.*

The Loft House

added value that enhances wellbeing, functionality, and resilience for society and our physical environment. This is reflected in the market as well, where many believe a green-certified building holds higher value. People are confirming our belief that good design is, by definition, sustainable design.

Q. The Singapore Sustainability Academy (SSA) Annex is a prime example of TA.LE's innovations in sustainable design. Please tell us more about how the SSA Annex is designed to be sustainable throughout its entire life cycle.

A: The SSA Annex was conceived with the purpose of being a dedicated space for public, private, and people-sector collaboration on climate action. As the architect, our challenge was to design a building that didn't just house these important conversations but embodied the very values of sustainability and innovation it promotes. Hence, its entire lifecycle was considered from day one.

To minimise its embodied carbon, we used Mass-Engineered Timber for the main structure and sourced innovative, low-impact materials. This included "poliber" bricks made from recycled PET bottles and rice husks, flooring from upcycled carpets, and façade screens made from bamboo.

For its operational life, we designed a suite of systems to ensure it performs as a positive-energy building. Passive strategies like high ceilings, cross-ventilation, and a green wall reduce the cooling load. This is supported by active systems like rooftop solar panels that power a hybrid cooling system, which efficiently combines air-conditioning with ceiling fans. The result is a facility that generates more renewable energy than it consumes, all while remaining a comfortable space.

This philosophy of lifecycle, sustainable thinking, is a common thread throughout our work. For the CDL EcoTrain, we adapted a decommissioned MRT cabin into a zero-energy gallery, eliminating demolition waste while minimising construction emissions.

We are currently revamping City Square Mall, a project with a unique legacy as Singapore's first eco-mall, established over ten years ago. Our goal is to elevate its original vision, bringing the eco-mall concept to a new level by using a wide range of upcycled materials. We actively repurpose existing elements as well, such as turning the old wooden panels into benches, which preserve the building's character while reducing waste.

Q. In the context of Southeast Asia, how does the climate and culture impact TA.LE's design principles?

A: Our design principles are fundamentally shaped by the context of Southeast Asia, both its unique climate and its rich culture.

In response to the climate, we design to work with our hot and humid environment, not against it. We prioritise vernacular strategies like high ceilings to allow heat to rise, cross-ventilation for constant airflow, and effective shading devices like deep eaves or bamboo screens. At The Loft House, for example, we reimagined the traditional pitched roof to optimise passive cooling, creating a home that is both energy-efficient and comfortable.

From a cultural standpoint, our human-centric approach must always be locally aware. Design priorities in Asia often differ from those in Europe, for example, with a greater emphasis on communal gathering spaces and privacy. We integrate these needs into all our designs, from private homes to public spaces. In our newest project, which is the revamp of Changi Airport Terminal 1's Transit Zone, we drew inspiration from Singapore's "City in Nature" identity and used biophilic design to create a sense of calm and connection that resonates deeply with the local context. At the end of the day, our goal is to design spaces that serve people, culture, and the planet.

Novena House

Drawing inspiration from the principles of a modern Chinese Zen garden, the landscape design for Novena House cultivates an atmosphere of serenity and contemplation. Within its premises, a garden composed of fine-textured plantings and sculptural trees immediately evokes a sense of calm; this tranquillity is further enhanced by a self-circulating water bowl, featuring a minimalist copper tap that provides a gentle acoustic focus.

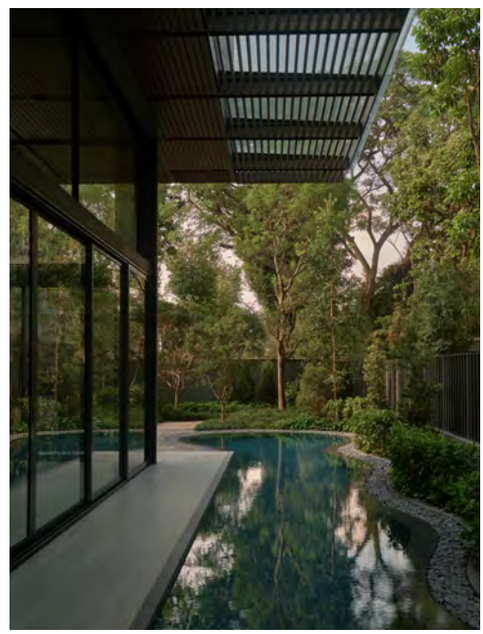
The design carefully preserves expansive views along the property's boundary with the adjacent park. The planting strategy, which remains intentionally porous, maintains a seamless visual connection with the surrounding green context. Developed as a collaboration between This Humid House and HYLA Architects, this approach is particularly effective when viewed from the second floor, which overlooks the park.

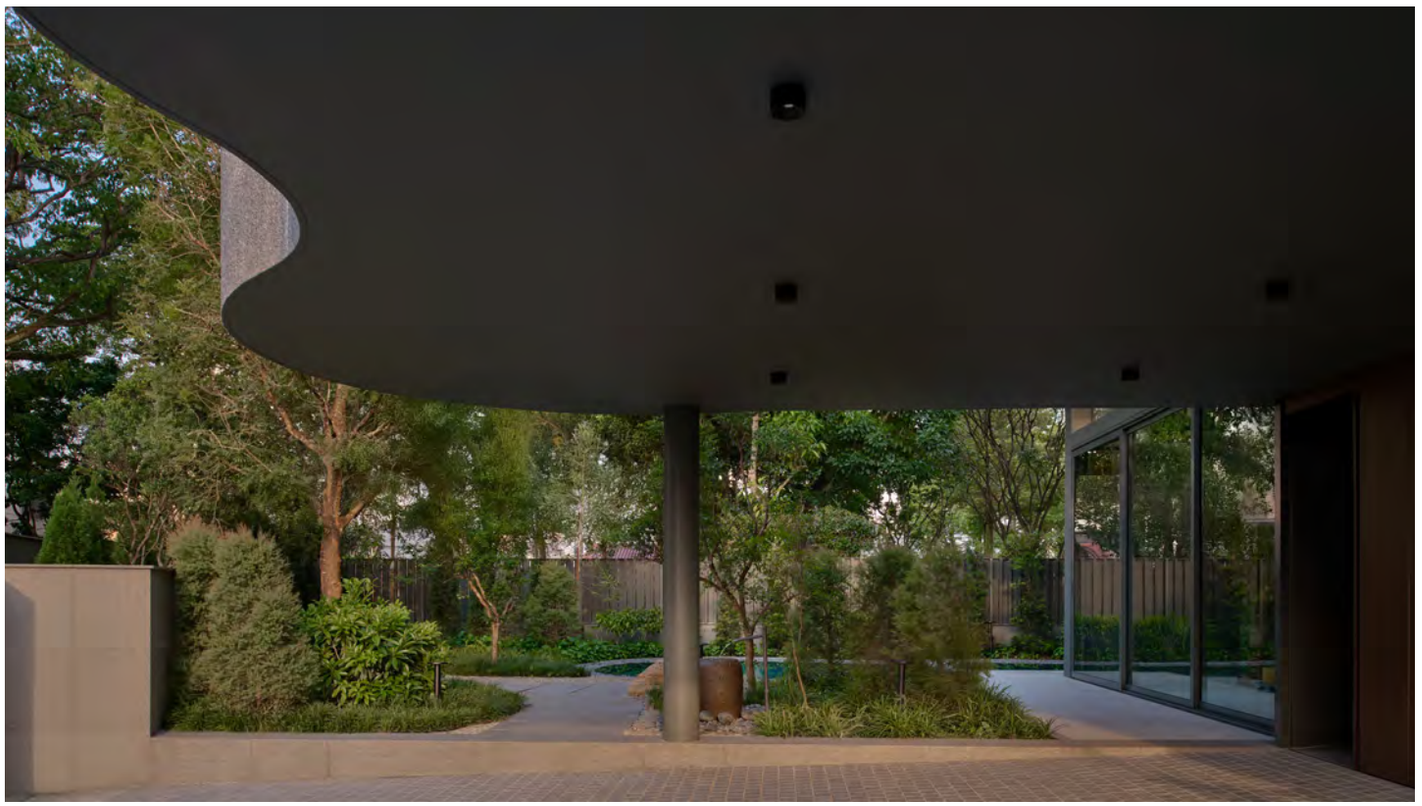
The landscape in the private courtyards adjoining the study and master bedroom is shaped by gentle, undulating mounds designed to accommodate sculptural trees. These living sculptures are complemented by a restrained palette of low groundcover and fine gravel, creating a harmonious and minimalist tableau.

The balcony design incorporates deep, built-in planters that host 4.5-metre-tall trees with low branching. This thoughtful vertical strategy allows the upper floors to enjoy the lush canopy layer, while the lower floors can appreciate the elegant, organic character of the branching structure.

A curated botanical palette, Novena House makes use of a wide variety of fauna in its design. The focal point of the property is a magnificent 8-metre-tall Pistacia chinensis that commands the Main Arrival Garden. Its distinctive umbrella-shaped crown provides a generous canopy of shade, offering a welcome respite from the tropical heat.

Plant species Agathis borneensis

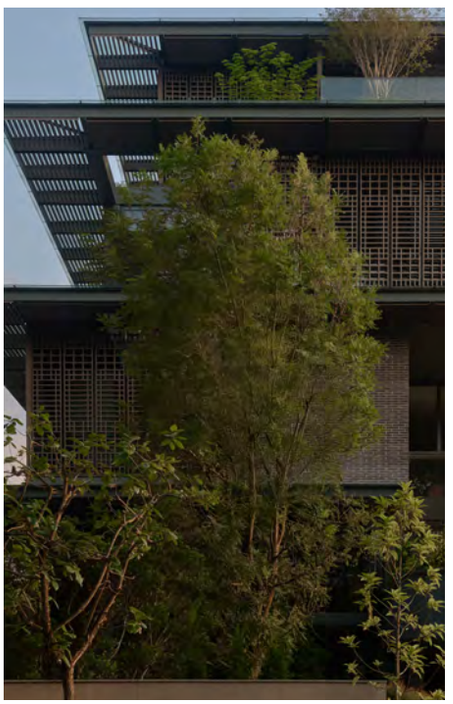




and Juniperus chinensis are integrated throughout the design, introducing elegant conical forms that provide visual structure while reinforcing the garden's clean, harmonious look. These deliberate choices create a distinct landscape language that blends into the overall aesthetic.

Syzygium trees, functioning as living artworks, are strategically placed within the main garden, indoor courtyards, and even on the carport roof. These trees deepen the tranquil, Zen-inspired atmosphere of the entire property.

Lastly, the Caesalpinia ferrea was selected for the double-volume balcony spaces, its striking sculptural trunks and intricate bark patterns introducing a layer of natural artistry to the bedroom views, as its fine leaves rustle gently in the breeze to create a soothing, calming effect.



PROJECT DETAILS

PROJECT NAME: Novena House
DESIGNER: This Humid House
COMPLETED: 2024
PHOTO CREDIT: Jovian Lim (@jovian.lim) for This Humid House (@thishumidhouse)

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Championing A Sustainable and Liveable City For Today and Tomorrow

The Building and Construction Authority shares about its role as an industry leader in enhancing Singapore's built environment

Mr Kelvin Wong, Chief Executive Officer, Building and Construction Authority

Throughout its decades-long work, the Building and Construction Authority (BCA) has tirelessly maintained and advanced safety and sustainability standards in Singapore's buildings and infrastructure. BCA ensures that world-class standards are met throughout the design, construction, and maintenance stages of every building, giving Singapore's population peace of mind in everyday life.

In this edition of *Southeast Asia Building*, we interviewed Mr Kelvin Wong, Chief Executive Officer of the Building and Construction Authority, to learn more about BCA's efforts and goals in supporting Singapore's architecture, sustainability efforts, and local workforce.

Q: What role has BCA played in shaping Singapore's built environment? In what ways has BCA supported the advancement of architecture, design, and construction standards in Singapore?
A: The Building and Construction Authority (BCA) has been central in shaping Singapore's built environment. Since its establishment in 1999, BCA evolved from a regulatory and industry development role into a leader of safety, sustainability and technological progress for the built environment sector.

In its drive for industry transformation through innovation and collaboration, BCA is also committed to championing a safe, sustainable, liveable built environment that not only meets the needs of today but is also ready for the challenges of tomorrow.

Championing Building Safety and Resilience

BCA's fundamental role has been to ensure the structural integrity and safety of Singapore's built environment. Through the Building Control Act and Regulations, BCA ensures structural plans are in compliance with safety requirements, so that buildings are safe for all users. With Singapore's ageing building infrastructure, BCA has expanded its safety mandate by introducing structural inspection regimes like the Periodic Façade Inspection (PFI) and Periodic Structural Inspection (PSI) to proactively detect and address potential issues early. BCA promotes the use of advanced digital tools such as artificial intelligence for more accurate and targeted inspections. BCA also collaborates with industry stakeholders to review building codes and standards regularly, incorporating best practices and new technologies to ensure our built environment remains safe, functional and progressive.

Fostering Quality and Liveability

Beyond safety, BCA also plays a role in enhancing the quality of Singapore's built environment. The Construction Quality Assessment System (CONQUAS) has become the industry benchmark for evaluating and improving construction workmanship quality. BCA's Code on Accessibility ensures that buildings are designed to be inclusive and accessible to all members of society. By raising these standards, industry professionals have to integrate features that improve the quality of life for all Singaporeans.

Driving Automation, Digitalisation and Innovation

The Built Environment Industry Transformation Map (BE ITM) has been pivotal in promoting technology adoption. BCA encourages the adoption of Design for Manufacturing and Assembly (DfMA) and robotics and automation (R&A) to enhance construction productivity and drive digitalisation. BCA had first started encouraging the use of DfMA to bring more work off-site, as it was easier to apply automation in a manufacturing-like environment. With the emergence of on-site R&A, BCA rode on this wave to further boost productivity and industry transformation. To date, more than 25 types of R&A solutions have been adopted at over 60 construction sites.

On digitalisation, projects like Sengkang General Hospital leveraged Building Information Modelling (BIM) and cloud platform for digital design collaboration and approval of construction drawings, resulting in its completion three weeks ahead of schedule. To streamline the regulatory approval process for building works, BCA introduced the CORENET X platform. This system requires project teams to coordinate early in the design stage, resolve issues upfront and shift the industry from working in silos to an integrated, collaborative model. This results in faster, more cost-effective project delivery without compromising safety.

BCA also supports research and innovation in the BE sector by growing and expanding the local Construction Technology ecosystem through partnerships with public and private sector stakeholders. This includes key technology development programmes, such as the Built Environment Accelerate to Market Programme (BEAMP), and thematic technology exchanges at our BCA Braddell campus.

Q: How has BCA supported or driven sustainability efforts in Singapore's built environment, and what were the results of these efforts?

A: BCA is a key partner in driving the industry toward ambitious energy efficiency and decarbonisation goals, through a mix of bold targets, market-driven programmes, and a commitment to innovation.

At the core of this is the Singapore Green Building Master Plan, a joint effort with the Singapore Green Building Council. This plan provides an ambitious roadmap for the industry through the "80-80-80 in 2030" goals:

- 80 percent of buildings (by Gross Floor Area) in Singapore to be greened by 2030
- 80 percent of new developments to be certified as Super Low Energy (SLE) buildings from 2030
- An 80 percent improvement from 2005 levels in energy efficiency for best-in-class green buildings by 2030

One of BCA's key initiatives is the BCA Green Mark certification scheme, launched in 2005. The programme has become the national standard for evaluating a building's environmental impact and performance. We started with just 17 Green Mark certified buildings in Singapore and now have over 2,500 Green Mark certified buildings, as of March 2025. These green buildings collectively save over 4.2 billion kWh of energy annually – equivalent to powering 1 million 4-room HDB flats and generating S$1.3 billion in cost savings per year. The carbon emissions offset by these buildings annually are equivalent to replanting a forest more than 13 times the size of Singapore, demonstrating the immense environmental impact.

BCA continues to push the boundaries in building technology. Through the Green Buildings Innovation Cluster (GBIC) programme, BCA provides a platform for firms to conduct research and test innovative green technologies. One such example is YiTac's passive displacement ventilation (PDV) system, currently being enhanced under the GBIC programme.

Its effectiveness is proven by its implementation at ITE College Central. Despite the initial investment requiring S$40,000 more than conventional systems, the college achieved an 84% reduction in energy and maintenance costs. This translates to approximately S$9,000 in annual savings, with a payback period of around 4.5 years. Given that such systems have a typical lifespan of 15-20 years, any upfront cost is paid back multiple times over the equipment's lifespan.

The impact of all these initiatives is evident. Data shows that SLE office buildings consume 59% less energy on average than non-certified buildings, with investments recoverable within 5–6 years. Furthermore, Green Mark-certified buildings in the Central Business District have a clear market advantage, achieving 2.5-4.0% higher occupancy rates and commanding up to 12% higher rents for Platinum certifications. These outcomes validate BCA's integrated approach to sustainability, which combines regulatory frameworks, incentive schemes, and industry development programmes.

Singapore's green building expertise has also gained international recognition. As of March 2025, we have 259 Green Mark certified overseas projects in 15 countries.

Q: How does BCA nurture local talent, support professionals, or upskill the workforce? Has BCA been involved in public outreach, education, or community projects?

A: A robust pipeline of Built Environment (BE) professionals is integral to building and maintaining a liveable and sustainable Singapore for generations to come.

To this end, BCA takes a comprehensive approach to support workforce development, anchored by the BCA Academy (BCAA), which serves as the industry's Continuing Education and Training (CET) centre. The academy focuses on developing skills in high demand

and emerging areas. It provides specialised training to build technical competencies in building safety and maintenance.

BCA has also developed the Built Environment Skills Framework, which outlines clear pathways and targeted skills development opportunities for BE professionals at all stages of their careers. Working closely with industry stakeholders, BCA has studied how megatrends and technological advancements impact BE jobs, identifying opportunities to attract and retain talent whilst mapping emerging jobs and skills requirements.

Recognising the critical role of job redesign in workforce transformation, progressive employers like KTC and Winners Engineering have embraced the need to develop and better equip their in-service personnel to navigate the sector's evolving challenges. Through the Job Resign Under the Productivity Solutions Grant (PSG-JR) programme, these firms have reviewed job tasks and functions to optimise work efficiency, enabling their workforce to acquire transformative skills and remain relevant in the changing industry landscape.

For mid-career professionals, there are dedicated pathways through Professional and Career Conversion Programmes, enabling smooth transitions in the built environment sector. These programmes combine classroom learning with practical experience, ensuring individuals are well-equipped for their new roles in emerging areas such as sustainability, digitalisation, and technical domains like specialised plant operations.

To strengthen the industry's future, a Taskforce for Architectural & Engineering Consultants, comprising representatives from trade associations, business chambers, institutes of higher learning and young professionals, was established last year to make the sector more attractive and progressive. The Taskforce has since put out recommendations, including (i) making BE careers a career of choice, anchored by an enhanced internship programme to improve graduate's industry readiness and allow them to command higher starting salaries, (ii) having service buyers enhance their procurement processes to emphasising quality over unhealthy price competition, and (iii) the adoption of a BE Charter for Building a Culture of Appreciation, Respect, and Empathy (BE CARE) to foster better workplace relationships and staff well-being.

BCA is also actively involved in public outreach to raise awareness and engage the community on career opportunities in the built environment sector.

BCA launched an industry branding campaign to showcase the sector and its professionals' contributions to building Singapore. A Building Singapore Festival was held in September this year to help the public, in particular the young people, better understand the sector's contributions and inspire them to consider a career in the built environment.

To further facilitate professional development and showcase Singapore's thought leadership in sustainable building practices and construction innovation, BCA also organises major annual industry events like the International Built Environment Week, Asia Pacific's most iconic Built Environment event, and the BuildSG LEAD Summit. These are vital platforms that connect both local and international expertise for knowledge sharing, innovation, and networking.

Advancing Singapore Through Tailor-made Solutions

Jakob Rope Systems' Fabian Graber discusses the company's involvement in supporting local industries

Fabian Graber, Head of the Engineering Department, Jakob Rope Systems

Jakob Rope Systems, founded in 1904, has evolved into an international company that serves over 55 countries. Specialising in tailored architectural rope and net solutions, Jakob Rope Systems champions sustainability and quality, with both of their production sites in Trubschachen and Vietnam having certified quality management according to the ISO 9001 standard.

Southeast Asia Building interviewed Fabian Graber, the Swiss civil engineer and architect who heads the Engineering Department at Jakob Rope Systems, to discover more about Jakob Rope Systems' involvement in serving Singapore and its local clientele. Additionally, he teaches structural design and steel construction to architecture, civil engineering, and wood technology students at Bern University of Applied Sciences.

Q: Please introduce yourself and Jakob Rope Systems. How has Jakob Rope Systems served Singapore's local industry partners and customers?
A: Jakob Rope Systems has been developing projects for greening cities and buildings for 20 years—structural solutions for vertical and horizontal greening. The climbing structures made of stainless steel ropes and nets are an important step toward creating more greenery on walls, façades, and in public spaces.

For just as long, we have been developing and building zoo enclosures and aviaries for zoo construction projects worldwide. Our ropes and stainless steel nets create unique animal enclosures and aviaries in all imaginable shapes and sizes. The use of our stainless steel nets over large areas enables natural and

Jakob Rope Systems' Vietnam Factory

Green shade roof in Oerlikon

species-appropriate zoo enclosures that don't give the impression of a cage, but rather fascinate with their transparency and creative shapes. In May 2024, the Mandai Bird Paradise opened in Singapore, featuring enormous walk-in aviaries in which nets from Jakob Rope Systems were installed.

Currently, many of our customers and partners are interested in the topic of greening and natural cooling of heat-stressed urban areas.

We see huge potential in building façades, as well as on walls along railway lines and roads. Many cities have open spaces without shade, which become very hot in summer. Here, too, we see opportunities for more greenery and shade.

We green buildings with horizontal trellis structures, and we green public spaces with freestanding structures made of ropes and nets. In this way, we create shade, cooling, and habitats for humans and animals, and, with the changing seasons, a spectacular display of colours from the plants. Biodiversity (insects, plants, birds) also develops positively in urban environments in connection with these greening solutions.

We develop and offer structures with maximum flexibility so that greening and shading can be adapted to any urban context. Structures are available on a large and small scale, right down to selective solutions.

The technical possibilities have grown overall. We use high-strength stainless steel rope and net structures as our material. This allows us to create delicate, lightweight structures that are maintenance-free for 30–50 years.

Jakob Rope Systems offers solution finding/development, dimensioning/statics, manufacturing, and installation of trellis structures made of ropes and nets. For the remaining process steps (architecture, metal construction, botany), we can bring the appropriate partners on board upon request. When implementing our projects and solutions worldwide, we work with a network of local partners in around 50 countries. This allows us to bring our expertise as close as possible to our customers on-site.

Zoo project in Goldau, Switzerland

Q: Please tell us about Jakob Rope Systems' work on Mandai Bird Paradise. What lasting impacts has Jakob Rope Systems made in this project?

A: Jakob Rope Systems supported the mesh-construction of Bird Paradise's aviaries by supplying stainless steel nets for a total area that is the size of 22 soccer fields, or about 110,000 sqm. The Jakob Webnet processed about 200 million sleeves in our production for this project. A precise factory planning was developed

Zoo project in Mannheim, Germany

for the delivery of the material, in accordance with the sequences of the various assembly phases, to ensure the Webnet elements were assembled in Singapore as smoothly as possible.

Located in Mandai Wildlife Reserve in the northern region of Singapore, Bird Paradise is one of Asia's largest bird parks. The 17-hectare park is home to 3,500 birds from 400 species, of which 24 per cent of species are threatened. Bird Paradise welcomes visitors into immersive habitats in eight large walk-through aviaries that reflect different biomes of the world, from dense African rainforests, South American wetlands, Southeast Asian paddy fields, to Australian dry eucalypt forests, and more.

Q: How has Jakob Rope Systems supported or driven sustainability efforts in Singapore's built environment? Please elaborate on Jakob Rope Systems' green shade roof technology.

A: In general, we can say that summer days can become unbearably hot in cities. Dense development and the sealing of open spaces absorb solar radiation. The environment heats up. This heat island effect causes temperatures in urban areas to be several degrees higher than in the surrounding areas.

With climate change, heat waves are becoming more frequent, longer, and hotter. Urban planners, architects, landscape gardeners, and companies such as Jakob Rope Systems are therefore working on solutions to reduce the heat island effect in cities.

Today, we see that greening on façades and in urban spaces serves important functions. This is thanks to climbing plants, which thrive in many latitudes in a wide variety of forms. With the passing of the seasons, there are also beautiful changes in colours, blossoms, and scents. Green façades and green spaces are alive. However, the most important function for cities plagued by heat is the cooling effect provided by green areas on walls, façades, and under shade roofs.

Jakob Rope Systems was commissioned to statically design and calculate the shade roof structure made of suspension ropes and stainless steel nets according to the G8A Architects' designs and install it in 2023. The entire structure is made up exclusively of tension and compression elements. This enables an extremely delicate and flexible lightweight construction.

The tensile forces of the entire structure are transferred to the fixed points of the surrounding buildings via thirteen supporting ropes. Inside the shade roof structure, sixteen additional ropes and eight net elements bear the loads.

Nine steel columns (steel construction realised by BURRI public elements AG) are distributed across the plaza beneath the shade roof structure. The supports are mounted to be movable on spherical bearings. They bring formative compressive forces into the shade roof structure and at the same time carry the vertical loads that act on the structure due to wind and other influences. Plant

troughs are mounted on the seven to nine-metre-high steel supports. The greenery grows out of them over the stretched ropes and net elements.

This shade roof is a deliberate decision to add a microclimate of greenery and shade to the building complex. Evaporation, natural cooling and a lively change of colours and inflorescences with the seasons occur here.

Q: How has Jakob Rope Systems advanced frame and net product technologies in Singapore?
A: In-house engineering enables us to respond to almost all of the designer's desired freeform geometries. The developed design process allows us to produce all cables and meshes in their final shapes, consequently reducing the need for adjustments on site and minimising material waste during cutting.

Additionally, this process, together with parametric approaches, enables optimisation of the required dimensions of the material and consequently reduces the environmental impact.

In addition, we have developed sustainable and advanced production and infrastructure at our manufacturing sites in Vietnam and Switzerland. Our factory in Saigon features green façades, photovoltaic systems, energy-efficient air conditioning solutions, and innovative technologies. Since 2022, we have been covering 100 per cent of our electricity needs in Saigon with solar energy.[1]

Q: How does Jakob Rope Systems plan to continue contributing to Singapore's built environment in the coming years?
A: Jakob Rope Systems is reinforcing this key market by offering comprehensive services — from material supply to complete design and build solutions, all tailored to client requirements. To achieve the best results, we unite expertise from diverse fields and foster close collaboration. Alongside our well-established products and materials, we continuously develop and integrate alternative solutions. Guided by the Swiss tradition of precision and quality, we focus on every detail to deliver sustainable, efficient, and intelligent outcomes.

Zoo project in Buenos Aires

[1] See the video about the Jakob Vietnam factory: https://youtu.be/H3B9vKXqb0A

Longevity in Local Construction

Singapore Contractors Association Limited President Lee Kay Chai talks about supporting Singapore's construction industry throughout the decades

Lee Kay Chai, President, The Singapore Contractors Association Limited

The Singapore Contractors Association Limited (SCAL) has an extensive history of representing construction firms and allied businesses in Singapore. It stands as the voice of the local construction industry, championing workers, bridging gaps between businesses and government agencies, and connecting members within their network. The association's tireless work has been ongoing since 1937, and is not only ISO 9001 certified and green office label certified, but also has various programmes that support current- and future-industry workers.

Southeast Asia Building had the privilege of speaking to Lee Kay Chai, the President of SCAL, to find out about how the association has grown alongside Singapore, its current work in the industry, and how SCAL plans to continue supporting the built environment in years to come.

Q. How has SCAL evolved over the past 60 years alongside Singapore's development?
A: Over the past 60 years, SCAL has grown alongside Singapore's transformation from a young nation into a global city. In the early years, our role was to unite contractors and ensure fair practices during the country's rapid infrastructure development. As Singapore's Built Environment sector transformed, SCAL evolved into a trusted voice for the industry—representing the contractors' interests and advocating for better onsite safety, progressive manpower policies, and more agile regulatory frameworks that reflect the realities of building in a fast-changing environment.

One of our proudest moments this year was hosting the 47th IFAWPCA Convention in Singapore, where leaders from across Western and the Asia-Pacific came together to discuss sustainability, digitalisation, and innovation. This milestone reflects how Singapore, and SCAL as part of it, has taken on an international leadership role in shaping the future of construction. Today, our focus remains clear: not only to respond to challenges but to play an even more proactive role – contributing to smarter policy, driving innovation, and helping our members succeed in a competitive and evolving landscape.

Q: How does SCAL nurture local talent, support professionals, or upskill the workforce?
A: Manpower challenges today go beyond just supply; the industry requires a workforce that is skilled, adaptable and future-ready. At SCAL, we are focused on helping companies and individuals adapt to the way work is changing, whether that is through technology adoption, new career pathways, or better support structures for employees. One of our recent initiatives was the launch of two guidebooks, including the Human Resource and Job Redesign Guidebook. Created in collaboration with industry partners, these guidebooks aim to help companies rethink roles, improve productivity, and make construction careers more attractive. This complements our training programmes and accreditation schemes, such as the new Construction Management (Production) Accreditation Scheme, which validates skills and gives production professionals in the

BE sector opportunities for progression. We also introduced the Construction Professional Accreditation Scheme (CPAS), endorsed by BCA, to raise the standards of project managers and other professionals through recognised competency benchmarks. In addition, the Career Conversion Programme for Built Environment Professionals (CCPBEP), administered by SCAL Academy with the support of Workforce Singapore, supports companies in hiring mid-career professionals or reskilling employees into future-ready roles in areas such as digital construction, sustainability, and project management.

We also run the Young Leaders Programme, which pairs up-and-coming talents with seasoned industry mentors. These relationships have been key in developing leadership skills, sharing real-world insights, and equipping future leaders with the skills to drive positive change.

Ultimately, all these efforts—training, mentorship, and industry collaboration aim to create an environment where people can grow, companies can thrive, and the industry as a whole becomes more resilient and forward-looking.

Q: What is your vision for Singapore's built environment in the next 10 to 20 years?

A: As Singapore celebrates 60 years of independence, we are reminded that the Built Environment is more than just physical structures, but also creates safe, sustainable, and inclusive spaces for our people. Looking ahead, I envision an industry that embraces digital transformation as a present-day business priority, not just a future aspiration. Technology, when accessible and practical, can transform how we design, build, and maintain our infrastructure.

Sustainable building is another key focus. More and more, ESG readiness is affecting how projects are awarded, and contractors who invest early in green capabilities will be in a stronger position to win opportunities. At SCAL, we are focused on helping all our members make this shift through tools, training and workshops.

And of course, safety remains non-negotiable. Reaching Singapore's 2028 safety targets will require all hands on deck—developers, contractors, subcontractors, consultants and workers. With our new building at 10 Tannery Lane serving as a hub for training, innovation and collaboration, SCAL is ready to help the industry move into its next chapter—one that is safer, smarter and more sustainable.

Setting Green Building Standards for Singapore's Future

Singapore Green Building Council President Allen Ang tells of the association's sustainability efforts in the built environment

Allen Ang, President of the Singapore Green Building Council

Officially launched on 28 October 2009, the Singapore Green Building Council (SGBC) is a non-profit organisation that set out with the goal of achieving a world-class and sustainable built environment in Singapore. Over the years, SGBC has developed green building products and green building services labelling programmes that set high standards for green building solutions locally and regionally.

In this issue, *Southeast Asia Building* interviewed Allen Ang, President of SGBC, to find out about the organisation's efforts in building a greener future for Singapore. Allen Ang also serves as the Head of Green Building & Technology Application at CDL, playing a strategic role in driving the Group's sustainability effort. His dedication towards developing green buildings won CDL many inaugural awards, including the BCA Green Mark Platinum Champion in 2011 and the BCA Built Environment Leadership Platinum Award in 2009.

Q: What role has SGBC played in shaping Singapore's built environment since independence?

A: Since our founding in 2009, SGBC has played a catalytic role in built environment sustainability, functioning as an enabler of greener, more sustainable buildings. Through a growing suite of industry-specific programmes and initiatives anchored on membership, certification and outreach, SGBC has been instrumental in driving sustainability through the building and construction value chain. One of SGBC's greatest achievements over the years has been to get built environment practitioners—developers, architects, engineers, contractors, and suppliers—to recognise the value and

SGBC Pavilion 2024

SGBC and BCA

benefits of green buildings, so much so that the concept is now mainstream in the construction sector.

Q: In what ways has SGBC supported the advancement of architecture, design, and construction standards in Singapore? How has SGBC driven sustainability efforts in the built environment?

A: SGBC has developed certification schemes to raise the environmental standards of building products and services, and to provide benchmarks on their environmental performance. With these certification schemes, SGBC aims to guide product development in the building industry, make green building products and services more readily available, and create an impact on the buildings that shape our living environment.

SGBC's main role was to establish and maintain a certification programme for green building products, now known as the Singapore Green Building Product (SGBP) certification scheme. The SGBP is developed based on scientific and engineering principles that are built upon the collective knowledge and expertise of the building and construction industry. The SGBP certification scheme is one of the key standards and benchmarks for green building products in the building and construction industry. Products and materials certified by the SGBP are highly recognised under the Green Mark Scheme, Singapore's national green building rating tool administered by the Building and Construction Authority (BCA), which allows certified products to accrue points that count towards a project's Green Mark rating. The SGBP counts more than 2,000 active product certificates, with about 22% of certified products manufactured or assembled in Singapore.

IGBC-SG 2025

The Singapore Green Building Services (SGBS) certification scheme, launched in 2012, is the first of its kind in Singapore that aims to advance the frontiers of green building performance through the industry's delivery of professional services. The SGBS provides a platform to recognise and profile professional services firms that deliver best-in-class green buildings aligned with the latest industry benchmarks and best practices. Certified firms have a strong track record in Green Mark projects and capabilities in various environmental sustainability fields. These firms are market leaders in their professional disciplines and have demonstrated a strong commitment to corporate environmental sustainability as well as employee capability development. SGBS-certified firms are an integral part of Singapore's green building network and keep abreast of industry trends and developments through participation in industry development initiatives.

The built environment is responsible for 40 percent of global carbon emissions, with embodied carbon emissions being especially critical. Embodied carbon, or the

SGBC Certifications

SGBC Live. Work. Play. Green

SGBC Magazine

carbon emissions associated with the full supply chain of all materials and systems put into any built environment project, is different from operational carbon in that the latter can be improved over the lifetime of a building. If embodied carbon emissions are not addressed before the building project moves past the design stage, there is no way for building owners to reclaim lost carbon savings once the building is constructed and subsequently used. In collaboration and partnership with key industry stakeholders, SGBC maintains a suite of targeted initiatives to help address embodied carbon emissions in the built environment. These include an Embodied Carbon in Buildings Calculation Guide that supports Singapore's decarbonisation efforts by providing guidance on defining the scope and methodology for measuring and reporting the embodied carbon emissions of building and construction activities, and two unified embodied carbon calculators for the Singapore built environment sector. Usage of the calculators would provide the industry with the tools to make informed decisions on material and product selections to reduce the carbon footprint of projects for use under the Sustainable Construction section of the Code for Environmental Sustainability of Buildings (Edition 4.0) and the Green Mark 2021 Whole Life Carbon Section.

Q: How does SGBC nurture local talent, support professionals, or upskill the workforce?

A: The accelerated push for sustainability necessitates the deepening of the core knowledge and expertise of green building professionals. Environmental Sustainability (ES) consultants, Architects, Engineers, Contractors, Project Managers, Facilities Managers and other built environment professionals directly contribute to the quality of our places and spaces, and by extension, to Singapore's national climate goals.

SGBC actively supports the professionals behind the greening of the Singapore built environment through the Green Mark Professional Qualification Scheme, with qualified professionals accorded the Green Mark Professional (GMP) credential. This is in line with global professional accreditation programmes and will raise the profile of Singapore's green building professionals and showcase local expertise in the greening of buildings from a tropical climate context, strengthening Singapore's reputation as the hub for green building leadership.

The programme aims to uplift, upskill and recognise green building competencies of professionals in the built environment sector. A key feature of the SGBC Green Mark Professional Qualification Scheme is the establishment of a Continuing Professional Development (CPD) framework for all GMPs. Through a slate of diverse programmes and activities, GMPs are able to remain abreast of industry trends and stay ahead of industry developments. GMP certifications are renewed annually upon fulfilment of CPD requirements.

GMP professions span the entire building and construction value chain, enhancing the more traditional roles of ES consultants, Architects, Engineers, Contractors, Project Managers, Facilities Managers, as well as embracing newer roles such as energy and carbon specialists, sustainability professionals, corporate real estate managers and many more. As green building and sustainability continue to gain traction, the demand for qualified green professionals will continue to increase.

SGBC Seminar with UnaBiz

SGBC Tree Planting

SGBC introduced the Green Mark Associate (GMA) qualification in 2023, a foundation-level accreditation for new industry entrants or existing non-technical built environment-related professionals seeking to pursue a career in the greening of the built environment and/or demonstrate competency in the fundamentals of Singapore green building.

GMA accreditation denotes a core understanding of sustainability, green building, the national environmental sustainability legislative framework, as well as the key qualities of a green built environment. Awarded upon completion of a Certification Course, the GMA accreditation signals a working knowledge of green building fundamentals, key regulations, as well as trends and developments, which can help open doors to a growing pool of opportunities available in the greening of our built environment.

Q: How will SGBC continue contributing to Singapore's future, especially in areas like sustainability, liveability, and resilience?

A: SGBC's role in the industry has evolved tremendously since its founding in 2009. Working hand-in-hand with industry stakeholders such as BCA, SGBC has expanded the ecosystem through the following key milestones:

- In 2010, we launched the Singapore Green Building Product (SGBP) certification – recognising products that reduce environmental impact over their life cycle. Today, we manage close to 2,000 active certificates, covering everything from low-carbon materials and energy-efficient M&E systems to smart green technologies.
- In 2012, we rolled out the Singapore Green Building Services (SGBS) certification – Singapore's national benchmark for firms delivering excellence in sustainable design and engineering. We now have nearly 60 certified firms that are behind many of the Green Mark buildings dotting the Singapore skyline.
- In 2019, we assumed responsibility for qualifying Green Mark Professionals – an important step in aligning talent development with the national sustainability agenda. Today, over 1,400 professionals have been trained and accredited by SGBC in areas ranging from green architecture, energy, environmentally sustainable design, to circular economy, carbon accounting and climate resilience strategies.
- In 2022, SGBC began conducting Green Mark co-assessments alongside BCA. This partnership enables us to offer more direct support to project teams, and to contribute timely, ground-up insights to shape future policies and programmes. It reflects the trust and mutual commitment between BCA and SGBC – a model of how public-private collaboration can drive industry transformation.

From 1 November 2025, SGBC will be taking on the administration of the new Green Mark for Interiors (GMI). GMI will support organisations in greening their interior spaces through a more integrated approach—one that embraces:

- Health and Wellbeing – putting occupants first
- Resource Management – prioritising circularity and resource stewardship
- Smart Integration – harnessing data for optimisation
- Low Carbon – addressing both embodied and operational emissions

This next step enables us to bring the benefits of sustainability into the spaces people interact with most intimately – and to engage more businesses in the Singapore Green Plan.

To advance sustainable cooling in response to a warming world, SGBC launched the Go 25 national movement with the Ministry of Sustainability and the Environment in May 2025, supported by BCA and NEA. The goal of Go 25 is to encourage homes, offices, and buildings to achieve an indoor ambient temperature of 25°C, where possible.

As we strive towards a more sustainable future, it is essential to recognise the critical role that buildings play in our journey towards net-zero emissions. Along with improving building energy efficiency, managing daily cooling consumption is equally important, as air-conditioning is one of the largest energy users in buildings. By adopting a holistic approach to building design and operations, we can reduce the environmental impact of buildings while maintaining a comfortable and productive indoor environment.

Strong Buildings and Strong Nation

Christopher Vitug from SIBL tells about uplifting local building and construction professionals to advance the industry

Mr. Christopher Vitug, Director of the Singapore Institute of Building Limited (SIBL)

The Singapore Institute of Building Limited (SIBL), incorporated in 1981, is the professional institute in Singapore for qualified professionals engaged in building practices, including managerial, technical, or administrative capacity in the development; construction and maintenance of buildings; and those engaged in academic research and teaching.

To find out more about SIBL's involvement in building Singapore and maintaining local professional standards, *Southeast Asia Building* talked to Christopher Vitug, Director of SIBL. He discusses SIBL's history alongside Singapore, the association's smart and sustainable initiatives, and its goals for the future.

Q: In what ways has the Singapore Institute of Building Limited supported the advancement of architecture, design, and construction standards in Singapore?

A: The Singapore Institute of Building Limited (SIBL) has been a big part of Singapore's progress in architecture, design, construction, and facility management for more than four decades. SIBL always believed that strong buildings start with strong people. Right from the start, SIBL has focused on uplifting professionals in the building and construction industry—not just by representing their interests, but by working alongside them to build a more innovative and resilient industry.

One of the key ways SIBL has supported the advancement of architecture, design, and construction standards in Singapore is through seminars and training. It regularly offers upskilling programmes, certifications, and knowledge-sharing sessions to keep professionals equipped with the latest technologies, sustainable practices, and project management approaches.

SIBL also plays a vital role in shaping the direction of the industry. As a member of the Construction Industry Joint Committee (CIJC), it ensures that the perspectives of builders, facilities managers, and construction experts are heard in policy discussions. This helps align on-the-ground realities with national standards and strategies.

While SIBL is just one part of the larger industry, it continues to contribute meaningfully toward building a more sustainable and forward-thinking built environment in Singapore.

SIBL-SISV joint seminar on 11 July 2025, held at BCA Academy

Sustainability Seminar series 2 on 21 February 2025

Q: What are some initiatives your association has led or supported in promoting green building practices, digitalisation (e.g., BIM), or smart city developments?

A: SIBL has actively contributed to advancing digitalisation and sustainability within the built environment. It co-organised the SMART Facility Management Conference in 2016, fostering dialogue on the integration of technology and innovation in building operations.

In partnership with BSI, SIBL launched the BSI–SIBL BIM Certified Professional, which aims to strengthen digital competencies among industry practitioners and promote higher standards in BIM adoption.

Through its publication, Build News, SIBL continues to share valuable insights on how BIM is being applied in real-world contexts, such as carbon emission modelling, retrofitting older buildings with sensor-based data, and developing digital twins to optimise energy performance.

SIBL also works closely with key institutions, including BCA, SGBC, universities/colleges, and various ASEAN counterparts to drive cross-institutional collaboration. These partnerships create vital channels for knowledge-sharing, research and development, and the joint promotion of green building and digital standards across the region.

Q: SG60 Message and Looking Forward: What is your vision for Singapore's built environment in the next 10 to 20 years?

A: Looking ahead to the next 10 to 20 years, SIBL envisions a built environment in Singapore that is smarter, greener, and more people-focused. We see technology, like BIM, digital twins, and smart facility systems, not just as tools, but as enablers of safer, more efficient, and more sustainable buildings.

Our hope is to see professionals across all levels, from builders and engineers to facilities managers, fully empowered with digital skills and guided by strong ethical practices. SIBL aims to continue playing a key role in developing these capabilities through training, certification, and collaboration with both local and regional partners.

We also believe the future of Singapore's built environment must be inclusive and adaptable, supporting not just cutting-edge architecture and infrastructure, but also better living, working, and community spaces. As climate concerns grow, we'll continue championing sustainable practices, low-carbon construction, and innovation in green technologies.

At its core, SIBL's vision is to help build not just structures, but a resilient and forward-thinking industry that continues to serve the evolving needs of Singapore and its people.

The Modern Art of Interior Design

Highlighting the achievements of local interior designers in elevating Singapore's indoor spaces

The Society of Interior Designers Singapore (SIDS) has helped to shape Singapore's interior design scene for three decades, starting its important work in 1994. As the national association for Singaporean and Singapore-based interior designers, SIDS sets professional standards and practices, serving as a hub for certified interior designers and resolving industry issues.

Southeast Asia Building has invited SIDS to highlight three of its esteemed interior designers and their works, showcasing the vast skillset of local talent in transforming Singapore's interior spaces. We are proud to feature the works of Molina Hun from SUJONOHUN, Ong Sook Ling from Avalon Collective, and Yeo See Wee from Wee Studio to demonstrate how local interior designers are pushing the boundaries of modernity and sophistication.

Molina Hun, ***Co-Founder & Creative Director of SUJONOHUN***
House on Rosyth Road

A minimalist sanctuary for a multigenerational family of seven, blending privacy and fostering connectivity between family members, as well as with nature, creating a harmonious living space.

>> Project Details
Project Location: Rosyth Road, Singapore
Year of Completion: 2022
Project Size (in sqm): 1200
Photo credit: Khoo Guo Jie

SUJONOHUN was tasked to configure the layout of a landed property, accommodating a multi-generational family of seven with wellness and privacy in mind.

In the interpretation of this brief, certain functions were shifted around the floor plan. For privacy from the neighbours and street, the entry to the home is via a long foyer where the notion of arriving home is celebrated.

The living, dining, and dry kitchen were pushed to the rear where the land overlooks its neighbour from a higher elevation. Lush trees line both sides of the plot to filter the harsh sunlight and prying eyes.

A thoughtfully laid-out master walk-in wardrobe with a sliding glass partition to the bedroom and study, connecting the spaces. The island features storage, a glass display, sunken seating, and a leather tray for styling.

The ground level is one of two communal spaces where the family can gather for quality time. Here, Sujonohun applied a restrained colour palette of whitewash wood tones and soft neutrals, inserting darker shades to highlight focal points such as the display shelves at the entry foyer and the dry kitchen and island.

The spatial programming is identical for the second and third levels, which are dedicated to spaces for retreat. Each child has their own bedroom with an attached bath. The junior master on the second level accommodates the family's elders, and the couple occupies the master suite on the third floor. Access to the junior and master bedrooms is via the walk-in wardrobes through a concealed sliding door. While both suites face the street, they are afforded privacy by the aluminium trellis affixed to the façade of the house.

Whitewashed wood tones from the ground floor continue into the upper levels. To create an atmosphere

The children's study room highlights a conducive learning environment for the young siblings. Beyond its academic use, it also serves as a crafty space for bonding. Adjacent is the father's study, designed with a more serious tone in a reversed shade.

conducive to rest, SUJONOHUN introduced a subtle shift in materiality, using a mood board of grey laminate, tinted glass, dark woodgrain and polished marble in the master suite.

The COVID pandemic impacted part of the planning process, in particular the final layout and function of the attic. A guest room was ceded in favour of a director's office for work-from-home comfort, while the study provided ample space for the children's home learning. The entertainment room remained a secondary communal space for the children to have friends over.

Taking into consideration the future needs of the family, the function of this leisure space could be re-purposed as a self-contained apartment. SUJONOHUN switched up the material scheme, allowing dark woodgrain and black elements to take over, while the lighter woodgrain that dominated the lower levels presented as an accent in some areas. This adaptability to external pressures epitomises SUJONOHUN's strength and resilience in delivering an exquisite interior to the family.

This home serves as a sanctuary for its inhabitants by shielding them from the harsh exterior elements and nurturing familial relationships through its thoughtful design and measured execution of the details.

Ong Sook Ling, ***Design Director of Avalon Collective***
St Regis Singapore Spa

>> Project Details
Project Location: Singapore
Year of Completion: 2024
Project Size (in sqm): 351
Photo credit: St Regis Singapore

The St. Regis Spa has undergone a remarkable transformation—emerging as a sanctuary of rejuvenation and sensory delight, where art, sculpture, scent, and sound converge in perfect harmony.

Fifteen years after its original debut, Avalon Collective has reimagined the spa to align with the latest St. Regis brand guidelines, rooted in six foundational truths: celebratory, bespoke, natural, sensorial, refined, and extraordinary.

The updated layout introduces a newly designed reception-bar hybrid, a communal lounge, a dedicated

mani-pedi room, and a discreet therapist pantry. This culminates in a serene, luxurious environment that enriches the brand's legacy with renewed vision and warmth.

Celebratory: Arrival & Celebration Bar

Upon arrival, guests are welcomed by a bespoke micro-mosaic botanical art wall that immediately sets a tone of artistic elegance. Beneath a sensual curved ceiling, a peekaboo chandelier glows softly above a sculptural reception podium, creating a boutique-like atmosphere and setting the stage for an immersive spa experience.

The newly introduced Celebration Bar, backed by an illuminated shelf display, invites guests to sip on curated beverages and explore a refined collection of cosmetics. This provides guests with the opportunity to indulge in a social and celebratory atmosphere while nurturing both their inner and physical well-being. More than just a welcome gesture, this addition perfectly blends wellness with style, connection, and indulgence.

Sensorial: Relaxation Lounge

At the heart of the spa lies the Relaxation Lounge—a private enclave designed as both sanctuary and central gathering point which seamlessly connects each pivotal moment throughout the spa journey.

Sheer drapery gently wraps around each seating area, offering intimacy for solo guests and a shared sense of

celebration for groups marking special occasions. Layered textures and abstract botanical prints create a calming yet sophisticated backdrop, balancing serenity and festivity in equal measure.

Bespoke: Treatment Rooms & Spa Suite

Each treatment room is meticulously crafted to offer an immersive experience of privacy and personalisation, fostering relaxation and escape. Figured glass panels, akin to those in the mani-pedi room, provide flexible partitions; easily closed for seclusion or opened to accommodate shared moments between mother and daughter or couples.

Soft ambient lighting glows from behind custom display shelves, while curved ceilings echo the floral mosaic motif, ensuring a cohesive, tranquil atmosphere throughout, enveloping guests in a cocoon-like ambience.

The Treatment rooms are thoughtfully curated as sanctuaries of privacy and style. Here, guests can immerse themselves in a contemplative environment, allowing them to unwind and rejuvenate amidst the serene setting. Each room is designed to evoke a sense of tranquillity and indulgence, providing an ideal backdrop for guests to escape the hustle and bustle of daily life and focus on their well-being.

The St. Regis Spa Suite offers a more exclusive experience, designed for couples, bridal parties, or close friends. Set amidst warm earthy tones, the suite boasts a feature tub accented in deep green, adding a touch of luxury to the tranquil surroundings. Here, guests can connect with their loved ones while indulging in a range of spa treatments, creating lasting memories in a serene and inviting environment.

Refined: Dressing & Thermal Facilities

The spa's wet facilities are designed with both elegance and functionality in mind. Dressing rooms are intuitively laid out with luxurious amenities, providing guests a calm space to prepare and reset before or after treatments.

Thermal experiences, including saunas and steam rooms, are curated to support detoxification, circulation, and deep relaxation. Every detail, from material selection to lighting and layout, enhances the wellness journey with understated sophistication.

An Elevated Spa Experience

With its renewed vision, the St. Regis Spa sets a new benchmark for wellness in Singapore. Thoughtful spatial choreography, tactile richness, and sensory storytelling come together to craft an indulgent yet intimate experience—one that lingers in memory long after guests depart. This is more than a spa; it is a decadent utopia for the modern connoisseur of rest, beauty, and renewal.

Yeo See Wee, ***Founder & Principal Designer of Wee Studio***
LEVEL TEN

>> Project Details
Project Location: Orchard, Singapore
Year of Completion: 2025
Project Size (in sqm): 310
Photo credit: Wong Weiliang

Nestled in one of the city's most prestigious addresses, the 3,300 sqft apartment redefines luxury multi-generational living. Designed with intelligent spatial planning, it masterfully balances family connectivity with personal privacy through well-defined zoning.

Versatile layouts and dual-function design concepts elevate everyday living, maximising space efficiency without compromising on style or comfort. The result is a refined, future-ready residence that caters to the dynamic needs of modern family life, offering both elegance and enduring functionality.

A luxurious setting that harmoniously blends elegant dining with casual lounging through smart, seamless zoning. The modern finishes and smart lighting choices breathe an air of refinement to this living space, seamlessly brought together by a warm, neutral colour palette.

A dual-purpose study and display area featuring modern textures, warm wood accents, and a marble backdrop, merging minimalist elegance with functional sophistication.

A harmonious blend of minimalist design and cosy luxury, the modern tranquillity suite features layered textures, muted tones, and soft natural light. With its carefully selected furniture and gentle light, the room creates a serene retreat, perfect for rest and rejuvenation.

40 Years of Developing Singapore's Built and Natural Environment

SILA President Yvonne Tan shares about the association's growth alongside Singapore's landscape

Yvonne Tan, President of SILA and Director of DP Green, a Landscape Architecture consultancy design studio in Singapore.

As Singapore celebrates its 60th year of independence, the Singapore Institute of Landscape Architects (SILA) also commemorates 40 years of shaping landscape architecture in the country.

Established in 1985, SILA has worked to advance the science and art of landscape architecture, maintaining a high level of professional qualification while promoting the practice to the next generation.

Southeast Asia Building sat down with Yvonne Tan, President of SILA, to discuss the association's history, its evolution, and its aspirations for the future as it continues to grow alongside Singapore.

Q. Please introduce yourself and the Singapore Institute of Landscape Architects (SILA).
A: I am Yvonne Tan, a practising landscape architect of nearly 30 years. My day job is Director at DP Green. I am passionate about harnessing design to shape inclusive, resilient, and inspiring places for communities. Some of the projects recently delivered are the Singapore Pavilion at the 2025 World Expo Osaka, Rainforest Wild Asia, the Standard Hotel Singapore and Raffles Resort Sentosa. Since March this year, I have stepped into the role of President at SILA, the Singapore Institute of Landscape Architects, the national professional body representing landscape architects in Singapore. Established four decades ago in

Pencils by the Water at Play@Punggol. Playscape Designer: DP Green. Photo credit: URA

Rainforest Wild ASIA, Mandai. Landscape Architect: DP Green. Photo credit: DP Green

Plantation Village and Greenway at Tengah. Stepped Garden celebrating ABC Waters. Landscape Architect: DP Green. Photo credit: DP Green

1985, SILA champions the advancement of the landscape architecture profession through design leadership, capability development, and strategic advocacy. SILA works to support Singapore's evolution as a city in nature, where urban life and natural systems are thoughtfully integrated.

Q. How was SILA formed in 1985? Were the gaps in the market that led to its creation?

A: We were established at a time when landscape architecture was still an emerging profession in Singapore; it is quite well established overseas.

We have 5 founding members: Otto Fung, Richard Tan, Tay Bee Choo, Y. Kitayama and David Ong. The five of them identified the absence of a formal professional structure, as well as the lack of recognition for landscape architects who primarily shape the built environment, both urban and ecological. SILA therefore filled that gap to build that recognition and laid the foundation for a much more vibrant and impactful professional community.

For the five founding members, their vision was to formalise professional standards, advocate for our discipline's relevance, and to provide a community. With knowledge sharing and collaborations among professionals, SILA as a body laid that foundation for the thriving and impactful profession that we see today.

Q. How has the landscape architecture industry in Singapore evolved since 1985? What strides have been made in improving landscape architecture?

A: The role of landscape architects has expanded significantly from the early years of ornamental garden design and greening the city, in tandem with the 'Garden City' vision. Singapore has evolved to being a 'City In Nature', and the profession of Landscape Architecture has now moved towards a more systems-based discipline that integrates ecology, green infrastructure, social equity, as well as resiliency in our built environment. Landscape architects are central to climate adaptation, biodiversity enhancements, and community place-making.

SILA has contributed to this evolution by building a national knowledge repository that documents our design practices. The tropical city urbanism, as well as local innovations, also informs research, policy, and practice.

We are celebrating the journey, we are acknowledging the contributions of our members in shaping Singapore's landscape today, and we are highlighting the milestones where our members played critical or key roles in setting up the benchmarks for the rest to follow. In a way, we have also turned the corner. There is increased awareness, although we hope for more.

There is also increased advocacy and momentum in looking towards a nature-based systems thinking approach to planning future cities. For Singapore, it's about how we bring nature back to its true sense by creating an urban ecosystem where nature and humans mutually benefit and give back to each other.

Q. Please elaborate on the Four Strategic Pillars of SILA. How have they enabled SILA to grow while maintaining a high level of professionalism?

A: The four strategic pillars of SILA look at creating and promoting the integration of urban environments and complex natural systems through responsible, innovative, and resilient designs. This looks to not just create a

landscape knowledge depository, but also champion the excellence, innovation, and resiliency in design.

The second pillar is about elevating awareness, looking at increasing the perception and value of landscape architects to the government, to Built Environment professionals, and the public through effective communication. If you ask a primary school kid what they want to be, they will choose a lawyer or a doctor. They may say architects and engineers, but not landscape architects. Our goal is that in the next few years, being a Landscape Architect will be one of their primary choices, a choice that they are aware of in the first place.

This then looks at training and development as the third pillar. It is to inspire and establish aspiring landscape architects to grow the talent base—especially our local talent—through effective academic programmes, capability development, and mentoring. We have a youth arm, called LA Future, where a lot of the students, aspiring landscape architects, and fresh landscape architecture graduates can be a part of a youthful, passionate community. They also contribute by bringing a lot of new thoughts and strategies to SILA.

The last pillar is professional practice. It's about educating and developing the landscape architects' professional practices. This includes looking at ethical standards, defining best practices, and building a supportive professional ecosystem. We also have a continuous professional development programme that all accredited landscape architects have to fulfil every year to ensure that they are up-to-date on knowledge, skill sets, and future-proofing.

Elementum and Rail Corridor. Landscape rises through architecture, blurring the boundaries between Elementum and Rail Corridor. Landscape Architect: Grant Associates. Photo credit: Darren Soh.

Every year, accredited landscape architects have to hit a certain number of continuous professional development points overseen by the Landscape Accreditation Committee. This certifies that they are updating their knowledge, especially since Singapore is developing quickly, and many changes and refinements occur every year. It is important that our accredited landscape architects are deeply dedicated to upgrading themselves to serve their clientele better.

Bidadari Park. 2025 winner of the Urban Land Institute's exemplary award. Landscape Architect: Henning Larson. Photo credit: Finnbar

Q. What is the importance of having an association, such as SILA, in Singapore? How has Singapore benefited from SILA's contributions over the years?

A: The key goal for SILA right now is to raise recognition for landscape architects. Landscape architects play a very important role in designing sustainable, resilient, and meaningful spaces. Sometimes, that message is not very clear or known.

It is time for our contributions to be more widely recognised, valued, and supported as a professional body. SILA plays a critical role in ensuring a unified voice for our landscape architect members and the direction for the industry.

SILA represents Recognised Practices; these are landscape architecture design consultancy firms that are registered with us that have successfully met certain professional criteria. For service buyers, they are assured that there is a good calibre of services that they can choose from.

While we advocate on behalf

of the profession, we also help to influence policy and promote cross-sector collaborations. Over the years, we have worked closely with the government agencies and partners to shape policy, give feedback, contribute to technical standards, and co-create initiatives that support Singapore's sustainability and livability goals. We are currently represented on various committees, think tanks, work groups, as well as international and national-level development and strategic initiatives. These conversations include contributing to the Urban Redevelopment Authority (URA) 'LUSH' (Landscaping for Urban Spaces and High Rises) and the Long-Term Plan Review, National Parks Board 'LEAF' (Landscape Excellence Assessment Framework which encourages ecologically, climatically and socially resilient parks and developments in Singapore's urban landscape, Public Utilities Board's 'ABC Waters' (Active, Beautiful, Clean Waters) Programme; helping to shape and give feedback on the green and blue infrastructure of future Singapore.

Landscape architects have driven designs and contributed to implementing projects that are iconic places of Singapore, like Bishan-Ang Mo Kio Park, Gardens by the Bay, and Jewel, just to name a few. These projects are known globally and enhancing Singapore's identity as a leader of sustainable greening efforts. It is second nature to landscape architects of Singapore to generate projects like Rainforest Wild ASIA, Bidadari Park and Plantation Village & Plantation Farmway at Tengah and Elementum & Rail corridor towards climate adaptation, biodiversity enhancement and community place-making; continuing the legacy that our pioneer landscape architects have charted for us. Incidentally, Bidadari Park and SAFRA Choa Chu Kang, integrating sustainability, ecology, and community-centric landscape, recently won the Urban Land Institute's exemplary award. Through a series of initiatives that bring the built environment industry together to co-create more engaging public spaces, SILA's Recognised Practices clinched three winning designs in URA's inaugural Play@Punggol design competition in 2023. The winning playscapes are Pencils by the Water by DP Green, Flora and Fauna Kinetics Playscape and Wow, A Crocodile by Land Design One!

Q. The Singapore Landscape Architecture Awards (SLAA) 2025 marks SILA's 40th anniversary, coinciding with SG60. How does SILA plan to continue to nurture and uplift landscape architects in Singapore?

A: The SLAA 2025 is a meaningful milestone. It is our 14th edition and not just a celebration, but also a recognition of outstanding works in excellence and innovation in landscape architecture. The awards establish incentives with clear criteria to encourage our landscape architects to come up with more responsible, innovative, and resilient designs.

SILA is marking our 40th anniversary with several key initiatives. The first is about honouring and giving recognition to our pioneer landscape architects, especially the five who founded SILA. Second, it is to spotlight emerging landscape architects, who are now shaping the new paradigms in sustainability and regenerative design. We are a small community; thus, it is important to uplift our young talents and emerging landscape architects.

SAFRA CHOA CHU KANG. 2025 winner of the Urban Land Institute's exemplary award. Landscape Architect: DP Green. Architect: DP Architects. Photo credit: DPA

In commemoration of SILA's 40th year, we are establishing the landscape architects' archives to preserve and share the legacy of landscape architects in Singapore's development, and to expand our knowledge repository in support of learning.

Beyond the awards, SILA will also continue to nurture the profession through mentorship. We have a mentorship programme where the seniors mentor young landscape architects or landscape architecture students. This is driven by our youth wing, LA Future. In addition, we are looking at interdisciplinary engagement and public outreach to ensure that the landscape architecture remains relevant, resilient, and impactful in addressing contemporary and future challenges.

Through all these efforts, SILA hopes to continue uplifting the profession and deepening the impact, as well as inspiring future generations.

Q. What are the future goals for SILA, both short-term and long-term? How do they align with Singapore's visions?

A: It is SILA's 40th commemorative year. I have mentioned the launch of the SILA archives that will capture four decades of contributions by landscape architects to Singapore's built and natural environment. That, and a future exhibition, will be coming up.

SILA is ramping efforts to increase the perception and value of landscape architects in the Built Environment through better outreach.

Looking ahead, SILA is focused on advancing nature-based design, regenerative thinking, and community-focused place-making and advocating for stronger partnerships across disciplines, and for landscape architects to play a leading role in shaping future-ready, nature-positive cities.. All these goals align with the Singapore Green Plan 2030, as well as our national aspirations for climate resiliency, inclusive design, and sustainable urbanism.

Driving the Industry and Nurturing Local Talent Since the 1950s

Singapore Timber Association President, Yap Mui Kee, May, discusses the association's work in timber trade

President of the Singapore Timber Association, Yap Mui Kee, May]

Originally known as the Singapore Sawmillers Association, the Singapore Timber Association (STA) was established in the 1950s and initially processed timber imported from Sumatra. Since then, the association has grown extensively and undergone name changes and a merger to become the STA we know today.

Southeast Asia Building had the opportunity to talk to Yap Mui Kee, May, President of STA, to talk about STA's involvement with setting and shaping timber standards in Singapore.

Q: Could you highlight a few of STA's key projects, milestones, or initiatives that you feel made a lasting impact?

A: Over the past 60 years, the Singapore Timber Association (STA) has played a pivotal role in shaping Singapore's timber industry. Notable milestones include our leadership as an advisor and advocating for timber standards such as SS580, which have significantly enhanced quality and sustainability benchmarks.

Additionally, one of our most meaningful initiatives is the STA

School Design Awareness Competition. This year is in its second edition, and this competition brings together creativity, sustainability, and the passion of our youth. More than just a design platform, it is a movement to promote the use of industrial reclaimed timber while nurturing the next generation of environmentally conscious designers. The enthusiastic participation from schools and strong support from our industry partners reflect a growing commitment to sustainable innovation in the built environment.

We warmly invite you to be part of this impactful journey; be a sponsor, and this support will go a long way in empowering students, raising awareness on timber sustainability, and building a greener future for all. Together, we can continue shaping a better tomorrow.

Q: In what ways has your association supported the advancement of architecture, design, and construction standards in Singapore?

A: STA actively advises, advocates, and collaborates with key industry stakeholders, government agencies, and academic institutions to uplift architecture, design, and construction standards in Singapore. We are currently in discussion with Nanyang Polytechnic on sustainable projects and collaborative initiatives, which will strengthen skills development, promote innovation, and advance environmental sustainability within the built environment.

Q: What does SG60 mean to your association and its members?

A: SG60 is a significant milestone for STA and our members, symbolising resilience, innovation, and continued commitment to nation-building. As we celebrate 60 years of Singapore's growth, STA remains dedicated to championing sustainability, driving industry transformation, and nurturing talent, ensuring our sector continues to contribute meaningfully to Singapore's future development and global competitiveness.

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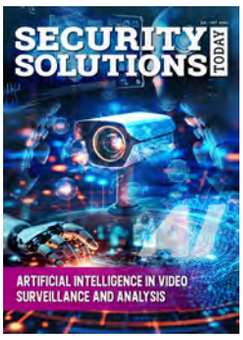

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