

SEAB

SOUTHEAST ASIA BUILDING



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Designing for Climate Change

- Lead Feature – Adapting to Extreme Weather in Southeast Asia •
- Resilient Coastal Design • Materials Focus: Coatings in Architecture
- Institutional Interior Design • Fire Safety: Smart Detection Tools •
- Interview with Industry Experts

ON THE COVER: ITC Green Centre, Kolkata / India



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Museum
Architect:
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 CloserStill

Welcome to the May/June issue!

This time, we are focusing on the theme of "Designing for Climate Change". We go over various projects and solutions that deal with the effects of climate change. With expert insights and architecture spotlights, this issue covers a wide range of methods that industry professionals have adopted to combat extreme weather, especially in Southeast Asia.

Similarly, this issue also invites experts to speak on coastal design through the lens of climate change. The interior design section showcases an array of institutional projects in the region, exemplifying the beauty of design, its flexibility, and its vast expanse. As always, the news section will keep you up to date with the latest happenings in the industry.

Thank you as always for reading! I look forward to meeting again in the next issue.

An Jee-Hyun

July/August 2026 Issue

- **Architecture:** Future of Living & Working
 - **Lead Feature:** Compact, Flexible, and Smart—Rethinking spaces for urban lifestyles.
 - **Case study:** Micro-apartments, co-living hubs, and hybrid offices in Southeast Asia
 - **Product spotlight:** Multifunctional furniture, space-saving storage, and IoT integration.
- **Interior:** Residential Projects
- **MEP:** Compact water heating and space-saving bathroom solutions.
- **Playground:** Maximise fun in compact urban spaces

Industry Partners of SEAB

The grid contains the following logos and their corresponding organization names:

- Association of Myanmar Architects
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- Design Council - Sri Lanka
- Emirates Green Building Council
- Foundation for Futuristic Cities
- Myanmar Green Building Society
- Green Building Council Indonesia
- Green Building Council Italia
- Green Building Council Mauritius
- Green Building Council Namibia
- Green Building Council Sri Lanka
- Hong Kong Green Building Council
- Interior Design Confederation of Singapore
- Jordan Green Building Council
- Earthna (Member of Qatar Foundation)
- 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
- Singapore Institute of Building Limited
- Society of British and International Interior Design
- APSDA (Asia-Pacific Space Designers Association)
- Asia Designer Communication Platform
- Singapore Electrical Trades Association
- Singapore Timber Association
- MIIIP (Malaysian Interior Industry Partners Association)

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New 'American Hardwood Assured' Platform Sets Benchmark For Transparent, Deforestation-free Timber Sourcing

A new assurance platform designed to bring unprecedented transparency to the global timber trade has been launched by the American Hardwood Export Council (AHEC). American Hardwood Assured (AHA) provides manufacturers, specifiers, and designers with a clear, credible way to verify that U.S. hardwood products are both legally sourced and deforestation-free.

At a time when environmental compliance requirements are tightening globally, AHA offers a practical solution for businesses navigating complex regulations, such as the EU Deforestation Regulation (EUDR) and the U.S. Lacey Act. By combining independent risk assessment with cutting-edge technology, the platform enables exporters to generate standardised, consignment-specific assurance statements quickly and efficiently.

Each AHA Statement is uniquely linked to an individual shipment and includes robust data confirming negligible risk of illegal harvesting or deforestation at source. These statements can be shared alongside shipping documentation or accessed via QR code, giving downstream users, from joinery manufacturers to architects, confidence in the provenance of the material they specify.

Designed for a complex supply chain

Unlike many timber systems, AHA has been developed specifically for the realities of the U.S. hardwood sector, where timber is sourced from millions of small, privately owned forests. This complexity has historically made shipment-level verification difficult. AHA overcomes this by using jurisdiction-based risk assessments rather than attempting to track individual trees or sites.



Mixed species in the American forests. Photo credit: American Hardwood Export Council



Stacks of sawn hardwood. Photo credit: American Hardwood Export Council

The platform integrates three core elements:

- A county-level deforestation risk assessment using satellite data and AI analysis
- A state-level legality risk assessment covering 37 hardwood-producing states
- An online tool that combines this data to generate due diligence statements and geolocation files for each export consignment

Bringing science into timber specification

AHA also points to the future of material verification. Emerging plant chemistry and isotope testing technologies mean timber can increasingly be traced back to its region of origin. The programme is developing a "Proof of Provenance" system that could eventually allow verification via simple lab testing or even handheld scanning devices.

Supporting sustainable design

For the design community, the implications are significant. U.S. hardwood forests have grown by more than 130% over the past 70 years, and are largely managed through low-intensity harvesting that supports long-term forest health.

By providing a scalable, evidence-based assurance system, AHA enables architects and designers to specify hardwoods with greater confidence, supporting both regulatory compliance and sustainable material choices.

Rod Wiles, Regional Director of AHEC, commented on the new initiative. "American Hardwood Assured is a unique and creative solution that meets the challenge of today's exacting procurement policies. It provides reassurance to buyers and users worldwide that choosing American hardwood does not lead to deforestation and contributes to long-term sustainability."

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ARCH:ID 2026 Returns, Positioning Architecture as a Collaborative Ecosystem

ARCH:ID returns as the most awaited architectural forum and trade events for professionals across the architecture, interior design, and building materials industries in Indonesia. Organised by the Indonesian Institute of Architects (IAI) in collaboration with CIS Exhibition, ARCH:ID 2026 will take place from 23 to 26 April 2026 at ICE BSD City. This year's edition expands significantly in scale, featuring 725 booths and more than 180 exhibitors across 18,000 sqm exhibition space.

Beyond the exhibition, ARCH:ID 2026 will also host an International Conference with 8 keynote speakers, 90 talk series sessions, and a total of 220 speakers from Indonesia and abroad. A range of programmes, including Featured Exhibitions, Business Matching, a Hackathon competition, and the Best Booth Award, further enhances the overall visitor experience.

More than 60 architects across generations—including Andra Matin, Muhammad Sagitha, M. Ikhsan Hamiru, and Artiandi Akbar—have contributed to the development of an 8,090 sqm exhibition area through a collaborative curatorial approach, alongside communities such as Ibu Arsitek, IALRC, and Scootarch.

"Through a curated approach that



fosters collaboration between brands and architects, we aim to ensure that each booth goes beyond being a display space, becoming a design work with a strong narrative and quality. The Best Booth Award serves as recognition of these efforts, while also providing added value for brands in strengthening their positioning and creating a more memorable experience at ARCH:ID 2026," said R. Arief Sofyan Rudiantoro, Project

Director of PT CIS Exhibition.

Strengthening its curatorial direction, ARCH:ID 2026 is curated by Ar. Afwina Kamal, IAI (Hadiprana Design), Ar. Trianzani Sulshi, IAI (Studio Aliri), and Ar. Dhanie Syawalia, IAI (Dhanie & Sal). Carrying the theme "Synthesis Scheme – Architecture of Engagement," the exhibition reframes architectural practice as a collaborative ecology in which knowledge flows across disciplines and boundaries are deliberately blurred.

"Architecture has long held the illusion of autonomy, as if it were a discipline accountable only to itself. The theme 'Synthesis Scheme' dismantles this notion by asserting that the built environment is never solely the product of architects. Every project is shaped by systems and a range of actors beyond the design studio," said the ARCH:ID 2026 Curatorial Team.

In line with this theme, collaboration at ARCH:ID 2026 expands beyond architectural practice to include a wide range of creative disciplines. Lighting designers, graphic designers, product designers, and landscape





architects contribute alongside brands as industry partners. This participation is further supported by various institutions and professional associations, including the Indonesian Society of Interior Designers (HDII), the Indonesian Lighting Engineering Association (HTII), the Indonesian Society of Landscape Architects (IALI), Green Building Council Indonesia (GBCI), Indonesian Product Designer Alliance (ADPII), the Indonesian Ceramic Industry Association (ASAKI), and the Indonesian Solar Energy Association (AESI).

Through this interdisciplinary approach, ARCH:ID 2026 positions architecture as a dynamic and interconnected ecosystem, transforming the exhibition into a space where diverse expertise converges, collaborates, and collectively shapes more comprehensive and meaningful spatial experiences.

ARCH:ID 2026 International Conference: Global and local perspectives in one forum

The ARCH:ID International Conference will take place over two days and is divided into two main sessions: The Urban Forum and The Architectural Forum, featuring influential figures from around the world whose work addresses today's architectural and urban challenges.

Florence Chan (KPF, Hong Kong) brings extensive experience in delivering complex, global-scale projects, with a focus on the public realm. Manuelle Gautrand (France) is recognised for context-driven architecture that blends innovation, narrative, and local heritage, while Marina Tabassum (Bangladesh), recipient of the Aga Khan Award for Architecture, is known for her climate-responsive, context-driven, and socially conscious approach. From Singapore, Agnes Soh contributes a landscape architecture perspective, highlighting its critical role in shaping resilient and livable urban environments.

Indonesian speakers further enrich this spectrum with equally vital perspectives. Irene Umar from the Ministry of Creative Economy and Diana Kusumastuti from the Ministry of Public Works and Housing contribute strategic insights from policy and national development, offering a deeper understanding of how design intersects directly with the country's development agenda. Meanwhile, visual artist Isha Hening and architect Helen Augustine represent a new

generation of creatives exploring the evolving boundaries between art, space, and contemporary architectural practice.

"Synthesis Scheme: Architecture of Engagement is not merely a theme, but a mindset shift we urgently need. It goes beyond designing buildings; it's about building a collaborative ecosystem, how we can bridge boundaries across disciplines to create a shared language in designing and developing cities," said Irene Umar, Vice Minister of Creative Economy of Indonesia and one of the speakers at the ARCH:ID Conference 2026.

With this composition, ARCH:ID 2026 is not merely a forum for sharing ideas, but a meeting point for critical discourse shaping the future of the built environment, from global to local scales, from policy to creative practice. This is what makes the conference not only relevant to attend, but essential to be part of.

A B2B platform for innovation and industry collaboration

As a curated B2B exhibition, ARCH:ID serves as a platform for product launches, knowledge exchange, and professional networking. It fosters collaboration between brands, architects, and cross-disciplinary practitioners to elevate both design quality and communication strategies.

Product categories featured include renewable and sustainable architecture, smart building technologies, modular solutions, BIM (Building Information Modelling), as well as a wide range of architectural, interior, building material, surface, and finishing products. Underscoring a commitment to sustainable practices and the future of environmentally responsible architecture.

ARCH:ID 2026 is expected to attract approximately 31,000 visitors over the four-day event, further establishing itself as a key platform for professionals to connect and collaborate.

Registration for the exhibition is available at arch.id/visit2026.

Conference tickets can be purchased at arch.id/conference2026, providing access to a series of discussions, presentations, and exchanges with cross-disciplinary practitioners and thought leaders.

ARLANXEO Inaugurates Innovation Center Asia in China with Expanded R&D Capabilities

ARLANXEO, a global leader in performance elastomers, has inaugurated its Innovation Center Asia (ICA) in Changzhou, China. The new centre was created by upgrading the existing Regional Technical Center (RTC) into an Asia hub for innovation, expanding ARLANXEO's global R&D capabilities to better support markets in China and beyond.

The inauguration ceremony was addressed by Herman Dikland, Chief Technology and Sustainability Officer at ARLANXEO, and Hong Sun, Managing Director at ARLANXEO China. In addition, ARLANXEO representatives, valued customers, local authorities, and university partners attended the ceremony.

The upgraded Innovation Center Asia features expanded space, a stronger team, and additional laboratory assets and capabilities. The Innovation Center Asia supports customers and projects in the fields of rubber compounding and processing; physical testing and chemical analysis of polymers, compounds, and vulcanisates; battery application development, prototyping, and testing; and also offers a dedicated chemistry lab to support its new HNBR plant in Changzhou and global HNBR R&D activities.

"Innovation is a core driver of ARLANXEO's sustainable growth, and China plays an important role in our global innovation ecosystem. This state-of-the-art laboratory facility puts us in an excellent position to advance our



The inauguration ceremony

R&D capabilities and reinforce our market position. We look forward to driving frontier innovation together with our passionate and creative China team, while bringing China-based innovation into solutions for global markets," said Herman Dikland, Chief Technology and Sustainability Officer at ARLANXEO.

Located at ARLANXEO's Changzhou site and adjacent to its EPDM and HNBR plants, the Innovation Center Asia is well-positioned to drive local R&D and innovation through close collaboration with customers. Leveraging its strong compounding and processing know-how and in-depth analytical expertise, the centre will be instrumental in helping address evolving market demands. It will also complement ARLANXEO's Innovation Center in Dormagen, Germany, by creating synergies in developing new methods, exploring advanced equipment and technologies, and delivering innovative product solutions to customers worldwide.

"The inauguration of the Innovation Center Asia reflects our commitment to supporting the rapid transformation of China's rubber industry during the 15th Five-Year Plan period," said Hong Sun, Managing Director at ARLANXEO China. "With growing demand for advanced materials and customised formulations, the new centre will further strengthen our proximity to customers, enhance our agility in meeting market needs, and better support the upgrading of the entire rubber industry."



Photo of the Innovation Center Asia



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Armstrong Fluid Technology Appoints Danilo Elez as Chief Executive Officer

Armstrong Fluid Technology, a global leader in intelligent, energy-saving fluid flow and whole building mechanical solutions, announced the appointment of Danilo Elez as Chief Executive Officer. In this role, Danilo will lead the company's next phase of growth and innovation.

Danilo joins Armstrong at a pivotal moment in its history, recognising the company's clear differentiation in system-level fluid flow. This deep expertise connects system design and analytics to improve performance across the entire lifecycle of a building. The company's solutions support building infrastructure and mission-critical applications worldwide, touching millions every day. That impact comes with a responsibility to optimise energy use and accelerate sustainability and decarbonisation globally.

Danilo brings extensive experience in the HVAC and building technologies industries, with senior leadership roles from Trane, KONE, and Johnson Controls. He has led global organisations and is known for driving sustainable growth, strengthening operational performance, and integrating engineered products with services, digital capabilities, and system-level solutions. His leadership approach and experience align closely with Armstrong's strategy and values.

Since its founding in 1934, Armstrong has remained a privately held company, enabling a long-term perspective grounded in its core values of learning and innovation, community, and service, creating continuous value for customers.

Danilo holds an MBA from the University of Chicago



Danilo Elez, Chief Executive Officer, Armstrong Fluid Technology

Booth School of Business and undergraduate degrees in Industrial Engineering and Economics from the University of Wisconsin-Madison. A Fulbright Scholar, he brings a global perspective shaped by international experience.

Armstrong Fluid Technology is a global leader in intelligent, energy-efficient fluid flow and whole-building mechanical solutions. With operations worldwide, Armstrong helps organisations eliminate inefficiency, improve system reliability, and reduce operating costs through innovative products and digital solutions. Serving multiple industries, the company is committed to sustainability and aims for net-zero carbon operations by 2030.

The DOMOTEX asia/CHINAFLOOR 2026 Exhibitor List Is Now Available Online

DOMOTEX asia/CHINAFLOOR has released its exhibitor list for the 28th edition, taking place in Shanghai from 27-29 May 2026. It is available online at <https://online.dacf.cn/en/showroom-2026>.

Worldwide flooring professionals can now explore participating companies, discover the latest products, and schedule meetings in advance.

As the leading trade fair for the carpet and flooring industry in the Asia-Pacific region, this year's edition will host over 1,500 exhibitors across 210,000 square metres of fully booked exhibition space. More than 80,000 buyers from over 120 countries are expected to visit the event, making it a key global platform for sourcing new products, identifying trends, and exploring business opportunities within the region's dynamic flooring markets.



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A key international sourcing hub for the full carpet and flooring ecosystem

The show will offer a comprehensive sourcing platform spanning the entire carpet and flooring value chain, from raw materials and production technologies to finished products and application solutions.

As a core feature, the carpet sector will occupy two halls and host around 550 companies and brands from all over the world. It will showcase the full spectrum of carpet manufacturing, from handmade and machine-made carpets to rugs, carpet tiles, mats, as well as the complete production supply chain, including raw materials, machinery, and advanced carpet production technologies.

Notably, the Coir Board of India will make its debut in this area, presenting a dedicated country pavilion showcasing some of India's finest products. At the same time, the Red Note (Xiaohongshu) curated area will showcase a selection of handmade carpets through an innovative exhibition format that blends product display with an enhanced programme of talks, trend releases, influencer-led tours, and more.

The resilient flooring sector, one of the exhibition's most prominent segments, will once again play a central role in 2026, featuring over 450 companies and brands. Meanwhile, the wood flooring segment will bring together

400 leading exhibitors, presenting a diverse portfolio ranging from solid and engineered wood to laminate, bamboo, and cork flooring. The wood halls will also host the European pavilion, which includes leading European brands such as Kronospan, Neuhofer, and Stauf.

Additionally, Cadex, the co-located event dedicated to contractors, architects, and designers, will host its main summit, "Sense It! Design and Sensory Economy", as well as a series of seminars, talks, and panel discussions. Together, the wood and resilient flooring sectors will occupy four halls, showcasing the latest innovations and most advanced hard flooring solutions.

The Floor Tech sector will highlight the full manufacturing supply chain across more than 20,000 square metres, with over 200 exhibitors. It will reflect the growing demand for intelligent and customised production systems, featuring advanced equipment designed for energy efficiency, high performance, precision, and flexible small-batch manufacturing.

From "Made in China" to Chinese brands: rising quality and global competitiveness

DOMOTEX asia/CHINA FLOOR 2026 will allow participants to witness firsthand the continued transformation of China's flooring industry from manufacturing-led production to globally recognised brands. This evolution reflects a broader shift toward higher quality, stronger design capabilities, and greater value creation across the sector, reinforcing the growing international competitiveness and credibility of Chinese manufacturers.

The Chinese exhibitors will present evolving global strategies, including the increasingly adopted "China headquarters + overseas bases" model, enabling greater flexibility, resilience, and responsiveness in a changing global market. Leading companies will also highlight progress in brand building, product innovation, and channel development, underscoring their long-term international ambitions.

Simultaneously, sustainability, which continues to drive China's flooring industry innovation, will be emphasised strongly. With rising consumer awareness and stricter scrutiny of indoor materials, demand for safer and





environmentally friendly solutions is increasing rapidly in China. This shift reflects a broader move toward low-impact materials and alignment with evolving regulatory standards

and expectations for transparency and safety.

As the flagship exhibition for the Asia-Pacific flooring industry, DOMOTEX asia/CHINA FLOOR 2026

will continue to leverage the region's strong industrial base to deliver a highly efficient and reliable supply chain ecosystem. It will connect the global demand with the strengths of the Asian manufacturers, showcasing their end-to-end industry capabilities and strategic market positioning.

Visitation at DOMOTEX asia/CHINA FLOOR 2026 is free of charge. Register at: https://reg.dacf.cn/en/user/register/?utm_source=media26&utm_medium=pr&utm_campaign=media.

Groundup.ai Secures Landmark USD10M Contract to Revolutionise Industrial Reliability with Cognitive Maintenance

Groundup.ai, the pioneer of the world's first Agentic AI for Cognitive Maintenance, announced it has officially closed a landmark contract exceeding USD 10 million—the largest in the company's history. This agreement marks a definitive shift in the global industrial landscape, moving beyond traditional predictive maintenance toward autonomous, Physical AI reliability.

The record-breaking contract follows a period of rapid growth, fueled by a USD 4.25 million Series A funding round in April 2025 led by Tin Men Capital, joined by Wavemaker Partners, SEEDS Capital, and HIVEN—the VC arm of CJ International Asia. That capital injection has enabled Groundup.ai to accelerate its technical roadmap and expand its regional footprint, signaling strong investor confidence in the firm's capacity to lead the Industry 5.0 transformation.

Secured after a rigorous competitive evaluation, the new agreement involves the large-scale deployment of Groundup.ai's Cognitive Maintenance solution across multi-site critical operations. While the client's identity remains confidential due to strategic sensitivities, the partnership represents a major commitment from one of the world's



Leon Lim, CEO & Founder (left); Alex Wong, COO & Co-Founder (right)

leading asset-heavy organisations.

"This isn't just a win for Groundup.ai; it's a massive signal for the future of Industry 5.0," said Leon Lim, CEO

and Founder of Groundup.ai. "Global industries are no longer satisfied with just knowing when a machine might fail. They want a system that acts as a virtual expert to tell them how to ensure it never does. Closing our largest deal to date validates the vision we shared during our Series A. The world is ready for Cognitive Maintenance that reasons, diagnoses, and guides."

"From heavy industries to advanced manufacturing, this milestone isn't more than just code. It's about finally bridging the gap between raw and action on the ground," said Yong Tai, Sales Engineer and Founding Team Member of

Groundup.ai.

"Our mission has always been to turn data into decisions," added Alex Wong, COO and Co-Founder of Groundup.ai. "This contract allows us to execute that mission at an unprecedented scale, proving that Cognitive Maintenance is the key to unlocking billions in hidden value for the global manufacturing, maritime, and critical infrastructure sectors."

By bridging the gap between deep domain expertise and machine intelligence, Groundup.ai continues to lead the charge in making industrial operations smarter, greener, and more resilient.

Johnson Controls Acquires Nantum AI to Accelerate AI-driven Energy Optimisation and Control Capabilities within OpenBlue

Johnson Controls (NYSE: JCI), a global technology leader in energy efficiency, decarbonisation, thermal management, and mission-critical performance, has announced the acquisition of Nantum AI, a New York-based company specialising in AI algorithms to help businesses unlock energy savings, enhance system controls, and improve operational efficiency.

The acquisition strengthens the Johnson Controls OpenBlue digital ecosystem by adding proven, proprietary AI-driven algorithms that further optimise HVAC performance and reduce energy consumption.

Nantum AI will expand capabilities within the Johnson Controls OpenBlue digital ecosystem to optimise real-time airflow in buildings based on occupancy for customers across industries. Together with existing offerings that drive efficiencies at the central HVAC chiller plant, these capabilities will support more comprehensive optimisation of HVAC systems across complex facilities, such as healthcare campuses and advanced manufacturing environments. The first combined offering is currently being piloted.

"We're entering the next phase of the industrial revolution, where digital intelligence is as critical as the physical systems themselves, and the companies that leverage the power of AI to streamline processes, cut costs,



Photo credit: Johnson Controls

and unlock new customer value will win," said Vijay Sankaran, Chief Digital and Information Officer at Johnson Controls. "With the addition of Nantum AI, we're helping our customers better reduce energy use, manage complexity, and run more resilient, efficient facilities."

By extending intelligence across the full HVAC system, Johnson Controls is expanding OpenBlue's world-class water-side optimisation capabilities to include autonomous, AI-driven control across air- and water-side applications. This addition enhances

OpenBlue's ability to help building operators make more informed, automated decisions that improve energy efficiency while maintaining comfort and reliability.

Michael Rudin, board member of Prescriptive Holdings LLC, commented, "Artificial intelligence has enormous potential to improve how buildings operate and, with energy demand and costs continuing to climb, leveraging it to increase energy efficiency is a business imperative. Nantum AI is already delivering more than 10% energy savings for customers, and we



Photo credit: Johnson Controls

are pleased to see how our algorithms complement Johnson Controls' existing deep building expertise." Nantum AI is owned by Prescriptive Holdings, LLC.

Nantum AI will add to Johnson Controls' growing portfolio of AI-powered building solutions, delivering efficiency recommendations and enhanced control across air-handling units, fans, and other air-circulation equipment. By adding this layer on top of a traditional building automation system, building operators can leverage data from internal and external sources like weather patterns and utility bill trends, enabling more sophisticated efficiency recommendations and execution without compromising occupant comfort.

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TotalEnergies and Nextnorth Reach Financial Close and Start Construction of a 440 MW Solar Project in the Philippines

TotalEnergies, together with its partner Nextnorth, a Philippines-based renewable energy developer, announced that they have reached financial close and have started construction of a 440 MWp solar power plant.

Located in the City of Ilagan, Province of Isabela, the project owned by TotalEnergies (65%) and Nextnorth (35%) will be operational by the end of 2027.

Once operational, it will produce 13.5 TWh over 20 years. More than 50% of the project's electricity will be sold under long-term offtake agreements with two Retail Electricity Suppliers—AdventEnergy and PrimeRES—supplying commercial and industrial users seeking to decarbonise their operations. The remaining production will be sold to the national grid under its award in Round 4 of the Philippine Government's Green Energy Auction Program.

With a total cost of approximately \$300 million, the project is financed by 3 international banks: Sumitomo Mitsui Banking Corporation (SMBC), ING Bank NV (ING), and

Standard Chartered (SCB). It is the largest international financing for a solar project in the Philippines to date.

"We are delighted with our partner Nextnorth to start the construction of this major solar project in the Philippines, thereby contributing to the country's goal of increasing renewables in its generation energy mix. These 440 MW will contribute to the 9 GW renewables portfolio that we are combining with Masdar through a 50/50 joint venture across nine Asian countries", said Olivier Jouny, SVP Renewables at TotalEnergies.

"Energy security has never been more relevant for the Philippines than it is today. With rising demand and continued exposure to imported fuels, the country needs domestic, scalable, and bankable renewable capacity. Working alongside TotalEnergies, we are delivering clean, reliable power that supports communities, creates jobs, and advances the Philippines' transition toward a more energy-independent future," said Miguel Mapa, President and CEO, Nextnorth.



Photo credit: TotalEnergies



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Las Vegas Sands Appoints Singapore's Woh Hup to Lead Construction of New Development

Las Vegas Sands (NYSE: LVS) awarded a multi-billion-dollar construction contract to Woh Hup (Private) Limited, following a comprehensive competitive tender process involving several leading construction firms across the region.

Selected for its strong technical capabilities, proven track record in complex projects, and depth in engineering and design management, Woh Hup will lead the construction of Las Vegas Sands' next-generation ultra-luxury development. The project, which is slated for completion in 2030, represents a significant milestone in Sands' long-term investment in Singapore and underscores its commitment to working with trusted partners to deliver landmark developments



The revolutionary Skyloop from an aerial perspective that highlights the distinct design of its twin wings.



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



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Founded in 1927, Woh Hup is one of Singapore's largest privately owned construction and civil engineering companies. Across nearly a century, the company has been instrumental in building many of Singapore's most notable developments, including Gardens by the Bay and Jewel Changi Airport.

Mr. Patrick Dumont, Chairman and Chief Executive Officer, Las Vegas Sands, said, "Woh Hup has played a defining role in shaping Singapore's development, and we are pleased to work with a local company that has contributed to many of the nation's iconic landmarks. This appointment further reinforces our commitment to ensuring Singaporean companies continue to benefit from our long-term presence and future growth, creating opportunities that extend across local industries and the broader economy. This milestone marks an important step as we advance our ambitious vision for the next chapter of Las Vegas Sands."

Mr. Kim Yong, Chairman, Woh Hup (Private) Limited, commented, "We are privileged to be appointed as the main contractor for Las Vegas Sands' new ultra luxury development, a project that will stand as a new symbol of Singapore's ambition and global stature. As a Singaporean company with deep roots in the nation's built environment, Woh Hup is proud to bring our experience, innovation, and passion for quality to this iconic development."

Construction of Las Vegas Sands' new development, designed by the acclaimed Safdie Architects led by Moshe Safdie, is powering ahead, with up to 5,000 workers working on site 24/7.

A key economic driver in Singapore

The appointment of Woh Hup to drive the pioneering development in the integrated resort (IR) operator's next phase of growth comes on the heels of a record-breaking year of performance for Marina Bay Sands, as it marked its strongest results at levels unseen in the hospitality industry.



The envisioned waterfront with Las Vegas Sands' new ultra-luxury development, featuring a 55-storey hotel tower and podium with a 15,000-seat arena situated adjacent to the existing Marina Bay Sands.

To support its operations, the IR generated \$2.64 billion in annual business spending in 2025, with 90.8 per cent of procurement directed to Singapore-based enterprises, underscoring Marina Bay Sands' deep and sustained contribution to the broader economy. Over the past decade, the IR has consistently directed more than 90 per cent of its procurement spend to local companies, reflecting its long-standing role in supporting Singapore's business ecosystem.

Amid a robust calendar of major business events and world-class entertainment offerings, Marina Bay Sands welcomed over 36 million visitors, hosted more than 2,000 MICE events, and received nearly 1.4 million delegates at Marina Bay Sands Expo & Convention Centre over the course of the year.

It is estimated that Marina Bay Sands contributed 1.2 per cent to Singapore's Gross Domestic Product (GDP) in 2025, based on a recently commissioned Economic Impact Assessment conducted by Enright, Scott & Associates Limited. This figure takes into account direct and indirect economic value added to Singapore's GDP from capital investments associated with the IR, spending of local and non-local

visitors in the IR, and the spending outside of the IR by non-local visitors who visited Singapore because of Marina Bay Sands.

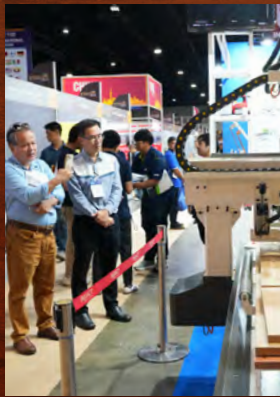
"Our economic contribution reflects the trust Singapore has placed in Marina Bay Sands and the many local partners, businesses, and workers who help power our operations every day. It also underscores the scale of Marina Bay Sands' economic footprint and the breadth of industries that benefit from our presence— from tourism and hospitality to retail, entertainment, and the wider supply chain," added Mr. Dumont. "We remain strongly committed to contributing positively to Singapore's economy in a way that is sustainable and in step with the country's long-term ambitions."

When completed, the project will feature a soaring all-suite luxury hotel tower capped with signature rooftop and dining experiences, luxury retail boutiques, gaming, holistic spa and wellness amenities, and 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.

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Saint-Gobain and Flinken Group Form Strategic Joint Venture in Sarawak to Drive Sustainable Construction in Malaysia and Southeast Asia



CEO of Saint-Gobain Asia, Ludovic Weber (fourth from right), and Founder of Flinken Group, Marcus Chai (fifth from right), pictured with representatives from Saint-Gobain, Flinken Group, and STATOS following the signing of a strategic joint venture agreement establishing Saint-Gobain Flinken.

Saint-Gobain, a global leader in light and sustainable construction, has entered into a joint venture agreement with Flinken Group, a Sarawak-based innovative construction materials specialist, to establish a strategic partnership. The new entity, Saint-Gobain Flinken, will see Saint-Gobain hold a 70% majority stake with Flinken Group holding the remaining 30%.

Under the agreement, Saint-Gobain Flinken will support next-generation needs and meet growing demand across Malaysia and the Southeast Asia (SEA) region for light, sustainable building and construction materials. The joint venture will be supported by a phased capital investment into manufacturing upgrades and logistics infrastructure in Sarawak. This includes the development of a dedicated logistics hub with enhanced warehousing and distribution capabilities, which will also serve as a potential export base for Southeast Asian markets.

"This partnership reflects our strong belief in the importance of combining global expertise with local capabilities to accelerate sustainable construction. By working closely with Flinken Group, we are not only strengthening our presence in Malaysia but also building a platform that leverages technology, innovation, and local know-how to support Southeast Asia's transition towards more sustainable and efficient building solutions. This is a key step forward in shaping the future of sustainable construction in the region," said Ludovic Weber, Chief

Executive Officer of Saint-Gobain Asia.

"From our roots in Sarawak, Flinken Group has grown steadily into a leading local manufacturer by consistently delivering high-quality mortar solutions that meet evolving customer needs. This milestone marks an exciting new chapter for us, as we partner with Saint-Gobain. We are excited to continue growing the company together while supporting the development of Malaysia's building materials industry," said Marcus Chai, Founder of Flinken Group.

Malaysia's construction industry remains a key driver of economic growth, supported by urbanisation, infrastructure development, and rising demand for sustainable built environments. As the built environment continues to account for a substantial share of energy consumption and greenhouse gas emissions, the importance of greener building approaches has become increasingly pronounced. This is reflected in the expected expansion of Malaysia's green building materials market, which is projected to grow from USD 385.4 billion in 2025 to USD 677.2 billion by 2031.

In line with this shift, Sarawak is reinforcing its commitment to sustainable urban development under the Sarawak 2030 Sustainability Blueprint through green building initiatives and smart city projects, advancing green building initiatives and smart city projects that prioritise the transition to green buildings, promote sustainable construction practices, and support sustainable urban design.



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"As Malaysia enters a transformative decade, technology, innovation, and sustainability will increasingly define its built environment, supported by a strong decarbonisation and efficiency agenda that is moving the industry from aspiration to compliance. The joint venture underscores our confidence in Malaysia's long-term growth and reinforces our commitment to supporting the industry's readiness for this next phase," said Lynette Siow, Chief Executive Officer of Saint-Gobain Malaysia and Singapore.

The joint venture will also introduce advanced production technologies and sustainable product lines and aims for a positive socio-economic impact through new employment opportunities, structured training programmes for local talent, and measurable improvements in carbon reduction and material efficiency across product offerings.

These will be delivered through four key areas:

- **Research, Development & Innovation (RDI):** A dedicated RDI framework will support tropical climate material innovation and smart construction solutions. Programmes like the Saint-Gobain Sustainable Construction Challenge – Sarawak Chapter will fund local innovators and university researchers to develop breakthrough green technologies.
- **Knowledge Transfer and Talent Development:** Through IEM-accredited seminars, expert series, and training hubs, the initiative will upskill engineers and contractors with global best practices, while nurturing

the next generation of innovators and material scientists.

- **Sustainable Building and Local Industry Empowerment:** The joint venture will develop eco-friendly dry mix materials using kaolin, lime, and palm waste, supporting the built environment's circular economy and reducing carbon emissions.
- **Community and Policy Engagement:** Both companies will contribute to community infrastructure, youth STEM outreach, and green policy dialogues, working with IEM and government bodies to shape Sarawak's building codes and sustainability standards.

"As Sarawak continues to position itself as a forward-looking economy, foreign direct investment and strategic collaborations such as this play a vital role in advancing our ambitions in sustainable construction, green technologies, and human capital development. We are confident that this partnership will contribute meaningfully to the development of Sarawak, and we look towards many more impactful collaborations in the future," said Chew Chang Guan, Chief Executive Officer of STATOS.

The signing ceremony was held at Sarawak Trade and Tourism Office Singapore (STATOS), witnessed by Tim Ooi, Chief Financial Officer of Saint-Gobain Malaysia and Singapore, and Phua Pui Ann, Founder of Flinken Group. The event was graced by the Guest of Honour, Chew Chang Guan, Chief Executive Officer of STATOS.

Signify Illuminates the Future of Sustainability with 'Brighter Lives, Better World 2030' and Next-Generation Interact Solutions

Signify (Euronext: LIGHT), the world leader in lighting, is taking a dual leap in its commitment to global sustainability with the newly announced 'Brighter Lives, Better World 2030' programme alongside its next-generation Interact connected lighting solutions. These announcements reinforce its commitment to enabling a low-carbon, resource-efficient, and smarter built environment.

Together, the initiatives showcase Signify's mission to bridge ambitious climate targets with actionable, intelligent technology, delivering tangible impact across cities, buildings, and communities. As global electricity demand rises and climate resilience becomes



increasingly critical, this integrated approach creates measurable results, addressing the most urgent challenges faced by modern energy grids, businesses, and municipalities worldwide.

Brighter Lives, Better World 2030: Expanding impact where it matters most

Building on a decade of sustainability leadership and remaining firmly committed to its 2040 net-zero ambition, Signify's third chapter of 'Brighter Lives, Better World' pivots heavily toward empowering its customers. Responding to the global surge in electricity demand, resource scarcity, and volatile energy pricing, the programme is designed to deliver aggressive energy and resource reductions.

By the end of 2030, Signify commits to: Saving 60 TWh of energy cumulatively for its customers.

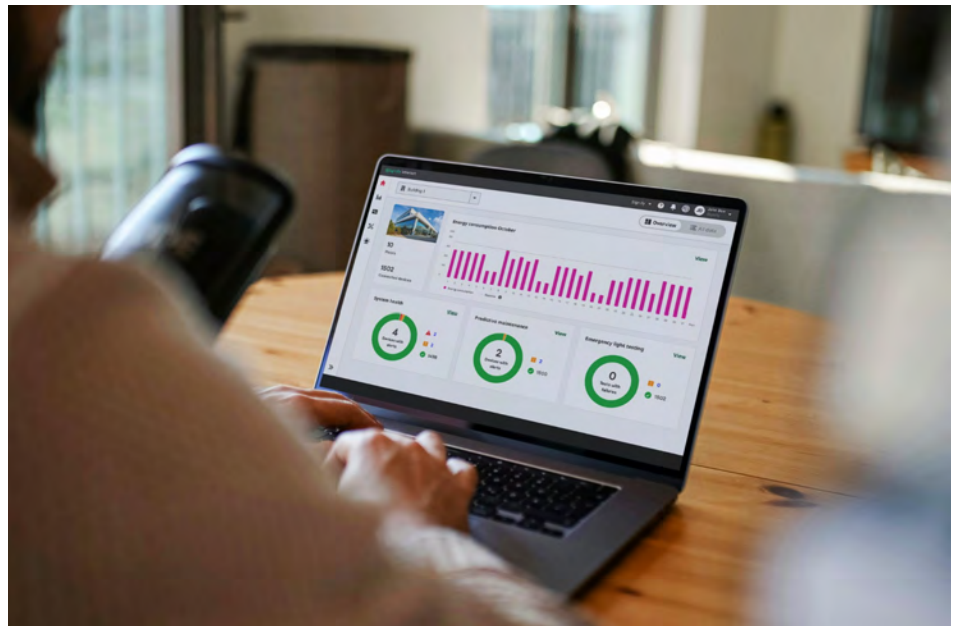
- Achieving a 35% annualised reduction in portfolio CO₂ emission intensity.
- Generating 41% of revenues from solutions that support benefits beyond illumination (up from 31% in 2024), including safety and security, health and well-being, solar lighting, and efficient food production.

Signify is introducing a "use less, use longer, use again" framework driven by two distinct customer programs to champion the circular economy—Signify Circle and Signify Switch.

Professional customers will be supported by Signify Circle, a new initiative delivering products and services aligned with clear circularity criteria. Signify Circle revenues will span four categories that include dedicated Circle products, Light as a Service, remanufacturing, and spare parts & upgrade kits.

To support energy efficiency transitions, the expanded Signify Switch programme will guide customers in financing and deploying efficient LED systems.

"Brighter Lives, Better World 2030' is designed to deliver solutions that improve lives, save energy, and make



One platform delivering total visibility and control of outdoor lighting for real-time monitoring and smarter maintenance.



Central Management System (CMS)

Traffic & Weather Adaptive Lighting Systems

Enhance road safety and efficiency with intelligent lighting that dynamically adapts to real-time traffic and weather conditions.





better use of resources—which is exactly what our customers are asking for. It shows that impact and opportunity go hand in hand, as we create real value for society, while building a stronger, more resilient company," said As Tempelman, Chief Executive Officer of Signify.

Jitender Khurana, Chief Executive Officer of Professional Business for Southeast Asia & Far East, added, "Southeast Asia's energy demand is soaring, with nearly 80% fuelled by fossil fuels. This creates a critical imbalance as emissions are set to rise by a third by 2050, while fossil fuel shortages loom. The urgency has never been greater. Buildings account for 40% of global energy consumption and emissions, making lighting upgrades one of the most immediate levers available – capable of reducing energy use by up to 80% while directly cutting Scope 1 and 2 emissions. Through 'Brighter Lives, Better World 2030', we enable partners to act now with intelligent systems that deliver real energy savings and data-driven solutions, paving the way for circular, future-ready growth."

Progress on Signify's 'Brighter Lives,

Better World 2030' programme will be reported every quarter, in line with the company's financial results.

Empowering smart cities and buildings through next-generation interact solutions

Translating these strategic sustainability goals into immediate action, Signify introduced four major additions to its Interact platform at the Light + Building exhibition in Frankfurt. These solutions prove that sustainability and operational efficiency go hand-in-hand by unlocking the power of real-time data.

The newly unveiled data-enabled solutions include:

Interact for Intelligent Buildings

Trusted in over 40,000 projects worldwide, Signify Interact for Intelligent Buildings transforms buildings into intelligent environments, giving owners and facility managers greater insight and control. The new Interact Building suite offers owners and facility managers deeper insights through centralised, real-time monitoring and automation to optimise lighting

across all professional indoor spaces, ultimately further reducing operational costs and maximising energy savings.

Interact EasyConnect

Simplifying and accelerating the deployment of connected outdoor lighting through cellular and hybrid connectivity, Interact EasyConnect removes the need for complex wiring and extensive infrastructure, enabling faster and more flexible implementation of smart lighting systems. This supports cities and operators in transitioning efficiently toward scalable, future-ready lighting networks.

Central Management System (CMS)

The CMS empowers city operators with a unified digital platform to remotely monitor, control, and manage large-scale outdoor lighting networks. By centralising operations and delivering real-time system visibility, it enhances maintenance efficiency, improves responsiveness, and ensures consistent lighting performance across urban environments.

Traffic and Weather Adaptive Lighting Systems

By dynamically adjusting lighting levels in response to real-time traffic flow and weather conditions, rather than relying on fixed schedules, this intelligent approach enhances road safety and visibility when needed, while minimising unnecessary energy consumption during low-activity periods.

A unified vision for a brighter, resilient world

With both initiatives underway, Signify reinforces its commitment to a resilient, responsible future, advancing low-impact manufacturing, ethical supply chains, and greater access to lighting in underserved communities.

Guided by the principle that corporate impact and market opportunity go hand in hand, Signify continues to create long-term value through 'Brighter Lives, Better World 2030' and its next-generation Interact platform, combining climate action with IoT innovation to power smarter, more sustainable environments.

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Arup Publishes New Guidance to Remove Uncertainty Around Recycling and Reusing Construction Materials

Guidance on a new, more circular approach across both new-build and retrofit projects has been published by Arup for the property industry, with a greater focus on keeping buildings and materials in use for longer.

Construction consumes around half of all raw materials extracted globally, and every week the world builds new buildings equivalent to the size of Paris. Report authors argue that the sector can cut costs, carbon, and waste by keeping structures in use longer and reusing more components when buildings change.

Global built-environment consultancy Arup's new Reuse Playbook,¹ created in partnership with the Ellen MacArthur Foundation and Circular Leaders Group, responds to one of the sector's most persistent barriers: uncertainty over the performance and reuse potential of existing structures and reclaimed materials. The guidance gives a practical roadmap for developers, designers, contractors, and insurers to bring more materials back into circulation and reduce the amount sent to landfill.

It outlines:

- How design teams can use tools such as digital material passports and advanced testing methods to make reuse, recycling, and upcycling more predictable and commercially viable.
- How reuse can retain value often lost through material depreciation and premature demolition.
- How the future value of components, whether through salvage, reuse, or recycling, can be integrated into cost plans and sensitivity testing, turning a perceived cost into a measurable long-term benefit.
- How external pressures,



Quay Quarter Tower. Photo credit: Adam Mork

including carbon taxes, subsidies, government mandates, and ESG commitments, create incentives that strengthen the financial case for reuse and recycling.

Anthony Chiu, APAC Property, Science and Industry Leader, Arup, said, "Property developers cannot afford to ignore the commercial benefits of circular design and material reuse. Now more than ever, technological innovations and AI offer more opportunities to better understand the condition and potential of existing buildings and their components. This enables retrofit, reuse, and upcycling to be scaled and become more commercially viable. As an industry, we are glad to see enhanced incentives to move away from demolition being the default position."

In Singapore, policy and industry

measures are helping shift attention towards retaining value in existing buildings, such as pre-demolition audits and site waste management, which maximise material recovery for reuse and recycling.

The guidance also outlines the roles of developers, designers, contractors, and insurers in bringing reclaimed materials back into circulation and integrating them into new schemes. In addition, it argues that clearer data, better testing, and more consistent processes can help developers and insurers make decisions with greater confidence, particularly on complex retrofit schemes.

Many of these buildings are structurally sound but could be upgraded to meet modern building standards and commercial requirements, making a stronger case

¹ <https://www.arup.com/insights/the-reuse-playbook/>.

for greater reuse and recycling in the construction sector.

Quay Quarter Tower: a global benchmark for upcycling

One example of upcycling in action is Sydney's Quay Quarter Tower project—widely recognised as the world's first upcycled skyscraper and recently named a finalist for the Earthshot Prize. By retaining and reimagining the existing structure, the project demonstrates how upcycling can deliver high-performing, commercially competitive buildings while dramatically reducing carbon.

The project retained 65% of the original floorplates and structure, preserved 98% of structural walls and core, saved 12,000 tonnes of embodied carbon, and became the first commercial tower to retrofit double-deck lifts, freeing 120 sqm per floor and avoiding nine lift shafts.

Quay Quarter Tower is managed by Dexus and owned by Dexus Wholesale Property Fund (DWPR), Mirvac Wholesale Office Fund (MWOFF), and Rest.

AI and digital tools are increasing confidence in reuse and recycling

Guidance authors also point to advances in AI and digital tools, which are rapidly reducing the uncertainties that have long made reuse and upcycling difficult to assess, giving project teams clearer evidence on what can be retained, refitted, or reclaimed.

Recent examples include:

- *AI-driven vibration assessments*—In London, Arup used machine learning to analyse a 29-storey 1960s office tower, significantly reducing the required strengthening works and improving overall project viability for refurbishment rather than demolition.
- *Immersive 3D modelling*—To test retrofit options before construction, allowing teams to compare scenarios and avoid unnecessary interventions.
- *Digital material passports*—Mapping the condition and

reuse potential of thousands of components on projects such as the Circular Building and major refurbishment schemes.

- *Advanced structural testing*—At Euston Tower, Arup extracted and tested cast-in-situ concrete slabs for use as new "precast" elements, demonstrating their strength and enabling one of the earliest examples of structural concrete reuse.

Anne-Sophie Duret, Green Business and Circularity Lead at AXA, commented, "From an insurance perspective, wider adoption of reuse will depend on clear professional recommendations, stronger evidence on performance, and more consistent standards across the market. Practical guidance like this from Arup can help developers, designers, and insurers make better-informed decisions about the reuse of materials and existing structures, particularly on complex projects where confidence and clarity are essential."

Hilton Accelerates Luxury and Lifestyle Growth in Asia Pacific with Eight New Brand Entries to Markets Across the Region

Hilton (NYSE: HLT) has announced that it will make eight new luxury and lifestyle brand debuts across Asia Pacific and plans to open more than 15 properties in 2026. Together, these new hotels add to a trading estate of more than 170 trading luxury and lifestyle hotels in the region, taking Hilton another step closer to its goal of exceeding 250 hotels in the coming years.

Alan Watts, president, Asia Pacific, Hilton, said, "Asia Pacific remains a powerful growth engine for Hilton, and this latest wave of brand entries reflects the strong demand we are seeing from owners for differentiated, high-performing brands. We are excited to expand across key gateway cities and sought-after leisure destinations as we continue to shape the region's hospitality landscape."

The openings of NoMad in Singapore and Signia by Hilton in Tainan will mark the Asia Pacific debut of these two luxury brands, bringing Hilton's total brand presence in Asia Pacific to 16 of its 27 brands.

Canopy by Hilton Bangkok Sukhumvit will mark the brand's debut in Southeast Asia, bringing Canopy's vibrant,



Waldorf Astoria Kuala Lumpur Facade

boutique lifestyle experience to the heart of Bangkok. South Asia will see its first Curio Collection by Hilton hotel and first LXR Hotels & Resorts property, both set to debut in Bengaluru with Slohh by Roach, Curio Collection by Hilton, and The Den Bengaluru, LXR Hotels & Resorts.

In country brand debuts, Hilton will introduce two luxury brands to Malaysia in Kuala Lumpur's prestigious Golden Triangle District with the openings of Waldorf Astoria Kuala Lumpur and Conrad Kuala Lumpur, both scheduled to open by the end of 2026. Meanwhile, in Vietnam, NHAAN Resort & Spa Hoi An, Tapestry Collection by Hilton will introduce the brand to one of Southeast Asia's most culturally significant leisure markets.

In addition to these upcoming debuts, Hilton recently signed two LXR Hotels & Resorts properties in Tokyo and Hakone Gora, Japan, and a new Tapestry Collection by Hilton hotel in Chiang Mai. These hotels add to a pipeline of more than 80 hotels across luxury and lifestyle in the Asia Pacific region.

These new signings join a slate of luxury and lifestyle signings this year, including Waldorf Astoria Goa, Motto by Hilton Sydney City Centre, Conrad Ulaanbaatar, and an LXR Hotels & Resorts hotel in Gold Coast, Australia,



Conrad Ulaanbaatar (Rendering)

reflecting continued owner interest in the brand across both urban and resort locations.

Tal Shefer, senior vice president, Brand Management, Asia Pacific, Hilton, said, "Across Asia Pacific, we're seeing strong momentum across the luxury and lifestyle segment of the market, driven by travellers seeking distinctive design, authentic local connections,

and elevated experiences. From iconic gateway cities to culturally rich destinations, our brands are expanding to meet this demand, delivering character-driven stays with the consistency, scale, and service excellence that define Hilton."

The expanded pipeline underscores Hilton's continued momentum across gateway cities, high-growth urban



Nivata Koh Samui Tapestry Collection by Hilton (Bedroom Rendering)



Slohh by Roach, Curio Collection by Hilton

centres, and sought-after leisure destinations, bringing a diverse mix of luxury and lifestyle brands to both new and existing markets across the region.

Other openings in the luxury and lifestyle categories this year include Conrad Nagoya, which will offer convenient access to Nagoya's cultural landmarks, shopping districts, and key business hubs, with direct connectivity to Sakae Subway Station. This follows the recent opening of Canopy by Hilton in Okinawa. In Thailand, Hilton will expand its lifestyle presence with Kahavadi Chiang Rai, Curio Collection by Hilton, alongside Nivata Koh Samui, Tapestry Collection by Hilton, strengthening the portfolio across northern and island destinations. In China, Xi Zhe Wuxi, Curio Collection by Hilton will expand the brand's footprint in a key city with a strong cultural heritage. Meanwhile, Shanghai Parkview Hotel, Curio Collection by Hilton, will open in Yuqiao, Pudong, drawing on the area's 450-year salt-making heritage and traditional craftsmanship, offering guests an inspiring journey rooted in

local culture.

Hilton's luxury and lifestyle portfolio now spans an ever-growing footprint across Asia Pacific, reinforcing the company's position as a leader in delivering exceptional hospitality

experiences. Hilton's luxury and lifestyle hotels participate in Hilton Honors, the award-winning guest loyalty programme for Hilton's 27 distinct hotel brands.



NoMad Singapore



Family Justice Court Exterior. Photo credit: Finbarr Fallon

The Octagon: Family Justice Courts

Building Type: Judiciary /
Courtouse

Project Location: 3 Havelock
Square, Singapore 059725

Name of Client: Singapore Courts

Country: Singapore

Year of Completion: 2024

Operation Start Date: 25
November 2024

Gross Floor Area: 37,400 square
metres

With its official opening on 23 July 2025, the Family Justice Courts (FJC) began a new chapter at the iconic Octagon building. Formerly occupied by the State Courts and originally designed as a purpose-built Civil and Criminal Courtouse, the Octagon has undergone extensive refurbishment, transforming into a family courthouse that centralises all services in one location and offering greater convenience for court users.

CPG Consultants (CPG) had the honour to serve as the Principal Consultant, Architect, Engineer, and Principal Design Consultant



Family Justice Court Exterior. Photo credit: Finbarr Fallon



Atrium Accessibility. Photo credit: Finbarr Fallon



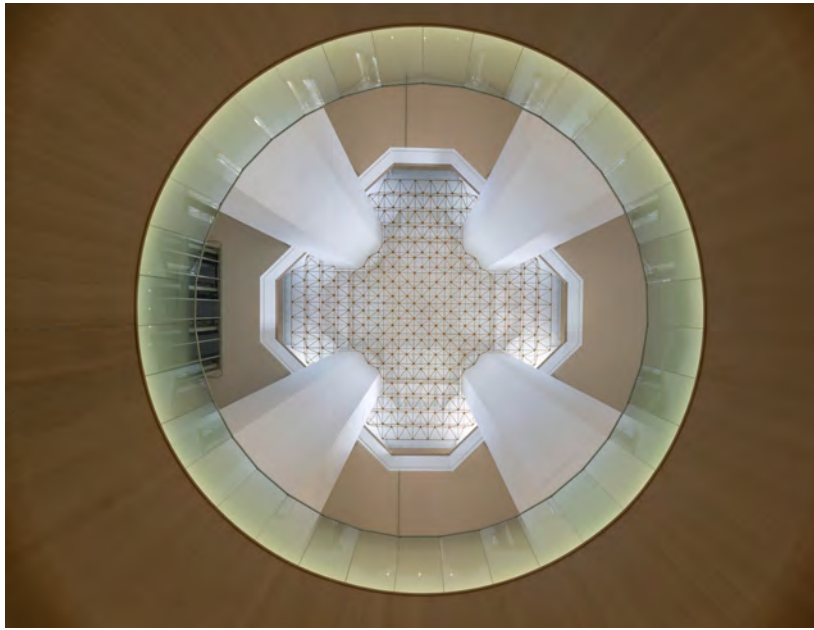
for the project, leading the transformation of the landmark state institution.

Conservation and adaptive reuse: steeped in history and reimagined for the future

Constructed in 1975, the Octagon is a rare example of a post-war building, recognised for its distinctive brutalist architectural features. It was gazetted for conservation in 2013; preserving the essence of the original design was central to a building like the Octagon, with its iconic eight-sided stepped exterior form and voluminous interior atrium. CPG's multidisciplinary team ensured that architectural and structural interventions, along with a comprehensive overhaul of mechanical and electrical systems, were modernised carefully and unobtrusively.

Expanding functional space

In 2014, the Family Courts were restructured into a separate judicial body known as the FJC under the Family Justice Act. Before the move to Octagon, FJC was operating from



Family Justice Court Podium. Photo credit: Finbarr Fallon



Family Justice Court Wayfinding. Photo credit: Finbarr Fallon

two separate locations. To centralise operations in a single location, additional functional space was required within the Octagon.

This was achieved through the careful insertion of floor slabs to create additional floor area within the building's internal volume. The number of courtrooms for the FJC increased from 12 to 25, and chambers from 21 to 52. The expansion also accommodated specialised facilities, including child-friendly interview rooms, quiet rooms for distressed adults and children, and vulnerable witness rooms to enable remote testimony in hearings.

Redefining court space: a therapeutic approach

The scale and character of the Octagon, while well-suited to the State Courts, necessitated change under the Family Justice Courts, which handled sensitive matters, primarily serving vulnerable groups such as children, the elderly, and women. Thus, the transformation was driven by the Therapeutic Justice (TJ) philosophy: a holistic, problem-solving approach that shifts the judicial process focus from pure adversarial conflict to achieving positive and sustainable social outcomes for families.

Spaces were made warm, comforting, and protective—keys to a non-adversarial environment, which is a core architectural element of the TJ framework. This is crucial for reducing trauma and fostering the emotional safety required for the court process to be effective.

Wayfinding

By dividing the Octagon into distinct green and blue zones, wayfinding was significantly improved for easier orientation. Each zone is clearly defined by colour-coded elements, including signage, furniture, carpets, and acoustic panels. This creates a cohesive design philosophy that ensures clear and intuitive navigation throughout the building.

Honouring the past through design

Conservation was a central focus of the project, reflected in the design team's thoughtful restoration of the



Family Justice Court Flying Staircase. Photo credit: Finbarr Fallon

Octagon's distinctive architectural features while introducing modern interventions through a deliberate balance of contrast and harmony. The sensitive integration of old and new allows the Octagon to retain its historical narrative while fulfilling the functional demands of a contemporary

courthouse—honouring its heritage while embracing the future.

**The revitalised atrium
Flying staircases**

At the heart of the atrium are the expressive flying staircases, a prominent architectural feature that



High Court. Photo credit: Finbarr Fallon



Family Justice Court Heritage Court. Photo credit: Finbarr Fallon

has been carefully conserved for its functional value and historical significance. These staircases provide vertical circulation, reducing dependence on lifts. From their vantage point, the open corridors surrounding the atrium are clearly visible, symbolising the transparency and openness central to the judicial process.

Space frame

The atrium of the Octagon features a striking space frame comprising interlocking struts arranged in a geometric pattern, reflecting the architectural movements of the 1970s. The space frame was conserved and finished with a new coat of paint.

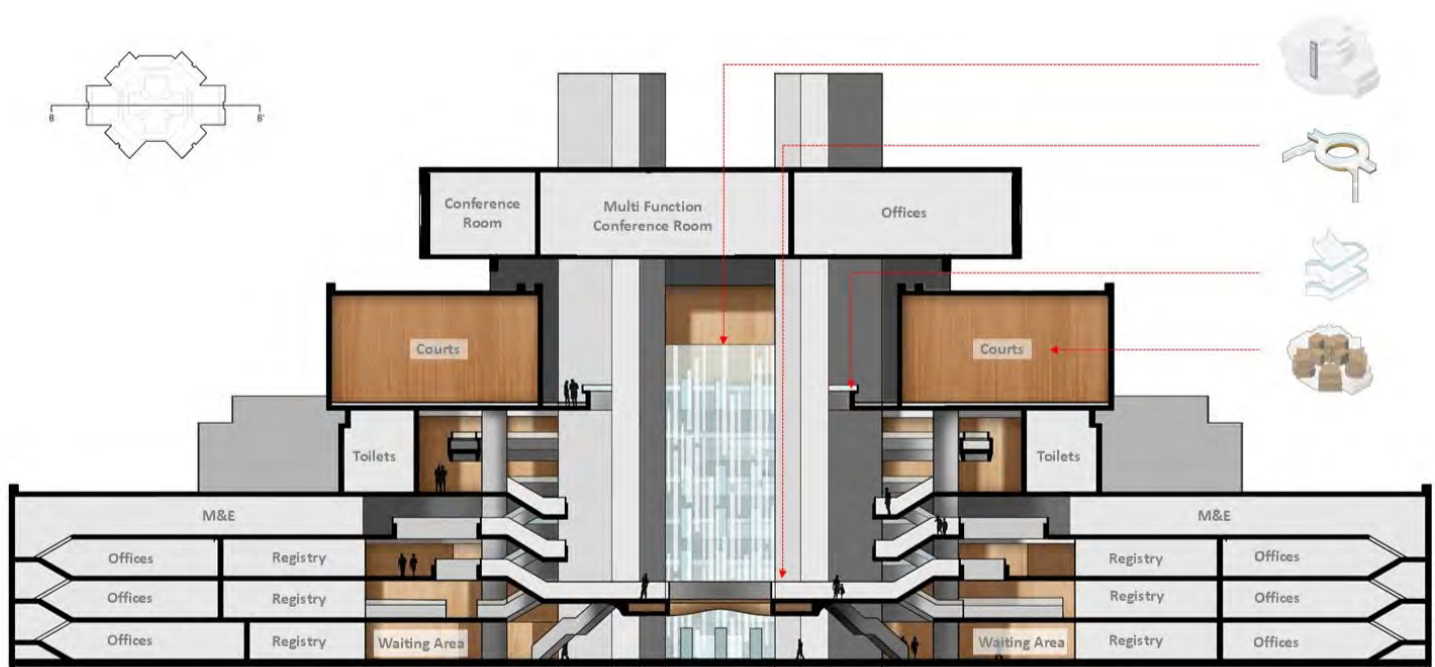
The podium

With the removal of the Criminal Mentions Court from the atrium's centre, the building's ground floor was transformed into an open, welcoming, and accessible space. A new curved sculptural podium was introduced between the second and third storeys—a contemporary reinterpretation of the original raised platform. This architectural intervention enhances vertical circulation and cross-connectivity within the atrium and to the flying staircases.

A large circular void at the centre of the new podium elegantly frames the view of the space frame from the ground floor. As a tribute to the building's heritage, arabescato marble flooring from the original raised podium was carefully salvaged, polished, and reinstalled, preserving its timeless beauty on the new podium.

Heritage Court

Once known as Court 1 of the State Courts, the courtroom has been restored and renamed the "Heritage Court".



Atrium Diagram. Photo credit: CPG Consultants

Measuring 220 square metres, the Heritage Court is a fully functional, modernised courtroom that seamlessly combines the former courtroom's design with today's courtroom standards. It features original timber wall slats sourced from old courtrooms and treated. Approximately 500 square metres of conserved timber slats were used, showcasing the lasting appeal of the original wood.

Environmental sustainability

The refurbished FJC is an environmentally sustainable building, equipped with modern mechanical systems, such as a pre-cooled fresh air system, a chilled-water system (tapped from State Courts Towers), and passive displacement ventilation.

In recognition of its green features, the building was awarded the BCA Green Mark Platinum Award for Existing Non-Residential Buildings (ENRB:2017) in 2022.

A unified judiciary cluster

The refurbished FJC and State Courts were designed as a unified judiciary cluster, fostering greater synergy and operational efficiency between the two buildings. The shared roundabout with dedicated pick-up and drop-off zones, along with a new covered linkway designed to echo the Octagon's distinctive horizontal banding, provides a smooth, sheltered connection between the two buildings, enhancing accessibility and convenience for users.

This project reflects CPG's commitment to conservation and adaptive reuse.¹ Together, these principles safeguard the historical and cultural fabric of a nation's built environment, while sensitively adapting it to meet contemporary needs. Relevant, functional, and sustainable, the Octagon ensures Singapore's built heritage remains relevant in a rapidly evolving world.



Photo credit: Finbarr Fallon

Project Team	
Principal Consultant & Architect	CPG Consultants Pte Ltd
Principal Design Consultant	CPG Consultants Pte Ltd
Civil & Structural Engineering	CPG Consultants Pte Ltd
Mechanical & Electrical Engineering	CPG Consultants Pte Ltd
Quantity Surveyor	CPG Consultants Pte Ltd
Project Management	PM Link Pte Ltd
Site Supervisory Team	Construction Professionals Pte Ltd
Interior Design Consultant	CPG Consultants Pte Ltd / SCA Design Pte. Ltd (Ong & Ong)
Special Lighting Consultant	Ong & Ong Pte. Ltd
Security & Blast Consultant	Certis Cisco Consulting Services Pte. Ltd
Conservation Consultant	Franz Wood ASA Pte. Ltd
Facade Consultant	HCCH Consulting Pte. Ltd / Building Facade Grp
Landscape Consultant	Plantwerkz Pte. Ltd
Acoustic & AV Systems Consultant	Alpha Acoustics Engineering Pte. Ltd
Signage & Wayfinding Consultant	Endpoint APAC Pte. Ltd
Environmental Sustainability Design Consultant	Surbana Int'l Consultants Pte. Ltd

¹ CPG served as Principal Consultant, Architect, and Engineer for the State Courts (a bold high-rise courthouse, and Supreme Court)—a contemporary interpretation of Singapore's original 1930s neoclassical courthouse. The completion of the newly refurbished Family Justice Courts marks a significant milestone in the 21st-century modernisation of the trilogy of Courts that form the Singapore Courts, representing the latest chapter in CPG's enduring legacy of shaping Singapore's civic and judicial landscape.



Aatma Manthan Museum

Project Name: Aatma Manthan Museum

Location: Nathdwara, Rajasthan

Client Name: Tatpadam Upvan

Site address: 120 Feet Rd, Nathdwara, Rajasthan
313301

Start Date: January 2024

Completion Date: August 2024

Carpet Area: 18,000 sq. ft.

Architect: Sanjay Puri Architects

Lead Architect: Sanjay Puri

Design Team: Madhavi Belsare, Payal Raut,
Subodh Amin

Photo Credit: Mr. Vinay Panjwani



Evoking self-analysis, a museum sits at the base of the 270-foot high statue of belief in Nathdwara, Rajasthan, India, bringing together a holistic combination of the soul (aatma), mind (mana), and body (tann) in an 18,000 sq. ft. space.

The space is divided into a series of rooms, each offering a different





experience through the immersive depiction of natural elements.

The entrance is through a large foyer, purposely designed as a fluid volume. The walls, ceiling, structural columns, reception desk, and benches are homogeneously finished with a thin layer of foam concrete that smoothly encapsulates all these elements while absorbing sound.

This sculptural volume, enveloped in a concrete grey, calms visitors, transporting them into a tranquil state before entering the 18 sequential zones.

Visitors are led from this cavernous entrance to a narrow, undulating corridor, adorned with images portraying the making of the museum. Each room is entered sequentially, with different themes conveyed through audiovisuals and immersive experiences.

The design overcomes the challenge of working with an irregular floor plan by using multiple structural elements, creating a sequential flow of volumes and experiences with a neutral palette throughout to enhance the serene experience within.



Shanghai Pinghe School Jingding Campus

Project Name: Shanghai Pinghe School Jingding Campus

Project Location: No.333, Shenqi Road, Pudong District, Shanghai, China

Client: Shanghai Jinqiao (Group) Co., Ltd.

Design Firm: c+d studio

Lead Architect/Designer: Yi Dong

Design Team: Han Wang, Pan Gao, Ziyu Wang, Zhuolin Hu, Cheng Chen, Chenhao Li, Tiange Zou, Dian Zhong, Mojun Li, Rong Xiao, Kaiyue Yang

Collaborators: ECADI

Completion Date: 19 February 2024

Photographer: Shan Liang, Xian Song, ECADI

Within the new CBD of Shanghai, China, Shanghai Pinghe School Jinding Campus promises to be a rewarding presence in the city. Due to its high floor area ratio requirement of up to 3.0, international teaching mode, and high-density surrounding urban environment, the school is unique in its experience.

As part of the nine-square grid neighbourhood, the plot had clearly defined requirements for building density, floor area ratio, setback regulations, urban public spaces, underground spaces, and architectural style, to form a cohesive entity with the

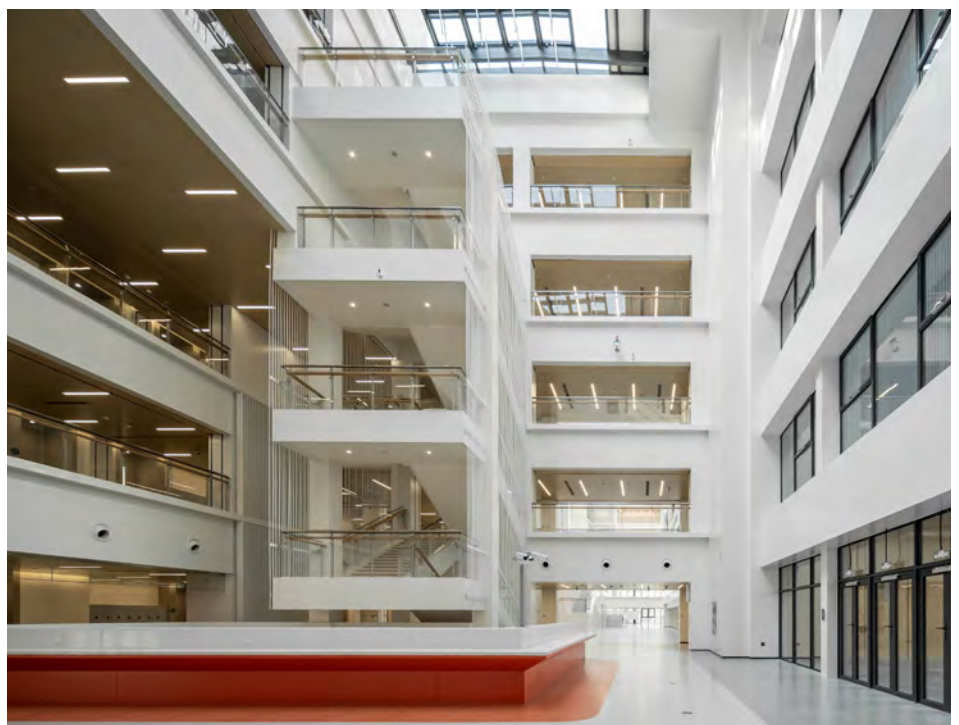


surrounding eight plots.

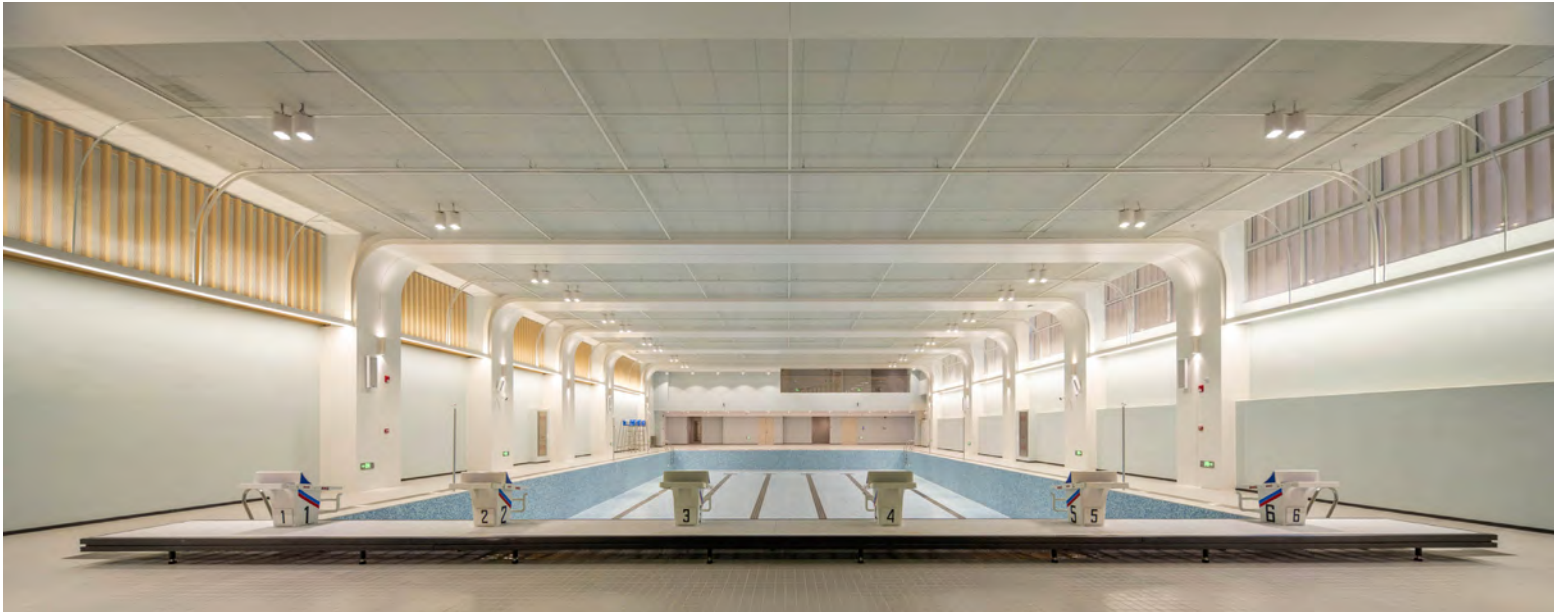
Most campuses run independently. However, Shanghai Pinghe School Jinding Campus enters as a participant, taking on many possibilities in its role. The designer captured this strong identity and created an urban dream theatre without walls that can stimulate the desire for communication between teaching and learning.

A theatre shared with the city

Theatre is a public stage, and this campus is situated in the centre of the city, where the surrounding urban image, space, and functions are echoed in the campus's design. The campus has become an open space, with a variety of functional areas reserved as cultural infrastructure to be built, shared, and prospered with the city.







A theatre of thematic interpretation

Theatre is a space for seeing and being seen; a centre for activities. The core space of the campus is composed of two theatres with different themes. The first is the wisdom theatre, which organises various learning activities, with the classrooms set back as the stands and a garden surrounded by the library as the stage. The other is the vitality theatre—a venue for various sports and performances, with a multi-layered circular corridor connecting public functions as the stand, and a sunken sports field as the stage.



A theatre of immersive exploration

Theatre is a condensed life scene. In the design, the space's high density is transformed into a lifestyle of study. Education is isomorphic to life, which is exploratory in nature. Campuses with highly intricate functions and spaces convert the complexity of life into educational resources, better adapting to the needs of diverse learning scenarios.

A theatre of dreams

The great focus on the campus's urban character is the key feature that distinguishes the project from traditional campuses. Stemming from external urban demands and the citywide role it plays, the campus assumes an active role in the city, disseminating knowledge and logic through the structure of theatre.





Wetland gallery. Photo credit: Tian Fangfang

Shunde Yunlu Wetland Museum

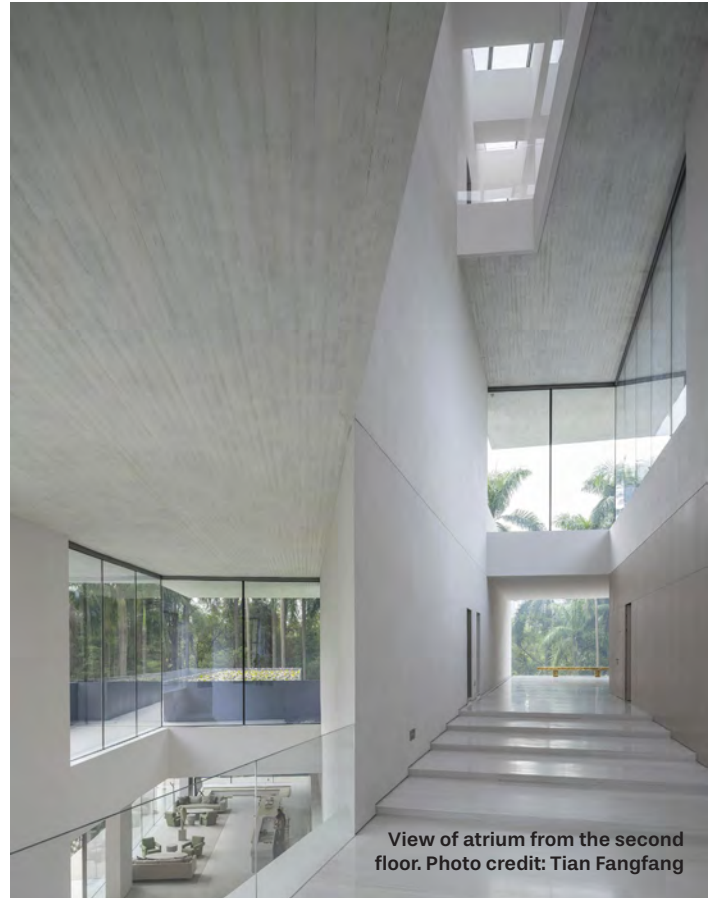
Project Name: Shunde Yunlu Wetland Museum	Design Stage: September 2023– April 2024	Zhenwei Zhong, Zida Liu, Jingbing Cheng, Luis Ausin, Lingyun Yang,	/ Shenzhen A+E Design Co., Ltd.
Project Location: Guangdong, China	Completion: September 2024	Feng Qi, Jiarui Xu, Xinning Hua, Sarah Kenney, Zishi Li, Isabella Chong	Curtain Wall Consultant: Zheng Xiang Consultant
Project Type: Cultural Architecture- Museum, Gallery	Architecture Firm: Studio Link-Arc	Architect & Engineer of Record: Shenzhen A+E Design Co., Ltd.	Landscape Designer: CHANGE
Area: 1,800 sqm	Chief Architect: Yichen Lu	Structural Consultant: Shenzhen WS Engineering Design Consultant Ltd.	Interior Consultant: Yu Studio
Client: CR Land, Shunde People's Government of Foshan	Project Manager: Shiyu Guo		Lighting Consultant: Gradient Lighting Design
	Project Team: Rui Zhou, Jiaqi Zhang,		

As its namesake suggests, the Yunlu Wetland Museum is located in Yunlu Wetland Park, adjacent to an ecological island inhabited by 25,000 egrets. The building is a combination of a bird-watching tower and a wetland museum, aiming to raise visitors' awareness of the wetland's ecology while providing a unique bird-watching experience.

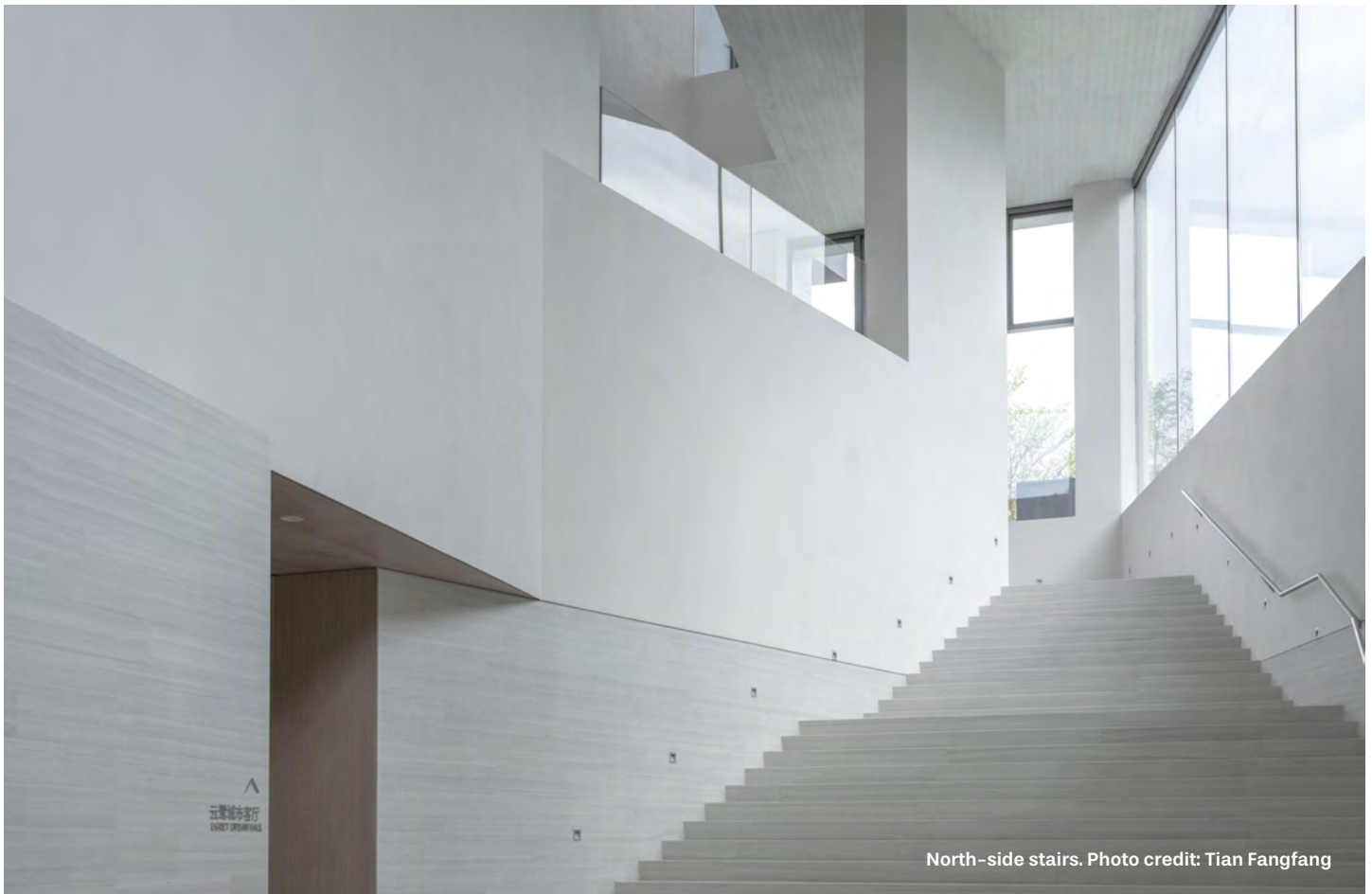
The project originated from a bamboo forest planted by "Uncle Bird" Xian Quanhui 26 years ago. With the large influx of egrets, "Uncle Bird" was prompted to make this oasis an "egret paradise" in the city. Through decades of effort, the Shunde government has expanded the protected area of Egret Paradise by 13 times, working with scientists, engineers, and designers to restore water systems, update bamboo forests, and reshape the area into Yunlu Wetland Park.

The building was deliberately hidden behind a row of existing cedar forests by the architects. The shape consists of four vertically stacked concrete tubes, resembling four horizontally rotating "lenses" that capture egrets' activities. The design aims to minimise the building's presence, coexisting modestly with the "indigenous creatures". Looking at the museum from Egret Island, the building "disappears" into a lush subtropical forest.

Each tube is rotated to an optimal viewing direction, forming four staggered "framing frames" in the internal space. Floors 1 to 4 look towards the tree roots, trunks,



View of atrium from the second floor. Photo credit: Tian Fangfang



North-side stairs. Photo credit: Tian Fangfang



Aerial view of the wetland museum. Photo credit: Tian Fangfang



View of the wetland museum under the palm tree. Photo credit: Arch-Exist



View of the wetland museum from the egret island. Photo credit: Arch-Exist



View of the wetland museum from the north. Photo credit: Tian Fangfang

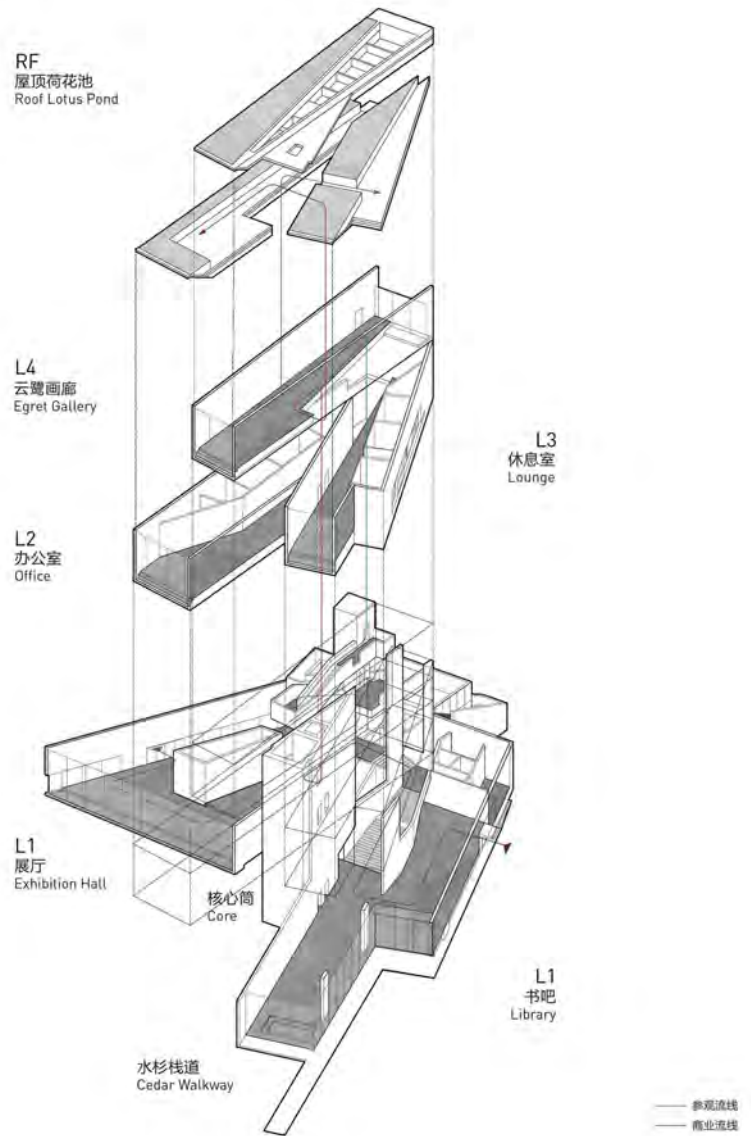
crowns, and treetops. People can observe the swaying of tree shadows and the fluttering of birds on Egret Island from different heights inside the building. In this way, the traditional human-oriented architectural perspective is deconstructed into a nature-oriented scattered perspective.

The four superimposed tubes are divided into a vertical triangular atrium by a Boolean difference, which connects the volumes of the four floors. The atrium is a common "viewpoint" inside the building. Standing here, guests can look at nature in different directions simultaneously. The viewfinder window at the end of the tube is similar to several carefully-selected landscape paintings hanging in the space.

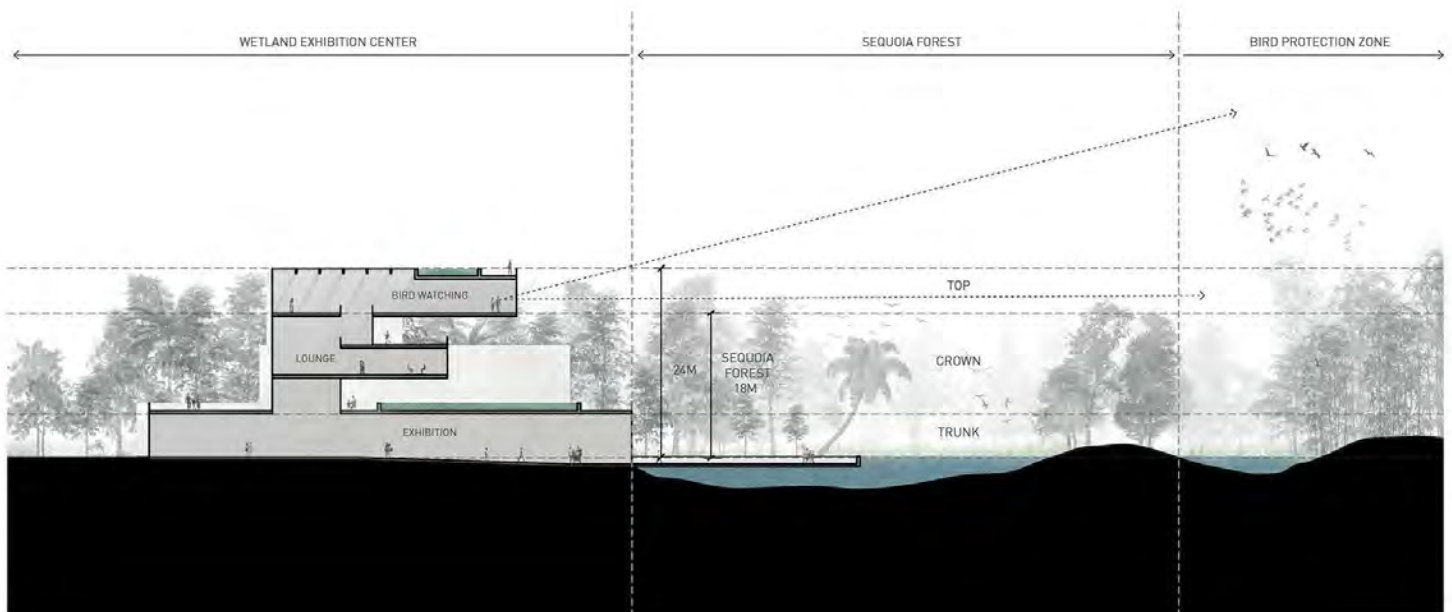
The building adopts a box-type concrete structure system. The side walls, top plate, and bottom plate of each tube work together to provide overall load-bearing support. Softened by deep beams, sunlight filters through the upper skylights and penetrates the building's interior. Inside the building, people can physically perceive the flow of seasons and the change of nature.

After surveying the 560 existing trees, the team carefully determined the structure's location to prevent damage to the wetland environment, reducing its footprint, and rotating the volume of each floor. This also ensures that the building can capture good bird-watching views while reducing the logging of native trees.

The exterior is made of cast-in-place pine moulded concrete, giving the facade a natural texture that echoes the surrounding dense forest. The roof is covered in lotus ponds, and the ecological water features soften the building's presence on the fifth elevation.



Circulation axon diagram. Photo credit: Studio Link-Arc



Section and sight analysis. Photo credit: Studio Link-Arc



The Story Project, Kolkata

Location: Kolkata

Year of completion: 2024

Area: 1000 sq. ft.

Photography: Niveditaa Gupta

Design Firm: groupDCA

Design Team: Amit, Sandeep, Sagarika, Simran

Client Name: Primarc

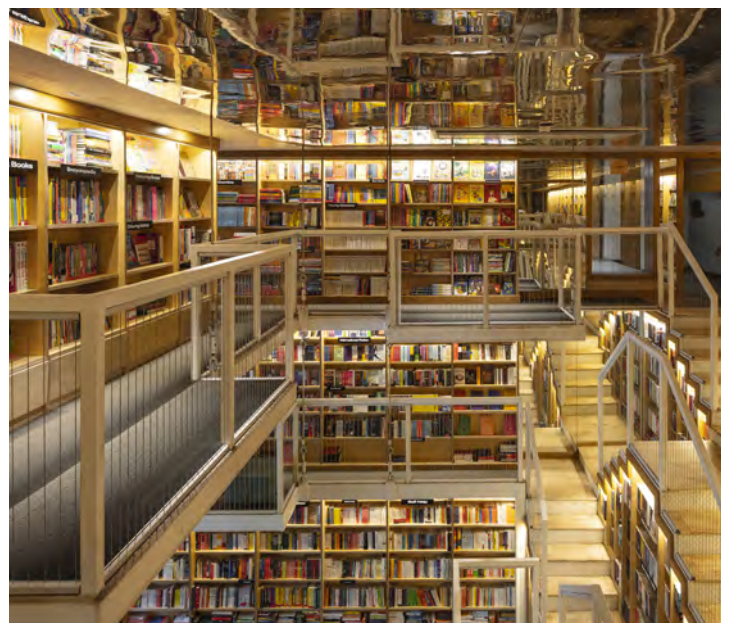
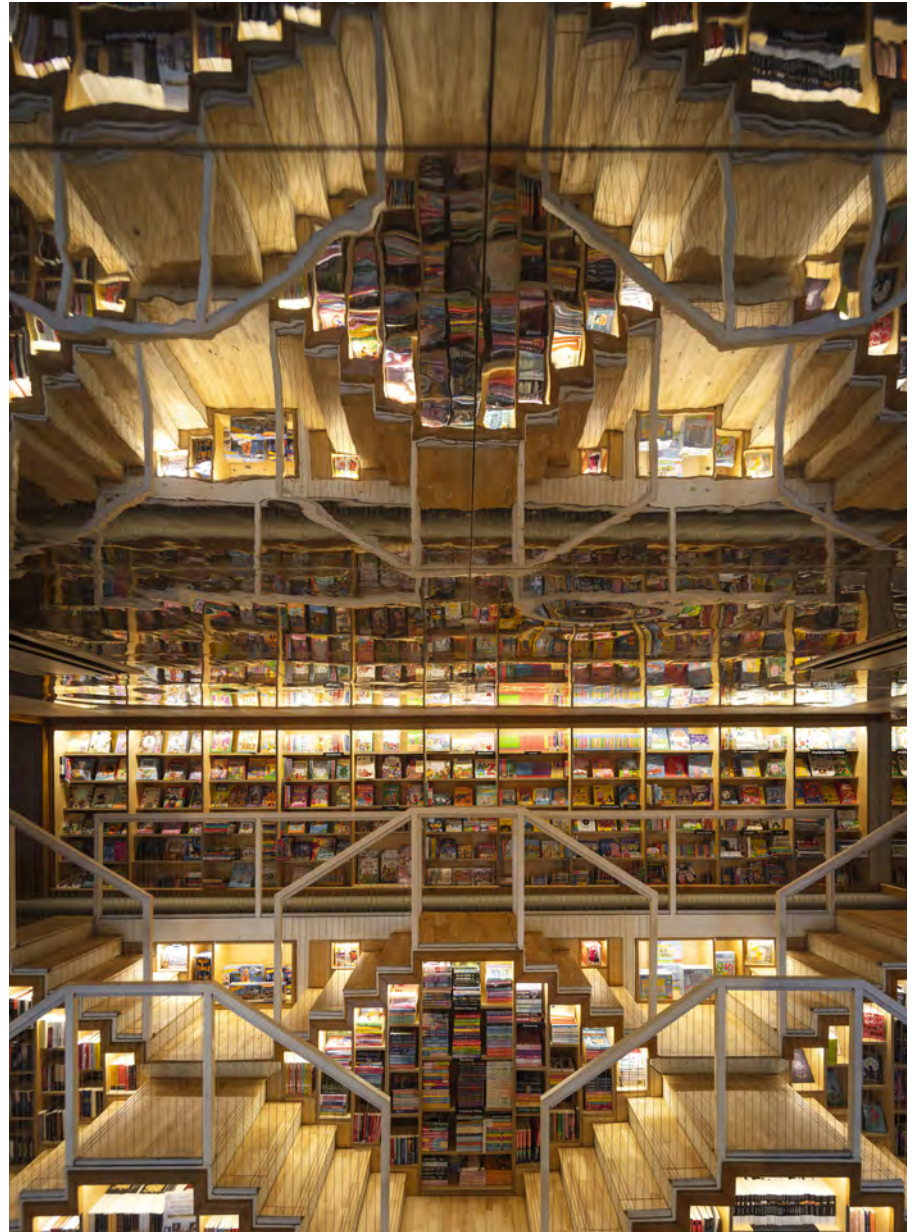
A realm of infinite possibilities where every step invites you to wander, linger, and discover—that is the magic of a bookstore. Embodying this essence, Primarc Bookshop—The Story Project transforms a compact 1,000 sq. ft. space into a one-stop place dedicated to a vast collection of books, games, toys, and stationery. Despite its compact footprint, the bookshop maintains an inviting and functional layout. Leveraging its 7-metre height and drawing inspiration from classic libraries and the architectural legacy of Indian stepwells, The Story Project creates a multi-layered spatial setting that inspires imagination at every turn.

The layout incorporates three levels of interconnected walkways, eliminating the need for ground-level structural supports and ensuring an open circulation plan. These walkways are linked by a series of steps that guide movement and double as spaces for displaying curated collections. This structural ingenuity expands the usable floor space, striking a balance between connectivity and privacy. Departing from the traditional spiral staircases often found in libraries, the stepwell-inspired staircase connects

the levels, invites exploration, and adds an interactive dimension to the space.

Every detail of the bookstore is thoughtfully curated to enhance utility and experience. Suspended from the top are walkways constructed from checkered sheets with a slim 25mm thickness—balancing structural integrity with minimal material use while ensuring a simple, elegant, and highly experiential design. The spaces beneath the staircases are cleverly utilised as display areas, creating layers of curated collections that reflect a mindful design approach. This ingenious and efficient use of space allows the bookstore to house a more expansive collection compared to its previous 5,000 sq. ft. location.

The Story Project thoughtfully addresses the diverse needs of its various visitors. Quiet reading nooks are strategically placed, offering peaceful retreats within the bustling environment. Drawing inspiration from traditional libraries with narrow walkways, the design features a dynamic arrangement that encourages both ascending and descending movements, making the space engaging and accessible for visitors of all ages. The steps themselves are cleverly integrated, doubling as reading spots where visitors can enjoy a book while being part of the space's flow. With bookshelves lining the pathways, an interactive, layered environment is encouraged. This interplay of compact, functional spaces with strategic pause points elevates the bookstore from a simple retail space to a



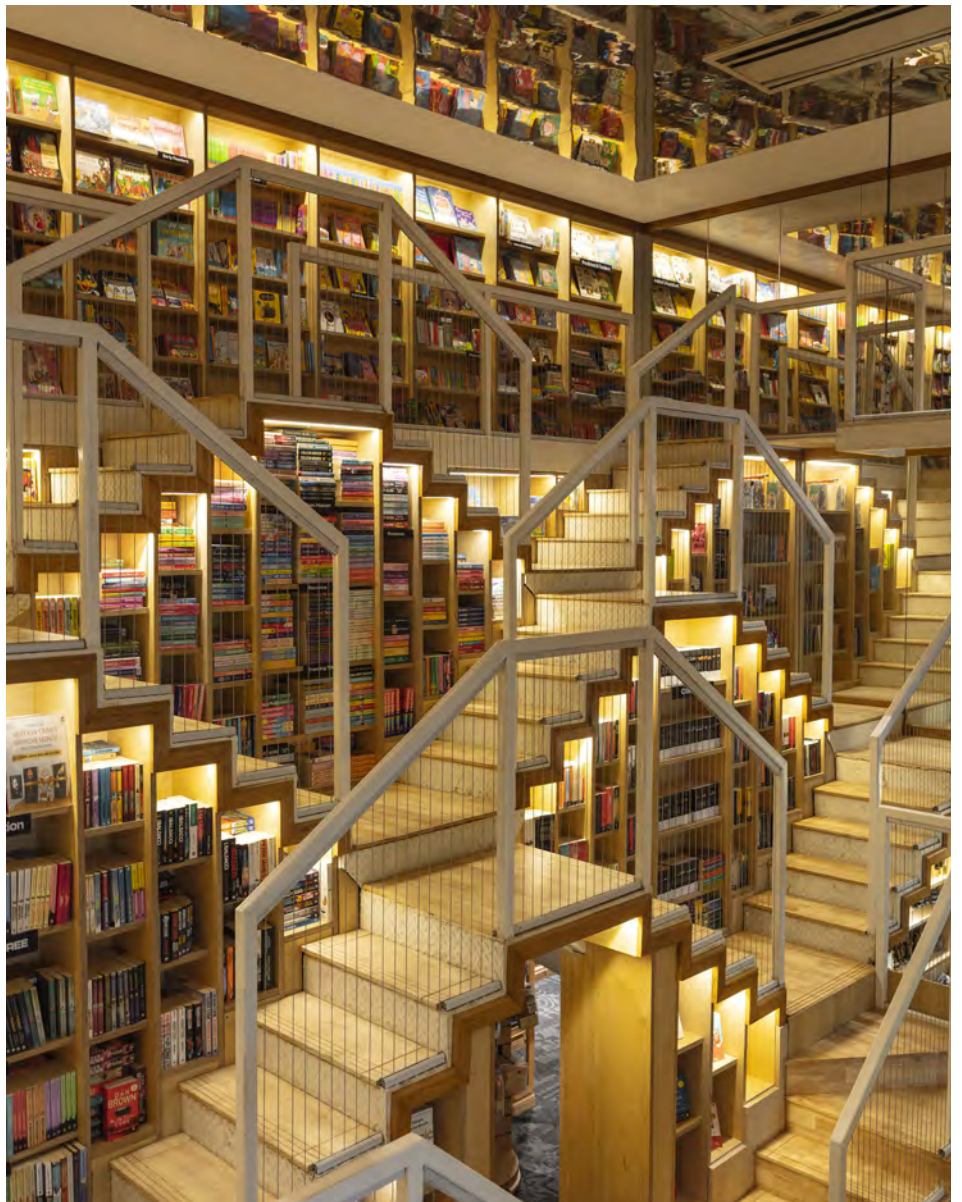




unique and immersive journey.

The interiors complement the architectural innovation with a warm, earthy material palette dominated by rubberwood and oakwood. These materials were selected for aesthetic appeal and sustainability, reflecting a commitment to ethical sourcing. The ambiance is further enhanced by a carefully considered lighting placement that highlights the natural texture of the materials. Minimalistic lights ensure simplicity, while focused lighting at the tops of the book racks draws attention to the curated collection, enhancing the visual appeal. The strategic use of mirrors on the ceiling further amplifies the sense of space, making the store feel visually expansive.

The Story Project is a celebration of space, lineage, and creativity. By reimagining the possibilities of a small footprint, the design transcends its spatial limitations, offering a rich tapestry of sensory design. The name is closely linked to its design, with each element of the space telling a unique story that unfolds through its spatial layout, materials, and atmosphere. Rooted in the rich legacy of Kolkata and its intellectual pursuit and literary history, this design honours the tradition of a town that nurtures thinkers, writers, and scholars.





Wellington College International

Client: Wellington College International (WCI)

Built-Up Area: 375,000 sq. ft.

Start Date: Jan 2022

Completion Date: Early 2024

Principal Designer: Mugdha Thakurdesai

Design Team: Gopi Bhuptani, Sparsha Chandraghatgi, Abdul Raziq, Manya Mahindra, Prathibha Rajesh

Partner/Promoter: Unison Group

Concept Architect: MICA Architects

Principal Architect: ARCOP Associates

Interior Design: Education Design International (EDI)

Landscape Design: Integral Designs International Studio Pvt. Ltd.

MEPF Design: AEON Integrated Building Design Consultants

Structural Design: Tandon Consultants Pvt. Ltd. (TCPL)
Lighting, Acoustics Design, AV and IT Design: Clarity Design Pvt. Ltd.

Security and Surveillance Design: IIRIS Consulting

Kitchen Services Design: HPTS Consulting

PMC: Jones Lang LaSalle Property Consultants Pvt. Ltd. (JLL)

MEPF Contractor: SCON Projects Pvt. Ltd.

Interior Contractor: Cherry Hill Interiors Pvt. Ltd.

Landscape Contractor: Grotech Landscapes Developers Pvt. Ltd.

Photography: Noughts & Crosses Photography

In the heart of Pune, a city commonly referred to as the Oxford of the East, Wellington College International (WCI) marks a significant milestone in K-12 education campus design. Education Design International (EDI) has designed the institute's interiors to foster a sense of community amongst its users.

Drawing from 150 years of Wellington's legacy, the institute approaches learning by combining innovative campus design with a commitment to holistic intellectual development and the highest academic standards.

Spread across a 375,000 sq. ft. campus, it accommodates 1,000 students and blends cutting-edge educational thinking with deep respect for local context and heritage. The overall design of Wellington College International champions flexibility and adaptability, ensuring the school evolves in tandem with changing educational needs. The result is a world-class learning environment that is both future-ready and culturally rooted.

A vision for future-focused learning

The core of the project lies in the concept of a "learning village"—a thoughtfully created spatial strategy that nurtures exploration, promotes interaction, and strengthens connections among learners, educators, and the broader school community.

Learning clusters form the building blocks of this village, offering flexible, multi-zoned spaces that adapt to a variety of pedagogical approaches. These clusters are connected by transparent and operable partitions, creating a seamless flow that encourages collaboration among students and educators alike. This arrangement fosters daily interaction, shared ownership, and mutual learning.

Every space empowers students to take ownership of their learning, offering them choices in how, where, and with whom they learn. From flexible learning studios and open collaboration zones to quiet corners



for reflection, each environment supports a wide spectrum of learning modalities. The school interiors are designed to evolve in tandem with the natural arc of a young learner's developmental stages; the nurturing environment of the early years transitions into the more dynamic and self-directed atmosphere of the senior school.

Designed for adaptability

The interior design is a thoughtful extension of the institution's distinguished identity, crafted to be welcoming, inspiring, and safe. It supports academic excellence while nurturing a strong sense of community and belonging. The spatial design reflects the brand's core character, translating Wellington's





ethos into tangible and experiential environments.

The spatial layout consists of four blocks along the east-west axis, with the outdoors extending into play areas along the river belt on the southern edge. Open central courtyards, semi-open spaces, and terraces on the upper floors create open pockets for light, ventilation, and recreation. Co-curricular areas are integrated into the core, enabling the entire school to engage in various activities.

The design creates spaces that spark curiosity and connection. Wide internal staircases, referred to as the 'Learning Stairs,' were introduced into the early years zone to serve as both circulation and informal zones for gathering and reflection. Every design move is underpinned by the intent to enhance the student experience through spatial storytelling.

Defined by its versatility and inclusivity, the learning environment celebrates each learner's individuality while fostering meaningful engagement through a wide array of spatial experiences. Thoughtfully designed reading nooks, stepped seating, and casual meeting zones accommodate both focused study and informal interaction, supporting varied learning styles and abilities.

The stairs and cloisters feature bare elements, such as brick and concrete, that emulate the exterior, while natural materials, like granite and marble, cover the interior floors. A warm, neutral material palette—highlighted by natural wood and brick—infuses the interiors with a sense of timelessness and comfort. For the Early Years and Primary Years zones, the material palette is warm, soft, and calming,

intended to evoke a sense of home and security. Intimate volumes with playful design elements are tailored to meet children's developmental needs with open plans for internal transparency, passive monitoring, and ease of movement.

Throughout the structure, the transition from exterior to interior is softened by biophilic elements in the building envelope. The layout and circulation paths create visual connections and interior vistas that incorporate these green elements.

Honouring heritage, embracing innovation

Drawing inspiration from the stately architecture of Wellington College, the design thoughtfully integrates traditional elements such as arched

openings and refined detailing. These features pay homage to Pune's rich architectural legacy while projecting a progressive, global identity.

Complementing this is the overall authenticity of the structure, flow of spaces, and use of earthy materials. The arches of the school are contemporised and simplified in form, framing views, softening pathways, and evoking a sense of rhythm across the campus. In this context, the arch becomes a unifying symbol that bridges the interior and exterior.

In a city shaped by British colonial heritage, the archetypal school structure is reimagined as an institution that suits Pune's 21st-century context, where learners become co-creators of a vibrant and evolving community.





Music Classrooms at The Western Academy of Beijing

Project Name: Music Classrooms at The Western Academy of Beijing

Client: The Western Academy of Beijing

Location: Beijing, China

Scope: Interior Renovation

Programme: Educational

Size: 700 sqm

Designer: studio vapore

Design Director: Erica Borsa

Design Team: Erica Borsa, Yumi

Zhang, Hongyu Yu, Martin Zhou

MEP: Yin Xueqin

Acoustic Engineering: Delhom Acoustics

Lighting Design & Consultant: studio vapore & Beijing Mostar Technology

General Contractor: Beijing Xiangyang Hongda Construction Co., Ltd.

Custom Furniture Contractor: LMFU Furniture

Photography: Vincent Wu & Shawn Koh

A renovation structured by layout, sound, and color—Beijing-based design office studio vapore took on the task of revamping the music classrooms at the Western Academy of Beijing. The project is part of a broader campus upgrade and reworks existing spaces to support different modes of music education, from individual practice to group rehearsals.

The department is organised as a sequence of classrooms connected by a shared corridor, with each classroom assigned a specific teacher and paired with adjacent practice rooms. The classrooms themselves accommodate teaching, group work, and ensemble rehearsals, while practice rooms support individual or small group practices. Connected by glass partitions, visual continuity is



maintained while allowing supervision during simultaneous activities. This arrangement enables teaching, rehearsal, and individual practice to occur concurrently within a compact layout.

Acoustic performance is a key parameter in the project. Developed in collaboration with acoustic engineers, treatments were integrated into walls, ceilings, floors, and built-in elements to manage reverberations and limit sound transfer between rooms.

However, the spaces are not fully isolated. Sound insulation was calibrated to allow a controlled overlap of music across the department. Movement through the corridor is accompanied by the sound of instruments and rehearsals from adjacent rooms, extending the presence of music beyond individual spaces.

Colour structures the department as a second layer. The three main classrooms are each assigned distinct tones—red, orange, and yellow—corresponding to different age groups. From the corridor, these colours mark each entrance, creating a clear sequence of thresholds and supporting orientations. The entrance to the music area is also defined by a saturated field of colour, seamlessly extending this identity to the broader building.

Inside the classrooms, teaching areas remain largely

neutral. A band of strong colour is introduced along the window side, linking each classroom to its associated practice rooms. Lighting in these spaces is even and consistent.

In contrast, the practice rooms are fully saturated. Each room develops its assigned colour through variations in tone and material. Felt panels, fabrics, and three-





dimensional acoustic elements are produced in coordinated shades, while warmer lighting reinforces a more focused atmosphere for rehearsal. The three-dimensional acoustic tiles are designed and positioned to influence sound within the space, while their arrangement introduces a visual rhythm that references the structure of music.

The renovation transforms previously neutral classrooms into inspired spaces with a clear musical identity. Through the integration of layout, colour, and acoustic considerations, studio vapore organised the department to support both focused practice and shared learning, elevating the experiences of students and teachers alike.



Now and Towards the Future: Industry Experts Weigh In on Coatings in the Architecture Industry

An unsung hero of the design world, coatings are used everywhere in architecture, visually enhancing our spaces and protecting buildings from deterioration. With evolving technologies and shifting global trends, **Southeast Asia Building** sought to find out the process of developing coatings today, how companies have adapted over time, and what the future of coatings could look like. We invited various coating experts to share their thoughts with us, delving into the importance of the material for designers and consumers alike.

Qing Chua, Business Development Manager, Infrastructure APAC, Hempel

Q: Please introduce yourself and the range of coating products your company offers for the architectural industry.

A: My name is Qing, and I lead the Infrastructure Business Development team for Hempel in the APAC region. Hempel is a global coatings company with roots that go back more than a century, and a strong presence across marine, energy, and infrastructure.

Within the architectural and infrastructure space, our focus is on coatings that combine long-term protection with visual quality. We work extensively with protective coatings for steel structures, including advanced anti-corrosion systems, fire protection solutions, and specialist coatings designed for harsh and fast-changing environments.

Rather than looking at individual products in isolation, we design primers, intermediate layers, and topcoats to work together as complete systems. That approach gives our customers more predictable performance over time, which, in my experience, is what ultimately matters most on complex projects.

Q: How much has coating technology evolved for the company and the industry? What qualities do you look for when designing the next generation of products?

A: The industry has come a long way. Coatings used to be seen primarily as a finishing layer or something aesthetic. Today, they are engineered performance systems that play a critical role in asset protection, safety, and sustainability.

We've seen major progress in low-VOC and waterborne technologies, more durable resin systems, and fire and corrosion-protection solutions that perform reliably over longer service intervals.



Qing Chua



Beijing Capital International Airport Terminals T3A and T3B. The airport construction used over 8,000 tonnes of steel, much of which is coated with Hempel.

When we develop new products, we look beyond technical performance alone. Durability is essential, but so is how a coating behaves in the real world: how easy it is to apply correctly, how consistent the results are across different climates, and how well it supports compliance with evolving environmental standards.

Ultimately, the question we ask is simple: will this solution make life easier for asset owners and applicators five, ten, or fifteen years down the line?

Q: How have customer preferences changed over the years? What trends are you seeing, and how has your company adapted?

A: Customers have become much more value-driven, and rightly so. There is far less focus on upfront price alone, and much more attention on total cost of ownership, durability, and environmental performance.

We consistently see stronger demand for sustainable solutions that support green building certifications, as well as a preference for longer maintenance cycles to reduce disruption and lifetime costs. Another clear shift is towards system-based specifications rather than single products, especially on large or mixed-use developments where

performance requirements vary.

To support this shift, we've expanded our sustainable product portfolio and strengthened our technical advisory capabilities. We engage earlier in the project lifecycle, working closely with consultants and specifiers, and we increasingly use digital tools and lifecycle analysis to help customers make better long-term decisions rather than short-term trade-offs.

Q: With rising humidity and heat, how is your company ensuring coatings remain both sustainable and protective in harsh climates?

A: Rising temperatures and humidity, particularly in regions like Southeast Asia, have changed the baseline for what coatings need to deliver. Traditional solutions are often no longer sufficient.

At Hempel, we focus on improving corrosion resistance, UV stability, and colour retention under extreme climate conditions. That includes coatings designed specifically to protect steel structures exposed to high moisture, heat, and aggressive environments over long periods.

At the same time, sustainability remains a core driver. We are investing in low-VOC and waterborne technologies, and

in coatings that last longer. Extending service life reduces the need for frequent repainting, which has a very real environmental benefit when you look at the full lifecycle of a structure.

Q: How has the rise of digital technologies transformed your company's operations?

A: Digitalisation has become a practical enabler across the value chain rather than a stand-alone initiative. For example, digital specification tools help architects and consultants identify the right coating systems more efficiently and with greater confidence.

In manufacturing and operations, digital tools support better consistency and more controlled production processes. Internally, they also allow closer collaboration between R&D, sales, business development, and technical teams. This shortens response times and improves how quickly we can adapt to customer needs and market changes.

The real value of digitalisation, in my view, is not technology for its own sake, but for better decisions and

better outcomes.

Q: What do you think architecture and coatings will look like in the coming years? What are the key risks and challenges?

A: Coatings will play a more strategic role in architecture going forward. They are increasingly part of how buildings meet sustainability goals, extend asset life, and perform in demanding environments instead of just how they look.

We expect stronger alignment with low-carbon design principles and more use of prefabrication and off-site construction, which requires coatings that perform reliably outside traditional on-site application conditions.

The challenges are real: raw material volatility, stricter environmental regulations, and a growing skills gap when it comes to correct application and system understanding. These can only be addressed through closer collaboration across the value chain, continued investment in innovation, and better education and training to ensure coatings are applied as intended and deliver their full value over time.

Gerald Chua, General Manager at Nippon Paint Singapore

Q: Please introduce yourself and the range of coating products your company offers for the architectural industry.

A: My name is Gerald Chua, and I'm the General Manager at Nippon Paint Singapore. Nippon Paint is a leading coatings manufacturer in Asia, supporting the architectural industry with a comprehensive range of solutions, from decorative paints to high-performance protective coatings.

For the built environment, we don't just offer products; we provide Total Coating Solutions. This includes:

- Interior and exterior architectural paints
- Textured and special effect finishes for material expression
- High-performance coatings, such as Waterproofing, Floor Coatings, and Protective Coatings
- Functional coatings such as Cool Paint

Increasingly, our role has gone beyond supply. We work closely with architects, consultants, and developers to deliver coating

solutions that balance performance, sustainability, and design intent.

Q: How much has coating technology evolved for the company and the industry? What qualities do you look for when designing the next generation of products?

A: Coating technology has evolved from being largely decorative to becoming a critical component of building performance and sustainability. Today, coatings are expected to deliver across multiple dimensions, thermal regulation, indoor air quality, durability, and increasingly, environmental accountability.

When designing the next generation of products, we focus on three key areas:

Performance-driven innovation

Beyond aesthetics, coatings must address real-world challenges such as heat, humidity, and long-term maintenance.

Sustainability with transparency

The industry is moving towards



Gerald Chua

greater accountability, not just claims. This is where tools like Environmental Product Declarations (EPDs) play an important role.

At Nippon Paint, we've recently

obtained EPD certifications for selected products, allowing architects and consultants to evaluate materials based on verified life-cycle impact data, supporting green building frameworks such as Green Mark and LEED.

Enabling design intent

Coatings are increasingly used as a design medium, supporting texture, materiality, and spatial storytelling, rather than just serving as a finishing layer.

Q: How have customer preferences changed over the years? What trends are you seeing, and how has your company adapted?

A: Customer expectations have shifted quite dramatically. Previously, decisions were largely driven by colour and price. Today, we see three major shifts:

Sustainability is now a baseline

There is a strong preference for water-based, low-VOC coatings that align with green certifications, such as Green Mark, LEED, and WELL.

Rise of texture and material storytelling

Architects are increasingly using textured coatings to replicate materials like stone or concrete, achieving design intent more efficiently while maintaining flexibility.

Shift from product to system thinking

Customers are no longer selecting individual paints; they want integrated coating systems that ensure compatibility, durability, and long-term performance.

In response, we've adapted by:

- Expanding our textured and special effects portfolio
- Strengthening our colour consultancy and design support
- Positioning ourselves as a solutions partner, not just a paint supplier

Q: With rising humidity and heat, how is your company ensuring

coatings remain both sustainable and protective in harsh climates?

A: Climate resilience is becoming a key priority across Southeast Asia, where rising temperatures and humidity directly impact building performance and occupant comfort.

Our approach focuses on two fronts:

1.Passive cooling through coating technology

Our Cool Coating helps reduce heat absorption on building surfaces, lowering façade temperatures and improving indoor comfort. This contributes to reduced cooling loads and energy consumption, particularly important in dense urban environments.

2.Sustainable and accountable materials

Beyond performance, there is increasing demand for measurable environmental impact. With the introduction of Environmental Product Declarations (EPDs), we are providing specifiers with transparent, third-party verified data on the life-cycle impact of our coatings. This allows better alignment with sustainability targets and green certification requirements.

Ultimately, coatings are both protective and part of the climate response strategy in modern architecture.

Q: How has the rise of digital technologies transformed your company's operations?

A: Digital transformation has impacted both how we operate internally and how we support our customers.

Internally, we leverage digital tools to:

- Improve project tracking and specification workflows
- Enhance collaboration across teams and markets
- Streamline data access for faster decision-making

Externally, digital tools are enabling:

- Better colour visualisation and selection experiences

- Easier access to technical data, certifications, and specifications
- More informed decision-making for architects and consultants

More importantly, digital is helping us move towards data-driven engagement, enabling us to better understand customer needs and tailor solutions accordingly.

Q: What do you think architecture and coatings will look like in the coming years? What are the key risks and challenges?

A: Looking ahead, coatings will play a much bigger role in architecture, not just as finishes, but as functional and experiential design elements.

We see three key directions:

Coatings as part of building performance systems

They will increasingly contribute to energy efficiency, durability, and sustainability goals.

Greater emphasis on human-centric design

Colour, texture, and finishes will be used more intentionally to shape mood, behaviour, and experience—especially in public and community spaces.

Closer collaboration across stakeholders

The best outcomes will come from early collaboration between architects, consultants, and applicators.

Key risks:

- Treating coatings as an afterthought in design
- Lack of system integration leading to performance failures
- Increasing climate pressures outpacing traditional solutions

Solutions:

- Adopt a system-based approach instead of product-based selection
- Leverage data, certifications, and real-world performance insights

Lester Leong, co-founder and CEO of Gush

Q: Please introduce yourself and the range of coating products your company offers for the architectural industry.

A: I'm Lester Leong, co-founder and CEO of Gush, a Singapore-based building materials company. We develop sustainable building materials that are cost, maintenance, and energy-efficient, with a focus on architectural coatings, paints, sealers, and speciality systems for interior, exterior, residential, and commercial use.

As a baseline, our products are all formaldehyde-free and water-based. Our flagship interior range, Care and CleanCare, uses a proprietary catalyst that actively decomposes formaldehyde and other indoor VOCs, and has also been used by many institutions to combat mould recurrence.

On exteriors, our Cool X and Ultra Cool X coatings are engineered for the tropics. Cool X is a high-performance solar-reflective coating, while Ultra Cool X is its sealer-integrated upgrade, delivering a Solar Reflectance Index (SRI) above 100 in a single application that materially reduces cooling loads and repainting costs. Beyond this, we also have an entire suite of products that advances our goal of creating sustainable performance surfaces.

Our brand line is "beyond surface", and this is an instruction as much as a tagline.

Q: How much has coating technology evolved for the company and the industry? What qualities do you look for when designing the next generation of products?

A: The category has spent decades competing on aesthetics and durability. The genuinely interesting shift, and the one I think the next decade will be defined by, is coatings becoming functional infrastructure. Surfaces that actively contribute to indoor air quality, thermal performance, hygiene, and energy use, rather than just sitting passively on the wall.

When we look at a new product, three filters apply. First, does the mechanism actually do something measurable, ideally validated by an accredited third-party test we can publish? Second, is the benefit meaningful enough that a contractor, specifier, or homeowner can feel it or see it? Third, can the product be applied without specialist training, because adoption dies in the gap between the lab and the site?

If a candidate product fails any of those three filters, it doesn't get pushed forward.

Q: How have customer preferences changed over the years? What trends are you seeing, and how has your company adapted?

A: Three shifts stand out.



Lester Leong

Indoor air quality has moved from a niche wellness concern to a mainstream procurement question. As of January 2026, Singapore banned formaldehyde in interior paints, making low-VOC the regulatory floor, not a differentiator. Buyers now ask what the paint actively does to the air already in the room, not just what it doesn't add to it.

Specifiers are demanding auditability. Interior designers, MCST committees, and managing agents increasingly ask for accredited third-party test data and reproducible performance evidence, because they are the ones answerable when a resident complains about smells, mould, or a child's asthma.

And the buyer is fragmenting. The same product needs to make sense to a homeowner, an ID specifying for a hospitality refit, and a managing agent putting tenders out. We've adapted by tiering the range. Care and CleanCare lead on wellness, Ultra on efficiency, and Core on value, so the same brand fits each conversation.

Q: With rising humidity and heat, how is your company ensuring coatings remain both sustainable and protective in harsh climates?

A: Our climate isn't getting kinder, and the building stock has to absorb that without driving energy bills through the ceiling.



On the heat side, our Cool X and Ultra Cool X exterior systems are engineered to reflect rather than absorb solar radiation. Ultra Cool X integrates a sealer into the paint and delivers a high SRI in a single application, which collapses three coats into one on suitable substrates. Every percentage point of solar reflectance translates fairly directly into reduced cooling load, and in a city where buildings account for the majority of electricity demand, that compounds. Application speed matters too, because anything that helps to reduce the disruption to tenants during the repainting process is greatly welcomed.

On humidity, our interior range is built around moisture management rather than against it. The highly porous component in our Care and CleanCare regulates ambient moisture at the wall surface, which suppresses the conditions mould needs to take hold. We have also developed specialty sealers like MouldSeal, which pairs perfectly underneath in known mould-prone zones.

Sustainability, for us, is not a marketing line. It's whether the product reduces the operational footprint of the building it's painted on.

Q: How has the rise of digital technologies transformed your company's operations?

A: Internally, we've leaned hard into AI across functions that don't traditionally automate well—marketing, business development, and technical sales support. It lets a company our size operate with the throughput of one twice the headcount, which matters when you're competing for the same specifier's attention as multinational paint groups.

Externally, the buying journey has changed completely. Specifiers research independently long before they ever speak to us. By the time they're in a meeting, they've already read our test data, looked us up on green product directories, and formed a view. The implication is that

our digital surface has to be as substantive as our physical ones.

Q: What do you think architecture and coatings will look like in the coming years? What are the key risks and challenges?

A: Architecture is moving from buildings that look healthy to buildings that actually are. Coatings will increasingly be specified for what they do: regulate temperature, decompose pollutants, suppress mould, reduce energy load; not just what they look like. The conversation is shifting from finishes to infrastructure.

The risks are real. Greenwashing is the obvious one, where a label is doing more work than the chemistry behind it. The way through is third-party accredited testing as a baseline expectation. Specifier literacy is the second risk. IDs and architects cannot reasonably keep up with the science on every category they spec, so the industry's job, ours included, is to translate the specifications without dumbing down.

The third is procurement inertia. There's a persistent misconception that sustainable products always cost more, and a reflex to keep specifying what was specified before. However, when you run the numbers across a building's lifetime, the equation often flips. A cool coating that reduces cooling load every day for ten years pays back its premium many times over. Our Ultra series integrates the sealer into the paint, condensing what is typically three coats into one and saving two coats of material and manpower on every job. That, to me, is what sustainability actually looks like—doing more with less. The fix is for procurement to shift from unit cost to total project cost, supported by transparent operating-cost data and buyers willing to think in decades, not just tender cycles.

The buildings that win the next decade will be the ones whose specifiers stopped asking what a coating costs and started asking what it does.

Ronald, Sales Manager, Timbercoat Pte Ltd.

Q: Please introduce yourself and the range of coating products your company offers for the architectural industry.

A: My name is Ronald, and I'm from Timbercoat Pte Ltd. We specialise in architectural coating services, including powder coating and fluorocarbon coating. Our core expertise lies in timber look-alike sublimation finishes, which replicate the natural appearance of wood while retaining the durability and low maintenance of metal.

Our coatings are commonly applied to aluminium elements such as façades, trellises, ceiling panels, and window and door profiles. They can also be used on steel components.

Q: How much has coating technology evolved for the company and the industry? What qualities do you look for when designing the next generation of products?

A: The technology for architectural coatings has evolved significantly

over the years, particularly in terms of finish variety, weather resistance, and application versatility. In the past, most projects were limited to solid colours or, at most, metallic finishes such as silver or champagne.

Today, advancements in coating technology allow us to achieve a much wider range of effects, including wood grain, stone textures, and even dichromatic finishes, giving architects far greater design flexibility.

When researching and developing new solutions, we focus on key

qualities such as durability, resistance to harsh environmental conditions, colour stability, and ease of maintenance. At the same time, we

look at how we can push aesthetic boundaries while ensuring the coatings remain practical and long-lasting for real-world applications.

Q: How have customer preferences changed over the years? What trends are you seeing, and how has your company adapted?

A: We've observed a clear shift in customer preferences over the years, with architects, designers, and consultants becoming more adventurous in their use of colours, textures, and finishes. There is a growing demand for coatings that go beyond standard solid or metallic colours, with more projects incorporating wood, stone, and other decorative effects.

Interestingly, this trend is no longer limited to smaller or high-end projects. Even large-scale commercial developments are increasingly adopting these specialised finishes to enhance what would otherwise be plain aluminium façades and profiles.

In response, we continuously expand our range of designs and finishes, while also investing in new technologies to ensure consistency, durability, and scalability for larger projects. This allows us to support our clients' creative vision without compromising on performance or practicality.

Q: With rising humidity and heat, how is your company ensuring coatings remain both sustainable and protective in harsh climates?

A: We've seen a growing emphasis on sustainability in recent years, driven by stricter green building requirements and increased awareness of environmental impact. At the same time, rising heat and humidity have made performance in harsh climates an even greater priority.

In response, we have introduced advanced fluorocarbon coatings that incorporate heat-reflective properties, helping reduce surface temperatures and improve overall building efficiency. This not only enhances occupant comfort but also contributes to energy savings. Additionally, we work closely with our suppliers to adopt newer coating



technologies that offer enhanced weather resistance, improved UV stability, and reduced colour fading over time. These innovations allow us to deliver solutions that are both environmentally responsible and highly durable in demanding climates.

Q: How has the rise of digital technologies transformed your company's operations?

A: Digital technologies have significantly improved our operational efficiency, particularly in order processing and administrative workflows. By streamlining these processes, we are able to respond more quickly to customer needs and manage projects more effectively.

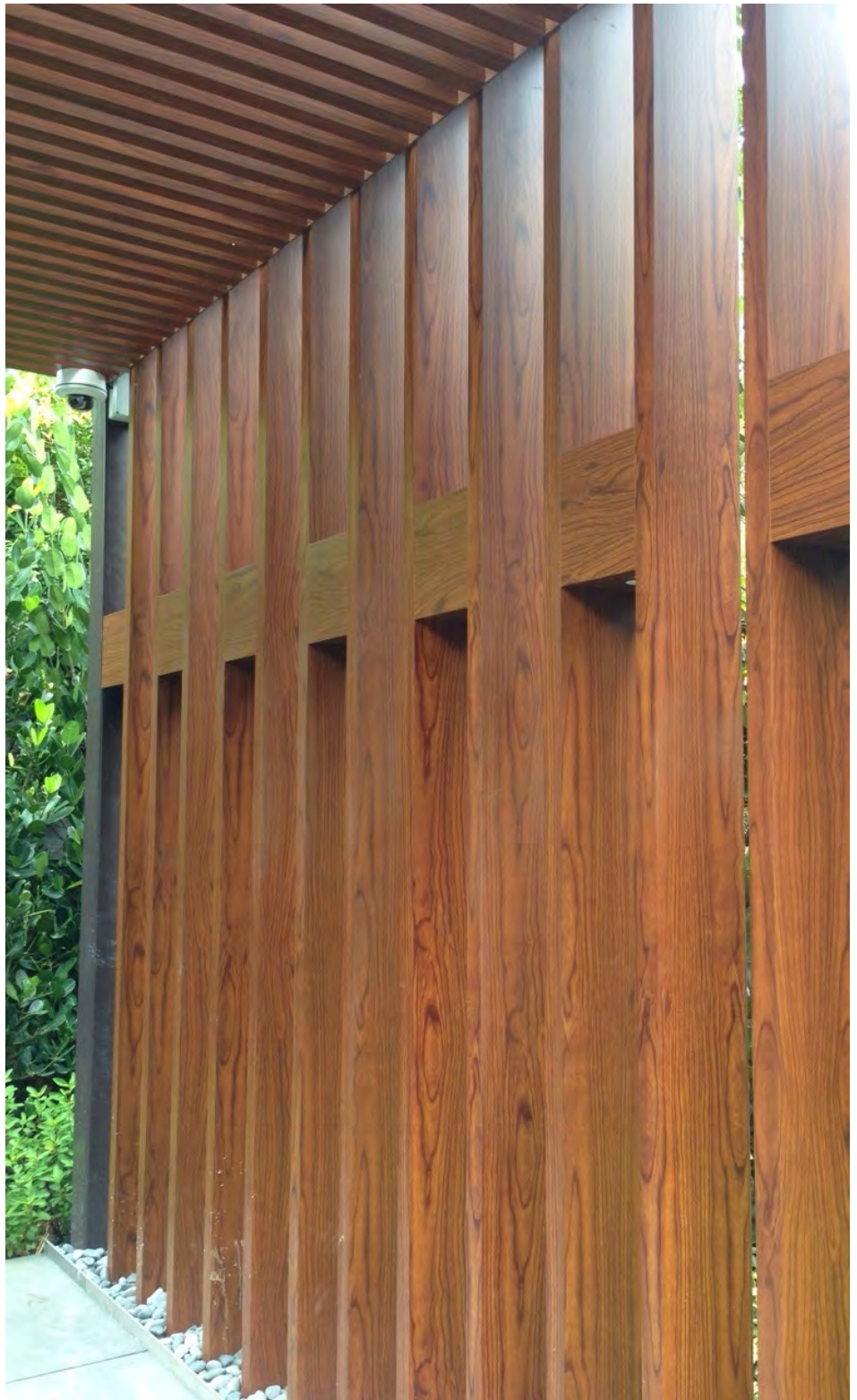
On the production side, digitalisation is an ongoing journey for us. We are actively exploring solutions such as automated spray systems and conveyor technologies to enhance consistency, reduce manual intervention, and improve overall productivity.

As we continue to adopt new technologies, our focus remains on balancing efficiency with quality, ensuring that any advancements translate into better outcomes for our clients.

Q: What do you think architecture and coatings will look like in the coming years? What are the key risks and challenges?

A: I believe we will continue to see growing interest in specialised and high-performance coatings, as architects and designers push to integrate more distinctive design elements into building façades and structures. Beyond aesthetics, there will also be a stronger emphasis on durability, sustainability, and climate resilience, especially in regions with high heat and humidity like Singapore.

One of the key challenges is keeping pace with rapid advancements in overseas markets, where larger-scale facilities and fewer space constraints allow for more experimentation and innovation



in coating technologies. This creates pressure for local companies to remain competitive in both capability and quality. To overcome this, it is important for us to continuously invest in new technologies, work closely with global partners and

suppliers, and optimise our existing processes to maximise efficiency within our constraints. By doing so, we can continue to deliver innovative and reliable solutions despite the limitations of a local operating environment.

Shevonne Kok, Market Segment Director, APAC for Sealants, Glazing & Facades; Head of Specifications; RPM Platform APAC, Tremco CPG

Q: Please introduce yourself and the range of coating products your company offers for the architectural industry.

A: I am a regional business leader in the construction chemicals and façade sector, with a strong focus on market expansion, sustainability, and performance-driven building solutions across Asia.

My company specialises in high-performance architectural coatings and façade insulating and protection systems, supporting the full building lifecycle—from design specifications through to refurbishment.

Our portfolio typically includes:

- Protective coatings (anti-carbonation, anti-chloride ingress)
- Waterproofing membranes and elastomeric coatings
- Reflective/cool coatings for energy efficiency
- Fire-resistant and intumescent coatings
- Specialised façade coatings for thermal insulation, durability, and aesthetic retention
- Specialised connections and interfaces designed to prevent energy leakages

Our differentiation lies in combining material science innovation with system-based solutions, ensuring not just compliance but long-term asset performance.

Q: How much has coating technology evolved for the company and the industry? What qualities do you look for when designing the next generation of products?

A: Coatings have come a long way from being the building's "makeup layer." In many projects, the coating system now does far more than add colour. It helps manage moisture, reflect heat, bridge cracks, resist pollutants, and support the long-term

durability of the façade.

This shift has been driven by both regulation and market demand. Low-VOC and green-certified coatings are now a priority as ESG goals and green building frameworks shape material selection. At the same time, multifunctional systems are gaining ground. A single coating may now deliver waterproofing, thermal reflectivity, or insulation, and crack-bridging performance. Add nanotechnology and advanced polymers to the mix, and coatings are becoming tougher, cleaner, and smarter. In simple terms, they are no longer just finishing products. They are working systems.

When developing next-generation products, the priorities are clear. Coatings must withstand extreme UV, humidity, and pollution. They must also meet sustainability metrics such as VOC limits, embodied carbon targets, and lifecycle impact goals. Compatibility with modern substrates, such as prefabrication and lightweight panels, is increasingly important. Ease of application matters too, especially in a market where labour efficiency can make or break project timelines. Fire safety and seismic integration are also moving higher on the checklist. Ultimately, innovation today is about extending asset life while reducing environmental footprint.

Q: How have customer preferences changed over the years? What trends are you seeing, and how has your company adapted?

A: Customer expectations have evolved just as quickly. The market has shifted from cost-driven buying to value-driven decision-making. Buyers still watch budgets, of course, but they are now looking harder at total cost of ownership, system warranties, and long-term performance, not just upfront costs. Aesthetic durability also matters more than before. Colour retention, fade resistance,



Shevonne Kok

anti-staining, anti-fungal protection, crack-bridging, and easy maintenance are no longer "nice to have" features. They are part of the spec.

In response, we have expanded sustainable product lines, introduced performance-based specifications, and strengthened technical advisory support. Many are also engaging architects and façade consultants in the design phase. That early involvement is critical because once the façade package is locked in, nobody wants a coating discussion to become a demolition exercise. The shift is clear—customers now expect us to be solution partners, not just suppliers.

Q: With rising humidity and heat, how is your company ensuring coatings remain both sustainable and protective in harsh climates?

A: Climate is another major force shaping innovation, especially in Southeast Asia. Heat and humidity demand coating systems that are breathable yet waterproof, allowing moisture to escape without trapping

it. Cool roofs and reflective coatings are helping reduce the urban heat island effect and support energy efficiency. Anti-fungal and anti-algae technologies are also essential in tropical conditions. Meanwhile, anti-carbonation and anti-corrosion systems help extend the life of concrete and steel, while insulated façade finishes with seismic and hurricane resistance address both comfort and resilience.

Sustainability remains tightly linked to performance. Water-based, low-VOC formulations are becoming more common. Greater durability helps reduce recoating cycles, material use, and maintenance disruption. Support for green building certifications is also now part of the value proposition rather than an afterthought.





Q: How has the rise of digital technologies transformed your company's operations?

A: Digital transformation is accelerating the aforementioned changes. Digital specification tools make product selection more precise. BIM integration allows coating systems to be coordinated within façade design. CRM platforms and analytics improve visibility into customer behaviour and project pipelines. The adoption of AI-driven R&D modelling

is speeding up formulation development, while remote technical support and training are improving access to expertise. Internally, these tools are shortening time to market, improving supply chain visibility, and making customer response faster and more accurate.

Q: What do you think architecture and coatings will look like in the coming years? What are the key risks and challenges?

A: Looking ahead, architecture will demand more from coatings, not less. Future façades will need to be sustainable, resilient, and smart. Coatings will play a larger role in energy performance, modular construction compatibility, self-healing and self-cleaning functions, and integration with smart building systems. The challenges are real: raw material price swings, tighter regulations, and skill gaps in application. The response must be equally clear: stronger industry collaboration, continued innovation, better training, and closer alignment between design intent and site execution. Ultimately, the coating industry is moving beyond selling products and toward delivering long-term building performance solutions.

	
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groupDCA Studio, Gurugram



Harnessing the Simplicity of Nature to Cultivate Joy and Productivity

Celebrating a new chapter in its 27th year of fostering design legacies, groupDCA Studio is a quiet, peaceful retreat located on the border of Gurugram, Delhi. Developed to nurture the team's creativity in nature's embrace, the space exemplifies the studio's core values of promoting eco-conscious design solutions that utilise locally sourced materials, paying homage to traditional craftsmanship.





Untouched by urbanisation in the Gwal Pahari area, the verdant 19046 sq ft property is a respite from the chaos of the city and is conveniently accessible from both Delhi and Gurgaon. The design adopts a fragmented scheme with smaller, distinct blocks with an outward-looking approach, each crafted with a unique character and function. This layout weaves through the landscape, creating a journey of exploration and a sequence of experiential spaces that meld into the surroundings.

The layout comprises four varying rectangular blocks that house the reception area, meeting rooms, workstations, principal offices, administrative department, cafeteria, etc. Intertwined with lush lawns and shaded under dense trees, the studio embodies an optimistic setting that promotes the team's passion for design and spirit of collaboration.

All the blocks respond to the principles of climatology and Vastu. Oriented along the east-west axis, the blocks are constructed with dressed rubble masonry to shield the interiors from the harsh sunlight. The north-facing walls are porous and adorn large, glazed windows that open onto the shaded verandahs; the southern walls have small fenestrations that

modulate heat and glare. These design strategies ensure the studio is unaffected by the scorching summers while welcoming the gentle winter sun, furnishing the space with diffused natural light that promotes clear thinking and frames refreshing views.

Along with the well-insulated roofs, walls, and surrounding greens, the studio embraces the simplicity of nature to cultivate a serene workspace.

A winding entrance leads to the reception block, connected to two meeting rooms. The humble scale and intimate heights establish an immediate, welcoming connection with visitors, creating an illusion of a small studio space. The second block accommodates administrative functions, a materials studio, a staff cafeteria, a stationery store, an

accounting office, and a pantry near the reception.

The principal cabins are a separate entity, visually connected to the studio and the ecstatic outdoors. There is a multi-purpose lounge that forms a buffer between the principal offices. This space is where meetings and brainstorming sessions happen; it can even host friends and entertainment. This thoughtful design strategy allows discussions to extend into the principal's cabin, providing the team autonomy.

The fourth block—the largest of all—houses the workstations adjacent to a presentation room for client meetings. Basking in the quiet rear end of the site, the studio block spills into the outdoors on one side, with an overhang that shades the glazed facade and creates a buffer, perfect for brainstorming, some alone time, or

a cup of coffee during the rain. Small shading devices on the opposite facade cut the harsh sun and filter in fresh air.

The design approach stimulates creativity through a sensory interplay of sight, sound, touch, and smell. The layout is fragmented and connected through unbuilt, open spaces with inherited trees and organic pathways, promoting convenience and physical well-being. As team members move between the studio, cafeteria, and washrooms, they encounter enriching glimpses of the outdoors, the crunch of gravel underfoot, and unplanned interactions with colleagues. The dynamic use of light and shadow during the day introduces varying degrees of shading in shared spaces and spillouts, while at night, the dense foliage casts intriguing shadows that lend an air of mystery,



creating quiet, secluded areas for reflection.

The structure encourages movement, offering breaks from the constraints of desk work. Shaded spaces provide shelter yet maintain a sense of openness, allowing employees to engage with nature throughout the seasons. Each space spills into a common area, perfect for hosting gatherings of clients, artists, and industry experts, embodying the firm's commitment to contextual relevance and social responsibility.

The material palette was sourced within a 200–250 km radius of the site, reducing carbon emissions incurred during transportation. The simple, low-rise blocks feature dressed rubble stone masonry walls that seamlessly blend with the natural surroundings. The thatched roof, a part of northern India's design vocabulary, is integrated into the studio block's morphology by local artisans and helps maintain comfortable internal temperatures. Terracotta brick flooring enhances the connection to the natural setting and also cools down the space, working on the same principle as an earthen pot when sprinkled with water. It forms a harmonious composition with the loose gravel, or Bajri, and green lawns enable water percolation to maintain groundwater levels. Aero concrete panels, which interlock and allow quick on-site assembly, are expressed in their raw grey texture and contribute to the scheme's frugal palette.

With a tapestry of textures and memorabilia, the interiors reflect the workspace's reigning theme of simplicity and celebration of Indian heritage. Repurposed from the previous office, each collectable carries the essence of the practice and nostalgia into the new workspace.

Ornately carved wooden columns sourced from a demolished Mangalore house support the principal cabin's roof at the entrance, emulating a traditional home's verandah. Eighty-year-old blue-coloured British lights cast a subdued glow in the space. The central table in the room is composed of a combination of century-old doors from various Mangalore homes with diverse patinas, resulting in an object rich in texture and colour. Even the table in the principal office is left raw, reflecting the old charm from the firm's inception.

The pre-existing trees were left untouched, and the blocks were planned around them. Raised circular seating was constructed to protect the tree roots, serving as a breakout space where users can unwind under the shade of the canopies. A few iconic plants, like the hibiscus, bougainvillea, and ficus creepers from the old office, were also transplanted onto the site, a sustainable and nostalgic reminder of the fond memories of the old studio.

groupDCA Studio is a workspace developed in tandem with the allure of nature, fostering innovation and nurturing creativity. It is the culmination of the firm's journey, mirroring its design process of honouring slow craftsmanship and heritage to create spaces that endure and are responsive to the climate. The workspace unfolds as an experiential journey that cultivates a conducive environment for the physical and mental well-being of users, where each corner instills a sense of discovery, delight, and contentment.



► PROJECT DETAILS

Location: Gurugram, Haryana

Area: 19046 sq ft

Height of the blocks: 3540 mm

Design Team: Amit Aurora, Rahul Bansal

Photography: Nivedita Gupta

Videography: Avesh Gaur

Completion: December 2023



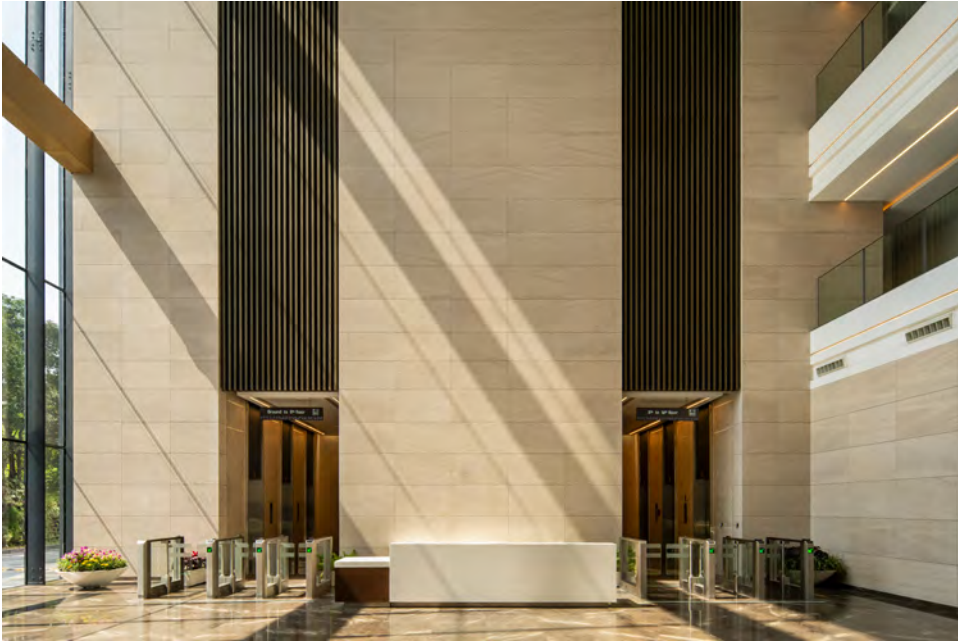
HQ27



Standing out in the skyline with practical design

Gurugram's Sector 27 sits at the centre of its established commercial district, dominated by clusters of residential, office, and mixed-use development. Workspaces here are typically housed within single-use office blocks with limited street-level engagement. ACPL's design for HQ27, through its





campus planning, landscaped plaza, and layering of programmes, subverts the idea of an insular office block and brings the neighbourhood into its fold.

The brief for HQ27 was to build a large-scale Grade A corporate office, designed to attract premium tenants and command a distinctive presence in an increasingly crowded skyline. The project is designed as an integrated workplace ecosystem rather than a standalone office tower.

Positioned strategically between Gurugram's Iffco Chowk and Millennium City Centre metro stations, the site sits within a well-established commercial and residential catchment. The campus design aims to redefine tenant expectations through its spatial quality, operational efficiency, and public engagement.

The primary design intervention was to concentrate the built area into a compact vertical footprint, freeing the ground plane to create an expansive public space. This move also ensures better access to light and ventilation, while distinguishing the building from its neighbours. A landscaped arrival plaza



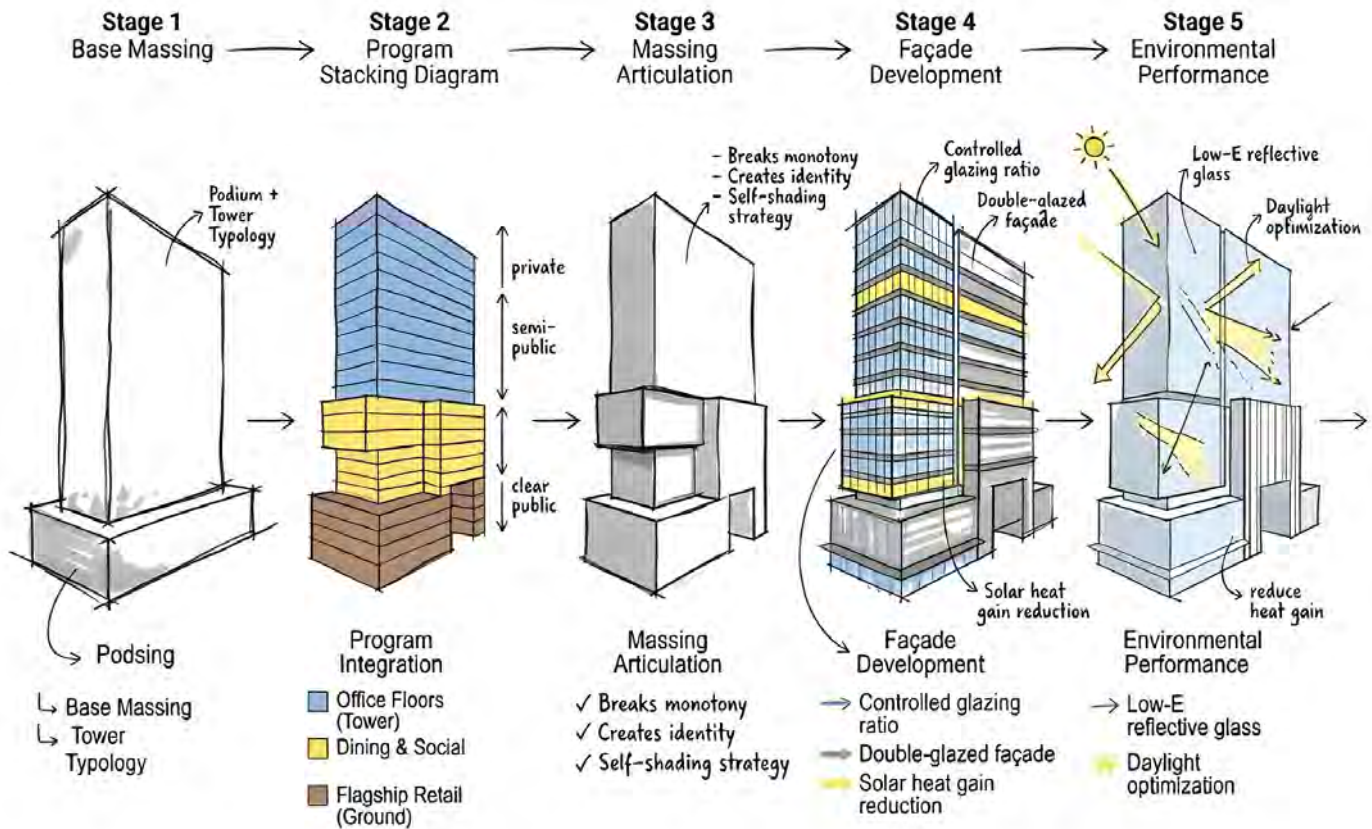
mediates between the city and the building, and spill-out seating extends the public realm inward. Vehicular and service movement is segregated and resolved at the periphery, leaving a clear pedestrian axis from the entry gate through the landscaped buffer to the lobby, rather than an abrupt shift between public and private.

Numerous iterations of the building's massing were explored. The final form carves out small setbacks and protrusions on the fifth and ninth floors, disrupting the tower's vertical uniformity. This singular, definitive gesture to offset the facade lends the building a legible three-dimensional identity from the primary approach roads.

The decision to design a staggered profile was as much functional as it was formal. The lower floors feature retail and entertainment amenities that activate the street edge and converse with the plaza; the central section contains areas for socialising and dining, while the upper floors accommodate offices. Everything else—the curtain wall grid, the floor plate planning, and the material palette—is simple and pared back, allowing that single gesture to carry the building's presence on the skyline.

The office floors are designed around the requirements of large corporate tenants. Floor plates of approximately 30,000 to 35,000 sq ft can function as single-tenant headquarters or subdivide for multi-



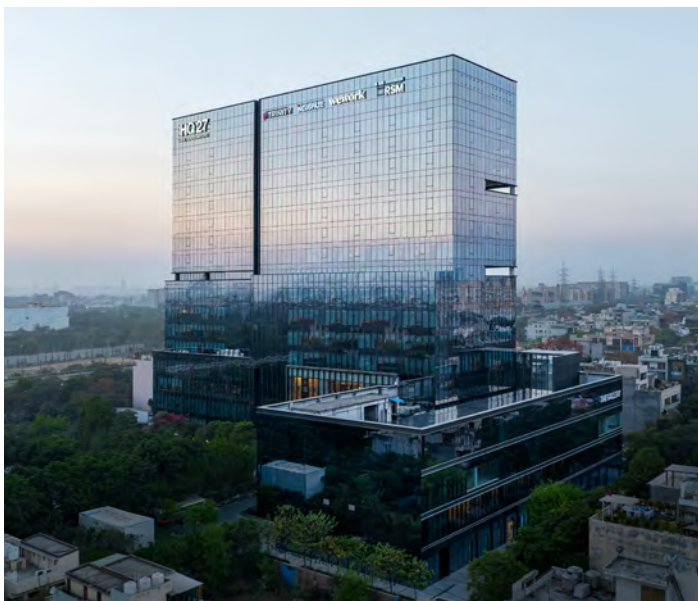


tenant occupation, with a centralised core that maximises usable area and planning flexibility. A five-storey atrium admits daylight deep into the building, while breakout terraces at the staggered levels extend the workplace beyond the floor plate.

The facade is a high-performance curtain wall system using reflective double-glazed units with low-E coatings, a

direct response to Gurugram's intense solar conditions. The glazing ratio is calibrated to balance daylight penetration against heat gain. The recessed and cantilevered volumes provide passive self-shading at key elevations, reducing direct solar exposure during peak summer months without compromising the interior's quality of light.

Designed to Seismic Zone V standards, the building is one of the first commercial buildings in India with friction dampers integrated into the structural system. HQ27 is LEED Gold certified, with rainwater harvesting, photovoltaic arrays, and an intelligent building management system supporting its long-term operational performance.



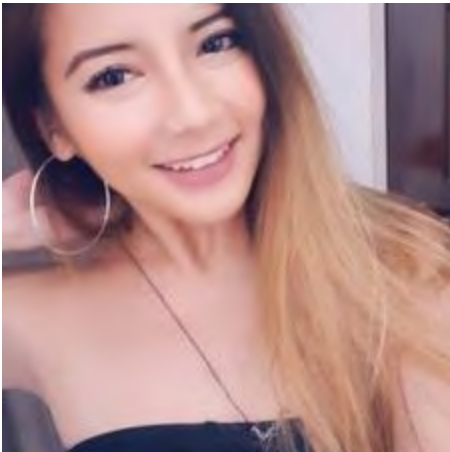
› **PROJECT DETAILS**

- Project Name:** HQ27
- Project Type:** Grade A Mixed-Use Commercial Development
- Architect:** ACPL Design
- Landscape Consultant:** ROHA
- Client:** Asthetic Township Developers Pvt. Ltd.
- Location:** Sector 27, Gurugram, Haryana, India
- Start:** November 2019
- Completion:** June 2025
- Site Area:** 11,537 sqm
- Photography:** Avesh Guar



Paint in the Face of Humidity

Venessa Ho, Co-Founder of Urban Walls, discusses trends amongst locals and how to balance aesthetics with climate durability



Venessa Ho, Co-Founder, Urban Walls

In the past, visual appeal was the be-all and end-all of paint in homes. This is understandable; it is what homeowners will be faced with every day. However, with today's extreme weather conditions to consider, paint has become an overlooked aspect of protecting homes from the effects of humidity, heat, and rainfall.

Venessa Ho is the Co-Founder of Urban Walls, a Singapore-based limewash specialist focused on mineral-based wall finishes. She plays a key role in the company's growth, including its recent expansion into distribution and e-commerce, with a strong emphasis on craftsmanship, material transparency, and climate-appropriate solutions for

modern homes. Southeast Asia spoke to her about the importance of paint in supporting households, and what homeowners should look out for when selecting paints for their walls.

Q: In your experience, why is humidity still often overlooked when homeowners choose wall paint in Singapore?

A: Most homeowners don't immediately think about humidity because it's something we've just learnt to live with in Singapore. It's constant, so it doesn't feel like a "problem" you actively design around.

A lot of renovation decisions also happen quite quickly, and the focus tends to be on colours, finishes, and how the space will look once everything is done. The technical side, like how a material reacts over time in our climate, isn't always part of that initial conversation.

From what we've seen, unless someone has experienced issues before, like peeling or mould, humidity doesn't really come into consideration. It's usually more of an afterthought rather than something that shapes the decision from the start.

Q: At what point do homeowners usually realise that climate affects how their paint performs?

A: It's usually after they've lived in the space for a while. We've had homeowners come back to us after a year or two, noticing things like uneven patches, slight peeling, or that the walls just don't feel the same as when they first moved in. That's when the conversation shifts from just how it looks to how it's holding up.

Sometimes it's also triggered by specific areas like bathrooms, kitchens, or walls that don't get as much ventilation. Those tend to show signs earlier, and that's when people start to realise that the environment does play a part in how finishes behave.

Q: Do you think most renovation decisions today are driven more by aesthetics than by how the paint will hold up over time?

A: Yes, but it's understandable. Renovation is often a very visual process. People are planning for a moment—when the home is completed—and naturally, they want it to look a certain way. There's also a lot of inspiration coming from social media, so the focus tends to be on achieving a particular look.

That said, we're starting to see a shift. More homeowners are asking about materials, maintenance, and how things will age, especially if they've gone through a renovation before.

Q: What are the most common paint-related issues you see 1–3 years after renovation?

A: The most common ones we see are things like slight peeling, uneven patches, and, in some cases, mould starting to form, especially in areas with less ventilation.

Sometimes it's not even very obvious issues, but more of how the wall starts to "feel" different. The finish can look flatter, or certain areas take on moisture differently, so you start seeing inconsistencies across the wall.

It usually shows up in more exposed areas first, like bathrooms, kitchens, or walls that get direct humidity from outside. That's when homeowners start noticing that the finish isn't ageing the way they expected.

Q: Are there patterns in the types of paint that tend to fail more often in Singapore homes?

A: From what we've observed, more conventional paints that form a sealed layer tend to struggle a bit more over time in Singapore's climate. Because of the constant humidity, when the wall can't "breathe", moisture gets trapped behind the surface. Over time, you start seeing peeling, bubbling, or even mould in some cases. It's not that these paints don't work; they can look great at the start, but they're not always as forgiving in environments where there's constant moisture and temperature shifts.

Q: How much of these issues comes down to the type of



more about understanding that both can coexist, just in a different way than what people are used to seeing in showflats.

Q: How does standard wall paint typically behave over time in Singapore's humidity?

A: In Singapore, most standard wall paints will look fine at the start. But over time, you start to see small changes. What tends to happen is that the paint film holds up visually at first, but as the wall continues to absorb and release moisture, the surface can start to react. You might see slight unevenness, dulling in certain areas, or the finish not looking as consistent as it did at the beginning. It's not always an immediate failure; it's more that the paint doesn't age as gracefully in our climate because it's synthetic.

Q: What happens when paint seals the wall instead of allowing it to breathe?

A: When paint forms a sealed layer, it essentially traps moisture within the wall. In a humid environment like Singapore, walls are constantly dealing with moisture, from the air, from temperature changes, and even from daily living. If that moisture can't escape, it builds up behind the surface. Over time, that's when you start seeing things like bubbling, peeling, or mould.

The issue isn't just the paint itself, but how it interacts with the wall and the environment over time.

Early signs of paint not coping well are usually quite subtle. It could be things like certain patches drying differently after cleaning, slight discolouration, or areas that look a bit uneven under natural light. Sometimes the wall just doesn't feel as "stable"; it might feel a bit more damp or inconsistent in different spots.

In more obvious cases, you'll start to see small bubbles, fine hairline cracks, or the paint lifting slightly at the edges. Those are usually signs that the system isn't coping well with moisture, even if it still looks okay from a distance.

paint chosen versus how it was applied?

A: Both are equally important. The type of paint determines how the wall behaves over time, especially in a climate like Singapore. But even the best material won't perform properly if it's not applied correctly.

We've seen cases where good products were used, but because the surface wasn't prepped well or the application wasn't done properly, issues still showed up quite early. The material needs to be suited for the environment, and the application needs to be done with a level of care and understanding of how the finish is supposed to behave.

Q: Why have ultra-smooth, "showflat-style" finishes become so dominant in Singapore homes?

A: A big part of it comes from how people are first exposed to renovation—through showflats, brochures, and now social media. These spaces are presented in a very controlled, staged way, where walls are perfectly smooth and evenly lit. That naturally becomes the reference

point for what a "finished home" should look like.

In reality, those spaces are designed to showcase a look at a specific moment. They don't fully reflect how materials behave once a home is lived in, especially in a climate like Singapore's. Over time, that expectation of perfection gets carried into real homes, even though the day-to-day conditions are very different.

Ultra-smooth finishes tend to be less forgiving. When everything is flattened out to that level, any slight movement, moisture, or imperfection becomes more visible over time. In a real house, with humidity, temperature changes, and daily use, the walls naturally respond to the environment. What looks perfect at handover doesn't always age in the same way once the space is lived in. It's not that the finish is wrong, but it's designed more for that initial visual impact rather than how it evolves.

What we're starting to see is a shift where people are asking more about how a wall feels, how it ages, and how it reacts to the environment. Once that awareness is there, the decision-making becomes a lot more balanced. It's less about choosing between aesthetics and performance, and

Q: Are there certain types of paint or finishes that perform better in humid environments like Singapore?

A: Yes. Generally, finishes that are more mineral-based or breathable tend to perform better in our climate. In Singapore, the environment is quite consistent, as there's always some level of humidity, so materials that can adapt to that tend to age more gracefully. Instead of forming a hard, sealed layer, they work a bit more with the wall itself. It doesn't mean conventional paints don't work, but some finishes are simply more suited to environments where moisture is always present in the background.

Q: What does "breathable" walls mean?

A: "Breathable" sounds a bit abstract, but essentially it just means the wall is able to manage moisture more naturally.

In most homes here, walls are constantly absorbing and releasing small amounts of moisture. A breathable finish allows that process to happen without trapping it behind the surface. Instead of sealing everything in, it lets the wall regulate itself over time. It's less about the wall doing something extra and more about not restricting how it would naturally behave in our climate.

These finishes tend to age in a softer, more gradual way. With standard paint, when issues show up, they're usually quite defined, peeling, bubbling, or uneven patches. It can feel like the surface has "failed" in certain areas. With more breathable or mineral-based finishes, the changes are usually more subtle. You might see variation in tone or texture over time, but it generally feels more like part of the material rather than something going wrong. It's less about maintaining a perfectly uniform look and more about how the finish settles into the space as it's lived in.

Q: Where does limewash sit within the range of wall finishes available today?

A: Limewash sits somewhere between a paint and a material. Most conventional paints are designed to create a uniform, consistent finish. Limewash is different in that it's more about movement, texture, and how light interacts with the wall. Instead of covering the surface, it becomes part of it. That's why it reads less like a "coating" and more like a finish that has depth to it.

We usually recommend limewash in spaces where the intention is to create a softer, more considered environment, like living rooms, bedrooms, or feature walls. At the same time, there's quite a range of colours and finishes to work with, so it can still be adapted to different themes depending on the client's vision for their home.

It works best when the homeowner is open to a finish that isn't perfectly uniform. Where it may not be suitable is in areas that require a very clean, wipeable surface, or where there's an expectation for everything to look the same all the time. It's also quite dependent on proper surface preparation because of the nature of the finish, which will reveal whatever is underneath.

Q: What are some common misconceptions homeowners have about limewash?

A: A common misconception is that limewash is just a "textured paint" or what people sometimes call lime paint. In reality, limewash, lime paint, textured paint, and textured plaster are all quite different, both in composition and in how they're applied.

Limewash is typically a mineral-based finish that bonds into the wall and creates a soft, matte surface with natural variation. Lime paint is usually more processed and behaves closer to conventional paint, so it tends to look more even. Textured paints often rely on additives to create a more consistent, repeatable effect, while textured plasters are much thicker and more structural, almost like a layer built onto the wall rather than something that sits into it.

Because of these differences, limewash behaves quite differently in how it's applied and how it ages. Another misconception is that it's supposed to look perfectly even. But part of its character comes from variation, so expecting it to behave like a flat paint often leads to disappointment.

Q: What are the risks of using or applying limewash incorrectly?

A: Limewash is quite unforgiving if it's not applied properly. Because it's a mineral-based finish, the surface preparation and application technique matter a lot. If it's rushed or done without understanding how the material works, you can end up with patchiness, uneven absorption, or finishes that don't sit well on the wall.

We actually get quite a few cases where homeowners tried to do it themselves, or engaged someone without the right experience, and end up calling us in to rectify it. At that point, it becomes a lot more costly because it's essentially double work: removing or correcting what's been done before reapplying it properly.

Q: Why do some limewash applications fail or need rework?

A: Most of the time, we find that it comes down to either preparation or expectations. If the wall isn't properly prepared, the limewash won't take evenly. And because the finish is quite sensitive to how it's applied, inconsistencies in technique can show up quite clearly.

The other side is when expectations don't match the nature of the material – for example, expecting a completely uniform finish. That's when people feel like it's "wrong", even if the material is behaving as it should.

I think the most important thing is to understand that limewash is a material, not just a colour choice. It's something that will continue to evolve slightly over time, and it won't look the same across every wall or every lighting condition. Once homeowners are comfortable with that and are choosing it for that quality, the outcome tends to feel a lot more intentional and satisfying.

Q: How long should a typical wall paint job last in Singapore?

A: Realistically, we find that for most homes in Singapore, a standard paint job will hold up visually for about 3 years before you start noticing changes. It doesn't usually "fail" all at once, but you'll begin to see signs like dulling, uneven patches, or areas reacting differently to moisture. In spaces with higher humidity, like bathrooms, or areas with less ventilation, this can happen even earlier.

With limewash, it tends to behave a bit differently. Because it's a mineral-based finish, it doesn't deteriorate in the same way. It ages more gradually and can last anywhere from 5 to 10 years, depending on the environment and how it's maintained. So it's less about a fixed timeline and more about how the material interacts with the space, and how the environment influences how it ages over time.

Q: What determines whether paint needs to be redone within a few years versus lasting longer? How should homeowners think about repaint cycles when choosing paint?

A: It usually comes down to a combination of three things: the material, the application, and the environment.

The type of paint plays a role in how it handles moisture over time. Application is just as important. If the surface isn't properly prepared or the layers aren't applied correctly, issues tend to show up earlier. And then there's the environment itself. Things like humidity, ventilation, and even how much sunlight a wall gets will affect how the finish ages. When a paint job needs to be redone earlier than expected, it's often not just one factor, but how all three come together.

Instead of thinking about paint as a one-time decision, it's more useful to see it as something that will evolve. Different finishes will age differently; some are easier to repaint and maintain, while others change more gradually and don't require that same reset.

It's less about trying to avoid repainting altogether, and more about choosing a finish that aligns with how you want the space to live and age. Once that's clear, maintenance becomes a lot more intentional, rather than reactive.

Q: Do you see homeowners spending more on finishes that don't necessarily last? How should people evaluate cost versus long-term performance?

A: Yes, quite often, but not intentionally. Most of the time, homeowners are spending based on what they see and what they've been shown, especially through showflats or references. So the focus tends to be on achieving a certain look, rather than how that finish will hold up over time.

It's not that they're choosing "worse" options, but sometimes the spending is directed more towards the immediate outcome, rather than how the material will behave a few years down the line.

It helps to look beyond just the upfront cost and consider

how the finish will age and what it takes to maintain it. A lower-cost option might look the same at the start, but if it needs to be repainted or corrected within a few years, the overall cost becomes higher over time. Therefore, it's less about choosing the most expensive option and more about understanding how the material behaves in your space, and whether it aligns with how long you intend to keep the finish.

One common mistake is treating wall finishes as purely cosmetic, rather than as something that needs to perform over time. It may look right initially, but if it doesn't hold up, it often leads to rework much sooner than expected.

That's also where more material-led finishes, like limewash, come into the conversation when it's properly sourced and applied. For example, the mineral-based systems we work with from Australia tend to behave more in line with the environment rather than against it. But even then, the same principle applies. It still comes down to understanding the material and getting the application right from the start.

Q: What are the most important questions homeowners should ask before deciding on a wall paint?

A: I think the starting point is to move beyond colour and ask how the finish will actually behave in the space. Things like "how does it handle humidity", "how does it age", and "what kind of maintenance it requires over time". It's also important to ask how the wall will be prepared, because the finish is only as good as what it's applied onto.

For finishes like limewash or lime plaster, the conversation becomes a bit more material-led. So it's less about "what colour do I want", and more about "what kind of surface do I want to live with".

One thing that's not always clearly explained is how different finishes will actually age. Most decisions are made based on how something looks at handover, but not how it will look six months or a year later. Things like variation, maintenance, or how the surface reacts to moisture don't always come up early enough. With more material-based finishes like limewash or plaster, this becomes even more important. If expectations aren't aligned from the start, especially around variation and texture, it can feel like something has gone wrong when it's actually just the nature of the material.

One red flag is when everything is presented as very straightforward or "one-size-fits-all". Different walls, spaces, and environments behave differently, so if there's no discussion around preparation, application, or how the finish will age, that's usually a sign that the process hasn't been fully thought through.

Another is when expectations are set purely on visual references without context. A finish might look a certain way in a photo or showroom, but without understanding how it's achieved and how it behaves over time, it can lead to mismatched expectations. If the process is overly simplified or treated like standard painting, especially for finishes like limewash or lime plaster, issues usually come up later on.

Q: Do you recommend different types of paint for different areas of the home? How do lifestyle factors—pets, cooking, or ventilation—affect what paint you would recommend?

A: Yes, definitely. Different areas of the home behave quite differently, so it doesn't really make sense to treat all walls the same. Spaces like kitchens, bathrooms, or areas with less ventilation tend to deal with more moisture, so the finish needs to be able to handle that.

In living rooms or bedrooms, there's usually more flexibility. That's where homeowners can explore finishes that are a bit more material-led, like limewash or even lime plaster, especially if the intention is more about how the space feels rather than just practicality. So it's less about choosing one paint for the whole house, and more about matching the finish to how each space is actually used.

Lifestyle plays a big role in what we would recommend, because it directly affects how the walls are going to be used and how they'll age over time. In homes where there's a lot of cooking, especially in more enclosed kitchens, we would usually lean towards finishes that are more durable and easier to maintain, since there's more moisture and residue in

the air. The same goes for homes with pets or young kids—there's naturally more contact with the walls, so practicality becomes more important.

Ventilation is another key factor. Spaces with good airflow tend to be more forgiving, while areas with less ventilation hold on to moisture, so the finish needs to be able to cope with that.

We're seeing more families, especially those with infants or newborns, being more intentional about the materials they choose. In those cases, we may recommend more material-led finishes like limewash in areas such as bedrooms or nurseries, where there's less direct wear but more focus on creating a softer, more natural environment.

Q: Are you seeing a shift in how younger homeowners think about paint and durability?

A: We are starting to see a shift, but it's quite gradual. Younger homeowners are definitely more exposed—they're doing more research, asking more questions, and are generally more aware that materials behave differently over time. So there's more curiosity around things like maintenance, durability, and how a space will age.

At the same time, they're also very

visually driven because of how much inspiration comes from social media. While there's more awareness, the decision-making still often starts from aesthetics, and then moves into performance once they begin to understand the space better.

While aesthetics is still the main starting point, performance is becoming part of the conversation much earlier than before. Most homeowners still approach renovation visually first; they have a look or a feeling in mind. But once they're guided through how materials behave in a space, you can see that shift happening.

It's not really one replacing the other; the two aspects are starting to sit together. The decisions become more considered when homeowners understand that how something looks on day one isn't the same as how it will look over time. That's where we're seeing more openness towards finishes like limewash or other material-led approaches.

Q: If homeowners could rethink just one thing about their walls, what should it be?

A: It would be to stop seeing walls as something you just "finish" at the end of a renovation, and start seeing them as part of how a home actually feels to live in.

A lot of decisions today are made around how things look at handover, but walls are one of the most constant surfaces in a home—they're something you live with every day. At Urban Walls, we tend to approach it more from a material and application perspective. It's not just about the product, but how it's applied and how it behaves over time.

That's also why finishes like limewash resonate with a lot of our homeowners and designers. It's not about achieving a perfect, uniform look, but about creating something that feels considered and evolves more naturally with the space. So, if there's one thing to rethink, it's moving away from just choosing a look and towards choosing how you want your space to feel—not just on day one, but over time.





ITC Green Centre, Kolkata



*An urban canvas
expressing vibrant
cultural heritage*

The ITC Green Centre in Kolkata is a 17-acre mixed-use development in Rajarhat, a rapidly expanding suburb envisioned as the city's next growth corridor. Conceived as the winning entry of a design competition, the project brings together IT and corporate offices, a hotel, a knowledge centre, and residential towers.





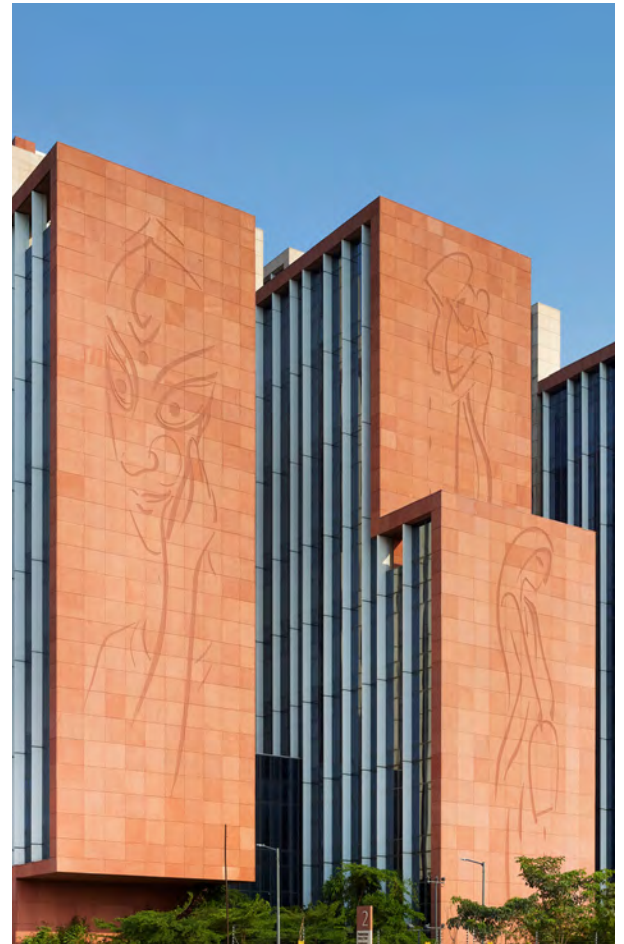
Beyond accommodating these varied programmes, the campus acts as an urban anchor, shaping a new district within the city's dense fabric.

The architecture draws directly from Bengal's cultural and environmental context—the cycle of six seasons, a warm and humid climate, and an enduring ethos of community and belonging. These principles inform every aspect of the design, from building orientation and landscape planning to spatial organisation and artistic expression.

The buildings are placed at an 18-degree tilt from the east-west axis, which reduces solar exposure by roughly 25%. This strategic orientation captures prevailing southern winds to naturally ventilate the outdoor areas. In Kolkata, a city characterised by a warm-humid climate, the intervention lowers perceived temperatures by up to 5°C.

Vehicular movement is confined to a peripheral loop road, freeing the heart of the campus for pedestrian use. A public spine at the centre, which is shaded and weather-protected for year-round comfort, becomes the campus's primary axis. From this axis extend linear walking paths, named after the six seasons of the traditional Bengali calendar (such as Grishmo Drive [summer] and Borsha Channel [monsoon]), ensuring that every part of the campus reflects the seasonal rhythms. Each of these landscaped avenues features seating, gardens, and public art that draw inspiration from festivals, colours, and rituals, animating the outdoor spaces with activity all year.

Within this culturally and climate-responsive framework, the campus architecture strikes a balance between innovation and tradition. The commercial office buildings are designed for high





performance and flexibility, utilising a virtually column-free structural system that enables open, adaptive floor plans with over 85% space efficiency. Large floor plates are broken into day-lit wings to ensure that about 90% of workspaces receive natural light without glare. Floor plate depth is limited to roughly 17 metres, and a regular structural grid of about 8.5 by 8.5 metres optimises layouts for both offices above and parking below.

This modular approach avoids monotonous massing by shifting volumes for visual interest while remaining robust and future-ready. The first-phase IT towers, for instance, were later successfully reconfigured as research facilities post-pandemic, demonstrating the design's flexibility in accommodating changing needs over time.

The eastern and western facades are expressed as an urban canvas that celebrates Bengal's unique identity. Breaking ranks with conventional glass and steel, the east and west faces of the towers and the knowledge centre are clad in expansive sandstone panels carved with Bengali art motifs. These vertical murals draw inspiration from the cyclical themes established in the landscape design, as well as everyday scenes that capture local life—from wooden boats that recall the city's maritime history and lush tea gardens to festivals such as Durga Puja and the Bengali New Year—rendered in a contemporary, minimalist style.

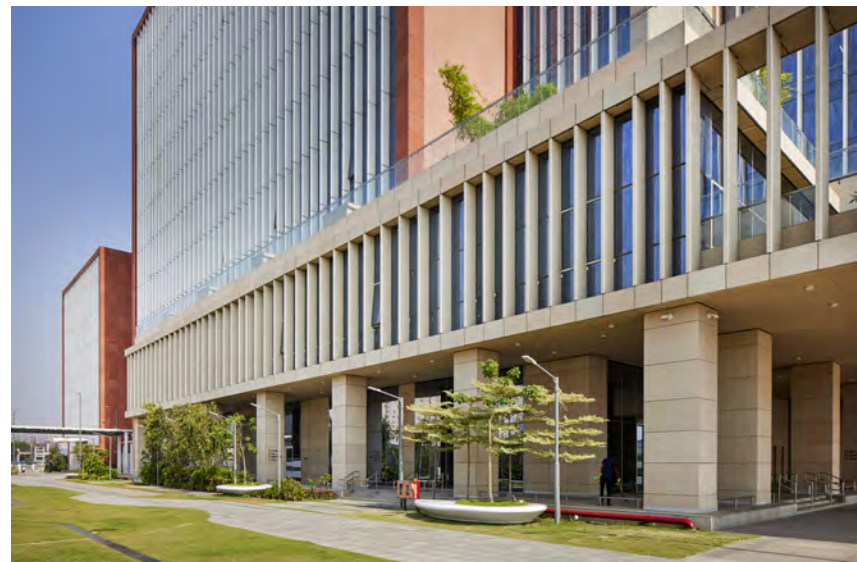
To create this public art at an architectural scale, the design team launched an open call inviting artists and students from across Bengal to contribute ideas. Dozens of participants attended a site workshop and sketched their interpretations of Bengal's lifestyle and traditions through the lens of seasons and community celebrations. The themes emerging from this participatory process were refined and translated into large-scale graphics for the buildings' exteriors.

Local artisans then merged tradition with technology: hand-drawn artwork was digitised and CNC-milled into sandstone panels, after which skilled craftspeople hand-chiselled final details to add depth and a rich play of light and shadow. The finished panels were mounted onto the structures, combining age-old carving techniques with modern installation methods. The facade of the knowledge centre features elegant compositions of the Bengali script inspired by Rabindranath Tagore's poetic themes of light and shade as depicted in his work *Gitanjali*, lending this human-scaled venue a profound cultural character alongside its monumental murals.

Visitors and occupants encounter elements of Bengal's cultural heritage at every turn. Motifs drawn from local art, literature, and even traditional home design, such as ornamental grills, geometric floor patterns, and louvred screens, are interpreted throughout the campus in contemporary ways. At the same time, larger installations, such as sculptures and murals, celebrate regional stories and folk art, making the entire site a living gallery of Bengal's identity.

The interiors extend the narrative, with lobbies and collaborative workspaces animated by textures and patterns rooted in local craft—terracotta tiles, graphic weaves, and wall motifs—that echo Bengali festivals and culinary traditions. Distinct colour palettes across different floors reference the company's brand ethos while shaping varied atmospheres.

Monsoon finds expression in motifs of water ripples and raindrops, translated into wall patterns and acoustic panels. *Poila Boishakh*, the Bengali New Year, and *Poush Parbon*, the kite-flying festival, inspire vibrant graphics and flooring patterns. The *Garad saree*, worn during *Durga Puja*, informs the use of traditional colours, while the *Kantha* stitch lends its intricate patchwork aesthetic to surfaces. Bamboo craft, deeply rooted in the region's vernacular, is reimaged in lighting and material palettes. Together, these references weave the cycle of seasons into the architecture, embedding everyday life and festivities of Bengal into the campus experience.



Equally important is the campus's strong commitment to sustainability and liveability. The climate-sensitive orientation and shaded outdoor corridors maintain a comfortable ambient environment, reducing the reliance on extensive air conditioning and encouraging people to use outdoor spaces throughout the year. High-performance building envelopes with external insulation, limited window areas, and 450 mm-deep vertical stone fins substantially reduce heat gain while still admitting ample daylight. Greenery is provided indoors to promote a healthy, livable environment for occupants.

An energy-efficient radiant cooling system further lowers the buildings' carbon footprint, helping the project achieve a Platinum pre-certification under the Indian Green Building Council's rating system. Energy consumption is targeted at approximately 43 kWh per square metre per year, significantly outperforming typical commercial benchmarks in India. By integrating passive design strategies with modern engineering solutions, the campus optimises resource use and provides a comfortable, healthy atmosphere for occupants.

Unfolding in phases, the ITC Green Centre has already completed key components, including two IT office towers and the knowledge centre. As new offices, residences, and amenities emerge, the development aims to highlight how contemporary architecture can derive a unique identity from local culture while meeting global standards of sustainability and performance. In its design and daily experience, the campus embodies the rhythms of Bengali life—vibrant, community-oriented, and adaptive—offering a model of urban development where optimisation and liveability go hand in hand with heritage and creativity.



› PROJECT DETAILS

Project Name: ITC Green Centre

Typology: Mixed-use Development

Location: Rajarhat, Kolkata

Photographer: Paul Raftery

Completion date: Under construction

Client: ITC Pvt. Ltd.

Built-up Area: 30,00,000 sq ft

Site area: 17 Acres

Architects: Arnab Dutta, Kiran Yadav, and Abhishek Arora

Architect Firm: Morphogenesis





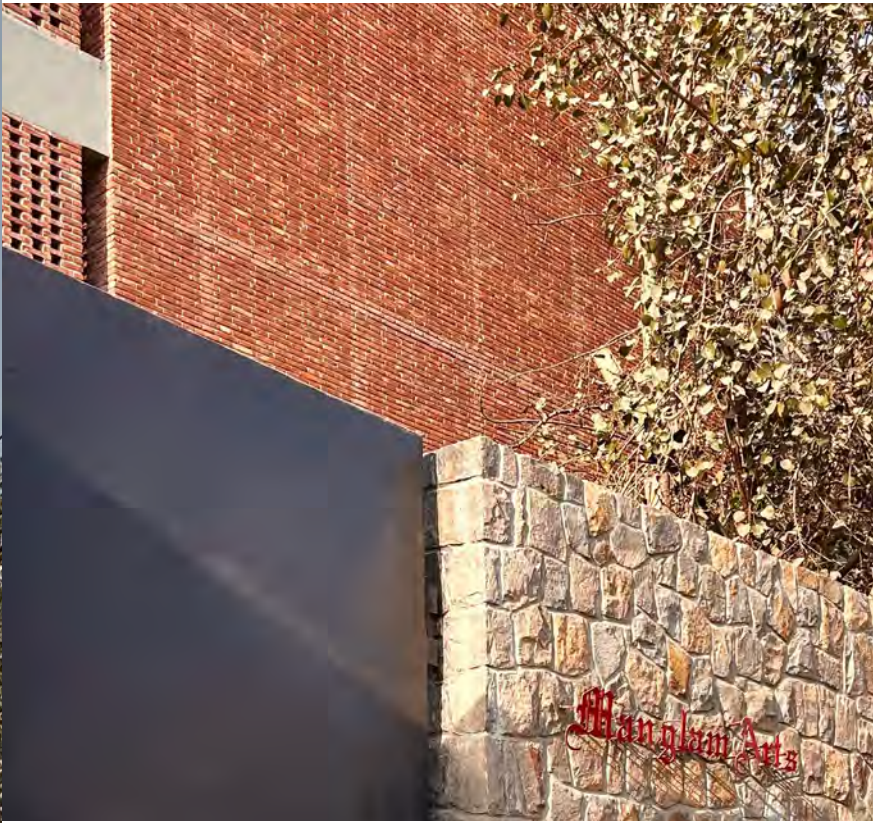
H26



The industrial legacy of Joseph Stein in the 21st Century

The architectural history of peri-urban buildings in northern India is dominated by the industrial buildings designed by Joseph Stein in the latter half of the 20th century. Building purposefully with raw brick and concrete, Stein crafted a narrative of strong volumes, sharp silhouettes, and an acceptance of exposed





finishes as architectural expression.

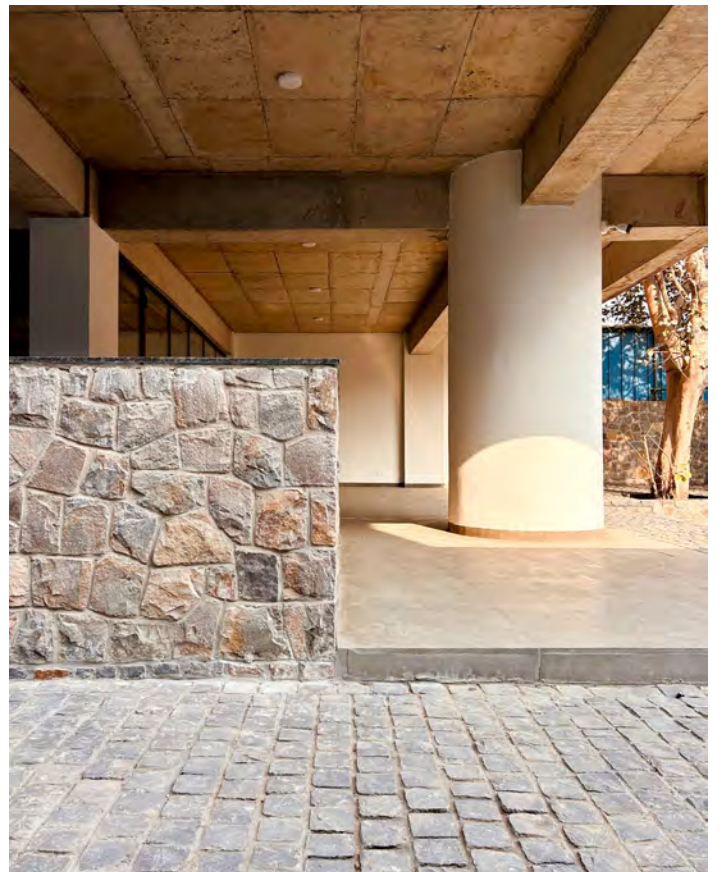
At the time, his patrons were industrialists creating large buildings on the south edge of Delhi, on the road to Agra and then Calcutta, the famed Grand Trunk Road. Post-independent India had confidence, and the owners wanted to impart a sense of permanence to the buildings they commissioned. Stein delivered the right combination of frugality and the monumental.

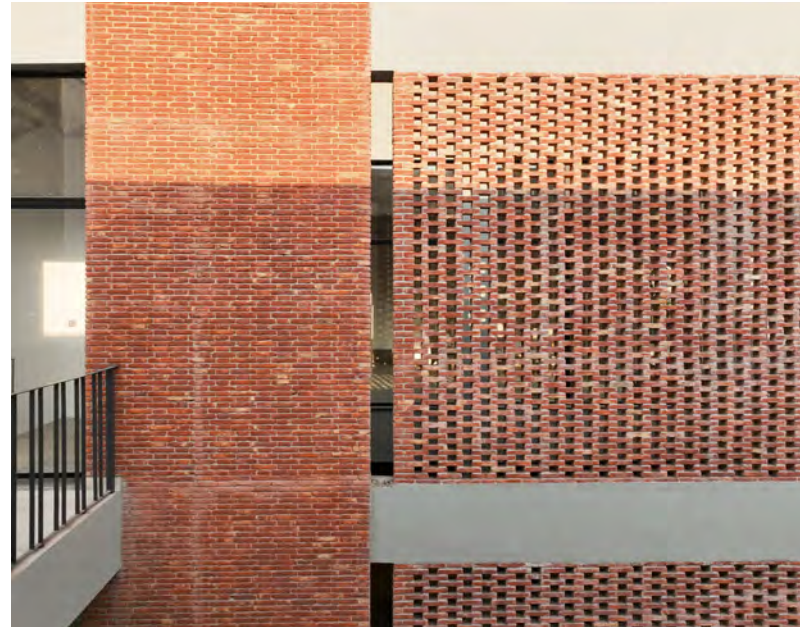
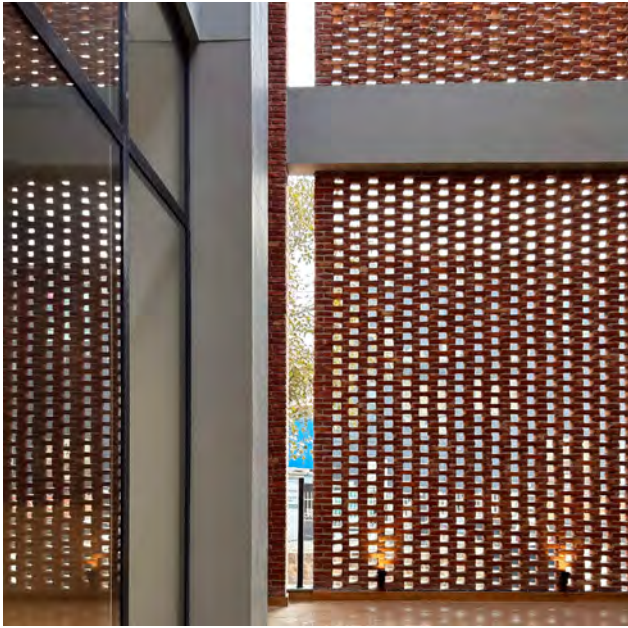
The present context of fringe industrial areas around Delhi seems less about architectural monumentalism and perhaps even less about permanence. Industrial buildings are metal structures with millimetre-thick skins, and despite being remarkably easy to erect, they have no tolerance for the biting winters and hot summers that dominate the region.

H26 is a reminder that Stein's approach to buildings was not only future-thinking but incredibly sustainable. The buildings he made still operate, whilst many industrial sheds have come and gone. Producing a building that owners want to keep in the long run is essential to its inherent sustainability, embodied energy, and total carbon footprint.

A commercial building located in the industrial area of Greater Noida, Gautam Buddha Nagar, H26 was designed for a rugs and furniture manufacturing brand. The project is laid out like a retail showroom, with display spaces on upper and lower floors opening to repose spaces on the ground and terrace.

At the time of site planning, a mature peepal tree was at the front of the plot. The building was consciously designed to incorporate and preserve this tree. The front setback





was developed as a social gathering space, integrating planter beds and informal seating, allowing the building to harmoniously coexist with the tree.

The building itself was planned to accommodate three exhibition floors and a ground floor. The basement houses two exhibition halls, where walls are primarily used for showcasing rugs and artifacts, while the floor area displays rugs and furniture. The ground floor functions as a client interaction zone, featuring a dining table, a bar unit, and round tables, along with service areas such as the pantry and washrooms. The first and second floors act as large display halls with similar wall- and floor-based exhibition functions. The terrace level includes a private resting room for clients with an open terrace finished with Delhi quartzite.

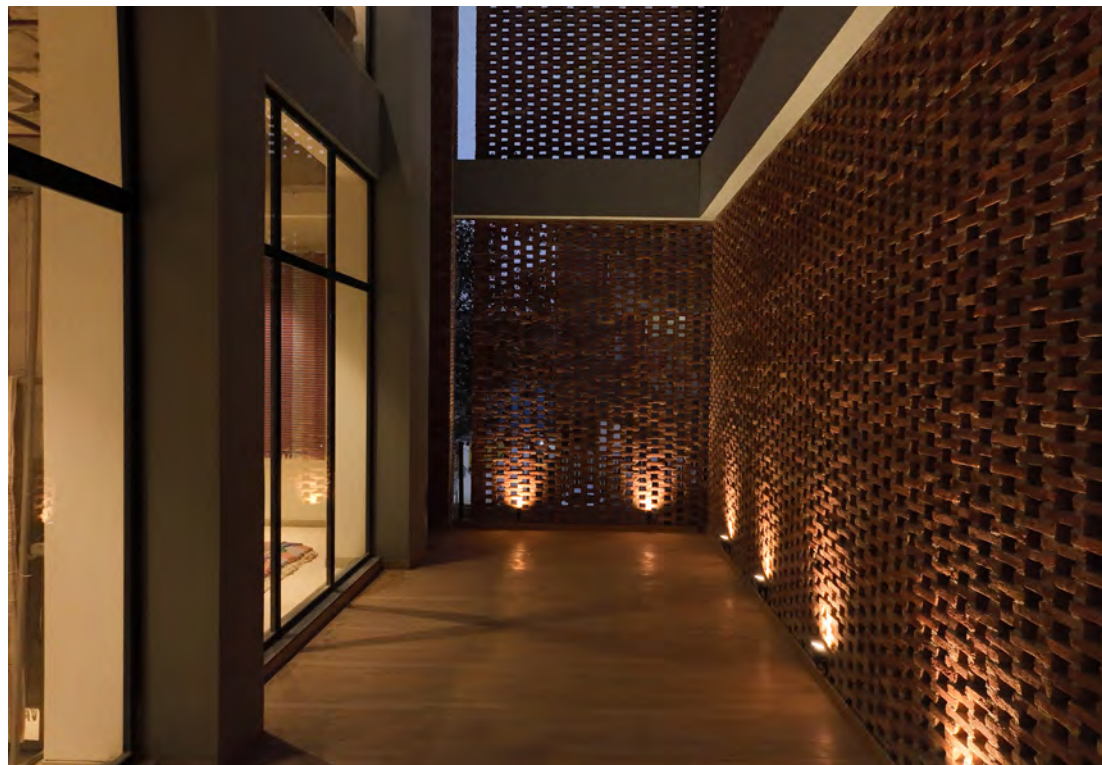
At the core of the building lies the idea of the courtyard as both a climatic and social device. Indian architecture has long used courtyards to regulate light, air, and movement—from traditional havelis to institutional buildings. In H26, this idea is expressed through two courtyards, stacked one above the other.

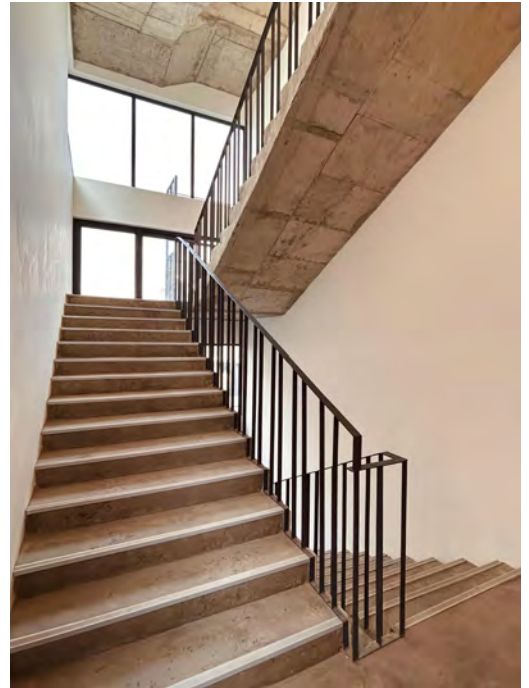
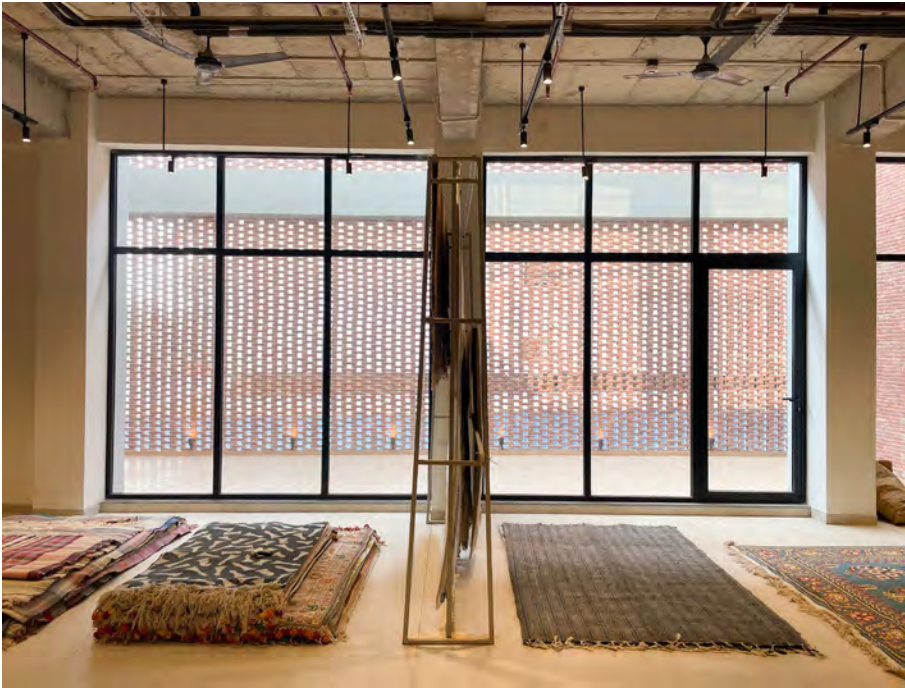
The first, a subterranean space, allows daylight to reach the lower display halls while enabling vertical air movement throughout the building. This passive strategy reduces dependence on artificial

lighting and improves overall spatial comfort. On the first floor, the building opens up to the sky through another courtyard wrapped in a brick jaali. This open-to-sky space filters daylight into the interiors and promotes air movement, drawing the hot air out and above itself. Together, these strategies allow the textures, colours, and craftsmanship of the rugs and furniture to be experienced under

natural light conditions.

The material palette is warm and earthy. The facade uses red brick with exposed structural beams, giving the building a strong industrial character. Keeping the structure and services exposed reflects a clear architectural approach in which construction itself becomes part of the design, aligning with the ethos of modern Indian industrial buildings.





The interior language is driven by an aesthetic designed to showcase the product. Exposed ceilings reveal fire system conduits, HVAC lines, central cassette air-conditioning units, and black ceiling fans, all deliberately left visible but above eye level. Lighting is handled through suspended track lights and adjustable spot fixtures, strategically positioned to highlight key display elements.

To maintain visual neutrality and

ensure focus remains on the exhibits, walls are finished in white and paired with neutral tile flooring. The staircase, finished in raw concrete, further reinforces the industrial narrative, tying together the building's material and functional clarity.

While Stein is revered in the present day primarily for his contribution to urbane institutional buildings, it was his decades-long experience with industrial architecture that honed his ability to marry structure, material, and form. H26 builds upon that legacy by aiming to reposition peri-urban industrial buildings as an act of restraint rather than spectacle. Through courtyards, filtered daylight, and an honest material palette, the project demonstrates how climatic intelligence and spatial clarity can quietly shape meaningful environments.



> PROJECT DETAILS

- Area:** 12,000 sq ft
- Location:** Greater Noida
- Completion:** Jan 2026
- Photography:** Aishwarya R, Anubhav Rana
- Design Team:** Anubhav Rana, Aditya Dua, Amit Khanna
- Architect Firm:** AKDA



Keeping Construction Workers Safe Across the Region



PlanRadar's Avtandil Mekudishvili discusses the necessary measures taken to protect workers against the intensifying heat



Avtandil Mekudishvili, APAC Regional Lead at PlanRadar

The backbone of the construction industry, its workers, are facing increasingly harsh conditions completely outside of their control. The question then remains, "How can firms adjust their operations to protect their workers and remain steadfast in extreme weather?"

Southeast Asia Building invited Avtandil Mekudishvili, APAC Regional Lead at PlanRadar, to explain how companies are mitigating the effects of weather on their essential workers by restructuring systems and utilising new tools, ensuring the well-being and safety of the team.

As temperatures rise across Singapore and Southeast Asia, construction firms are under growing pressure to protect outdoor workers from the dangers of extreme heat. From earlier start times and mandatory rest breaks to AI-powered heat monitoring systems, the industry is beginning to rethink how projects are managed in increasingly hot and humid conditions.

Singapore's construction sector is already feeling the effects. According to a recent Straits Times report, one major traffic infrastructure worksite in Pasir Ris has begun trialing an AI-based system that predicts heat stress levels hours in advance, helping supervisors prepare workers before dangerous conditions set in.

The system, deployed by Hwa Seng Builder at the Loyang Viaduct project, combines weather forecasts with data from Wet Bulb Globe Temperature (WBGT) metres to generate heat risk predictions throughout the day. Supervisors receive automated alerts via WhatsApp, prompting them to implement measures such as hydration reminders, additional rest breaks, or task adjustments before temperatures peak.

This shift towards proactive heat management reflects a broader regional trend. Across Southeast Asia, contractors are increasingly recognising that extreme heat is no longer an occasional disruption but a core operational risk that affects productivity, worker welfare, and project timelines.

Historically, many companies relied on informal measures such as encouraging workers to drink water or rest when temperatures became uncomfortable. However, these approaches are proving insufficient as heatwaves become more frequent and intense.

Leading firms are now adopting more structured mitigation strategies. One of the most visible changes is the redesign of work schedules. Construction activities are increasingly shifted to cooler hours of the day, with some projects beginning work as early as 6am

instead of the traditional 9am. In certain cases, contractors are also introducing evening or night shifts for road works, logistics operations, and concrete pours.

This approach is becoming increasingly common across the Asia-Pacific region, particularly in countries experiencing prolonged periods of extreme heat. In Australia, for example, major contractors such as Lendlease and CPB Contractors have implemented formal heat management plans on large infrastructure projects, including adjusted start times, mandatory hydration breaks, and stop-work thresholds tied to temperature and WBGT readings.

During peak summer conditions, some outdoor construction activities are rescheduled to early mornings or evenings to reduce worker exposure during the hottest parts of the day. Similarly, in Singapore and parts of Malaysia, contractors are introducing formal midday "heat pause" periods between 12pm and 3pm, where heavy physical tasks are suspended and only lighter or shaded work is permitted. These schedule adaptations are helping companies maintain productivity while reducing the risk of heat stress and fatigue-related incidents on-site.

At the same time, companies are upgrading on-site facilities to improve worker recovery and comfort. Rather than relying on basic shaded tents, many projects are investing in dedicated cooling zones equipped with industrial fans, misting systems, insulated roofing, and chilled hydration stations.

The Loyang Viaduct site in Singapore has taken this a step further by installing sprinklers above rest shelters to reduce roof temperatures and providing workers with makeshift showers, ice supplies, and prototype cooling vests. These investments may seem small individually, but collectively they help reduce heat strain and maintain productivity throughout the day. Digital tools are increasingly central to these efforts. Real-time monitoring platforms now allow site managers to move beyond reactive



decision-making and implement data-driven safety protocols.

WBGT sensors, wearable devices, and centralised dashboards are becoming valuable tools on larger projects. These technologies allow managers to monitor environmental conditions continuously while tracking compliance with mandated work-rest cycles. Automated alerts can also ensure supervisors respond consistently when heat thresholds are exceeded, rather than relying on manual judgement calls.

Wearables are adding another layer of protection by monitoring workers' physiological conditions in real time. Devices capable of tracking heart rate, skin temperature, and fatigue indicators can identify early signs of heat stress before symptoms escalate into serious illness.

Internationally, companies are already seeing results from these technologies. In Saudi Arabia, a construction

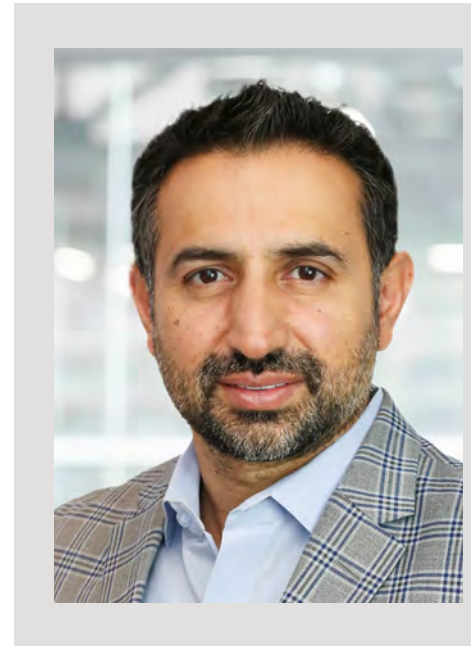
firm implemented an AI-powered monitoring platform that combines wearables and video analytics to detect early heat stress risks and trigger immediate interventions. Similar systems are being trialled in Japan using helmet-mounted biometric sensors to support remote safety monitoring.

While adoption remains uneven across the region, the direction is clear. As climate conditions become more challenging, construction firms will need to integrate heat resilience into everyday project planning rather than treat it as a temporary safety issue.

In the years ahead, climate adaptation is expected to become a defining feature of construction management across Southeast Asia. Protecting workers from extreme heat will not only improve safety outcomes but also strengthen productivity, compliance, and project resilience.

Unlocking the Full Value of AI, BIM, and Digital Twins with Integrated Workflows

ALLPLAN's Sunil Pandita tells how to effectively implement digitalisation across all stages of a project



Sunil Pandita—Chief Division Officer, Planning & Design Division, Nemetschek Group, and CEO of ALLPLAN

A hot topic in the industry is digital tools: AI, BIM, and Digital Twins. These tools have the opportunity to ease workloads and improve efficiency for all stakeholders involved. It is an exciting time for the architecture, engineering, and construction industries; at the same time, implementing digital tools has presented its own set of challenges. How can projects more effectively weave such technology into their processes to ensure the best outcomes?

Southeast Asia Building had the pleasure of inviting **Sunil Pandita, Chief Division Officer, Planning & Design Division, Nemetschek Group, and CEO of ALLPLAN**, to explain how to integrate digital tools to enable more effective outputs that support projects throughout their entire life cycles.

Across the APAC region, rapid urban growth is placing sustained pressure on infrastructure, housing, and public services. Cities are expanding both vertically and horizontally, while governments and developers work to meet ambitious targets within tight

timelines and constrained budgets.

At the same time, expectations around sustainability, resilience, and asset performance continue to rise. Projects are expected to meet stricter environmental standards, respond to changing climate conditions, and remain adaptable over decades of use. These demands are layered onto already complex delivery environments involving multiple disciplines, stakeholders, and regulatory frameworks.

As a result, the margin for inefficiency has narrowed. Delays, rework, and coordination issues carry greater financial and operational consequences than ever before. Meanwhile, despite technologies such as AI, BIM, and digital twins becoming more widely adopted, many teams still face challenges when translating digital design into consistent real-world outcomes. The challenge is therefore how to integrate these tools more efficiently across the entire project lifecycle.

A digital industry that still struggles to deliver

The architecture, engineering, and construction industries have undergone a significant digital

transformation over the past two decades. The transition from 2D drawings to the adoption of BIM and cloud-based collaboration has reshaped how teams work and share information.

More recently, advances in AI and data-driven tools have introduced new opportunities to automate tasks, improve analysis, and support decision-making. In theory, these technologies provide a strong foundation for more efficient and predictable project delivery.

In practice, many organisations still encounter familiar challenges. Information is often fragmented across different tools and disciplines. Design intent can become diluted as models move from one stage of the project to another. Furthermore, coordination between teams may rely on manual processes or repeated data exchanges, increasing the risk of errors.

These issues contribute to a persistent productivity gap. While digital tools are widely available, their full value is not always realised at the project level. The challenge lies in how these tools are connected and applied across the lifecycle, rather than in the tools themselves.

At the centre of this challenge is a

disconnect between digital models and physical outcomes. Design models are often highly detailed and data-rich, yet the insights they contain are not always carried through into construction and operation in a consistent way.

This gap can lead to discrepancies between what is designed and what is ultimately built. Adjustments on site, late-stage coordination issues, and limited visibility into downstream impacts can all affect project performance. Over time, these inefficiencies influence cost, schedule, and asset quality.

There is growing recognition that design decisions need to remain connected to real-world execution. This has led to a stronger focus on lifecycle thinking, where information flows continuously from concept through to construction and beyond.

Why integration matters more than innovation

The industry has no shortage of advanced tools. AI can automate repetitive tasks and support analysis. BIM enables coordinated, data-rich models. Digital twins provide visibility into asset performance over time. Each of these technologies offers clear benefits in isolation.

However, issues arise when these tools are applied within disconnected workflows. Data is recreated, transferred, or interpreted multiple times as projects move between design, engineering, and construction. This introduces risk and reduces confidence in the information being used to make decisions.

Greater value comes from aligning these technologies within a connected environment. Consistent data structures, interoperable systems, and shared standards allow information to move more reliably between stakeholders and project phases. Open approaches to collaboration play an important role here, giving teams the flexibility to work across different tools while maintaining data integrity over the entire building lifecycle.

Within this context, AI becomes more effective. Its ability to automate checks, support analysis, and highlight risks depends on the quality and consistency of the data it operates on. When applied to fragmented information, its outputs are limited. When embedded within connected workflows, it can strengthen reliability and support more informed decision-making.

As projects grow in complexity,

the ability to integrate processes and information becomes a defining factor in project success. The impact of technology is therefore shaped less by individual capabilities and more by how effectively those capabilities are connected.

Approaches such as Design-to-Build are gaining traction as a way to support this continuity. By aligning design, engineering, and construction processes around shared data and coordinated workflows, teams can make more informed decisions earlier and maintain greater control over outcomes as the project progresses.

Enabling connected workflows across the lifecycle

Improving continuity requires workflows that extend beyond individual project stages. Design, engineering, fabrication, and construction all need to operate within a shared framework where information can be exchanged without loss of detail or intent.

In practice, this involves connecting design models directly with structural analysis, detailing, and construction planning processes. When changes are made in one area, they can be reflected across the workflow without the need for manual rework or duplication of data.

For example, a structural model developed during the design phase can feed directly into analysis tools, allowing engineers to validate performance while maintaining alignment with the original geometry. The resulting data can then inform detailing and fabrication, ensuring that components are produced accurately and fit within the overall design intent.

AI can play a supporting role within these workflows. Tasks such as code checking, clash detection, and quantity take-off can be automated on a higher level, allowing teams to focus on higher-value decisions. When these processes are connected to shared project data, the outputs remain consistent with the overall design and construction context.

Closer collaboration with contractors and fabricators at earlier stages also improves outcomes.



The Mülheim airship hangar in Germany combines innovation, sustainability, and a pioneering spirit to create a breathtaking piece of modern architecture. Copyright: Stefan Lamberty / WDL



A spectacular piece of alpine infrastructure on Lake Lucerne in Switzerland has been designed with Allplan Civil. Copyright: Baenzinger Partner AG.

Feedback on buildability, sequencing, and material constraints can be incorporated before construction begins, reducing the likelihood of needing redesign and adjustments on site.

From models to measurable outcomes

When information flows effectively across the lifecycle, the impact can be seen in project outcomes. Improved coordination reduces the likelihood of clashes and errors. Early validation supports more accurate cost and schedule planning. Better alignment between design and construction leads to fewer changes during delivery.

These improvements also extend to sustainability and long-term performance. When design decisions are informed by accurate data and carried through to construction, it becomes easier to optimise material use, reduce waste, and support energy-efficient operation.

AI contributes further by supporting the continuous evaluation of project

data. It can help identify patterns, highlight potential risks, and support ongoing optimisation as projects progress. This adds another layer of confidence to decision-making, particularly in complex environments where multiple disciplines need to be managed simultaneously.

In the context of smart buildings and infrastructure, reliable data is essential for ongoing asset management. Digital models that remain connected to real-world conditions can support maintenance planning, performance monitoring, and future upgrades.

The focus shifts from creating detailed models to delivering assets that perform as intended. However, achieving this depends on maintaining consistency in data and workflows from the earliest design stages through to operation.

Building the next phase of digital construction

The next phase of digital construction will be shaped by how effectively the industry connects its tools, processes,

and stakeholders. There is a growing move toward ecosystems that support collaboration across disciplines, rather than isolated platforms focused on individual tasks.

Open standards and interoperable systems will continue to play a key role in enabling this shift. They provide the foundation for consistent data exchange and allow teams to adapt their workflows without being constrained by specific technologies.

Simultaneously, the integration of AI, BIM, and digital twins will continue to evolve. Their combined value lies in how they support informed decision-making across the lifecycle, from early design through to long-term operation.

For organisations operating in fast-growing regions such as the Asia Pacific, this approach offers a way to manage complexity while maintaining control over project outcomes. By focusing on continuity, collaboration, and data integrity, the industry can move closer to delivering projects that meet both immediate demands and long-term expectations.

Coordinating Singapore's Coastal Front

Jee Yi Yng (YY) from AECOM explains the climate challenge in protecting Singapore's coast, and how systematic design can tackle the issue

Extreme weather and rising sea levels loom over countries across the globe. For a small country like Singapore, what can be done to mitigate the effects of climate change and protect our land?

Southeast Asia Building invited **Jee Yi Yng (YY), Senior Vice President, Southeast Asia at AECOM**, to outline the issue and lay out the systematic changes that need to occur across industries and platforms to prepare Singapore on all fronts, setting a global standard in coastal resilience.

As Singapore's long-term coastal protection strategy becomes a reality, the underappreciated concept of fragmentation of the coastal defence is rapidly becoming a critical risk factor. As sea levels rise and incidences of extreme weather become more frequent, the greater vulnerability lies in how defences are designed, approved, and implemented across different sites on the island.

Singapore has already outlined the scale of the challenge.¹ The



Jee Yi Yng (YY), Senior Vice President, Southeast Asia at AECOM

government has committed up to S\$100 billion over the long term to protect its coastlines, with the Coastal and Flood Protection Fund established to support these efforts.

Agencies, including the National Climate Change Secretariat (NCCS) and national water agency Public Utilities Board (PUB), are leading a coordinated, science-based approach to safeguard the island against rising seas. But as implementation plans gather pace, the real challenge is ensuring they work as a part of a comprehensive system.

From site-level compliance to system-level accountability

Coastal protection is increasingly treated and discussed not as standalone engineering projects, but as an integrated network of defences across the island. The effectiveness of any seawall, barrier, or drainage upgrade depends on how well it connects with the wider infrastructure.

In practical terms, this introduces coordination risk where the



Ravish Maqsood

¹ <https://www.mse.gov.sg/latest-news/parliament-q--a-on-sea-level-rise-coastal-defences/>.

possibility of individually compliant developments failing collectively becomes significant and real. In a dense, highly interconnected, low-lying city like Singapore, discontinuities in coastal protection can become critical vulnerabilities.

PUB, which oversees drainage and coastal protection planning, has emphasised the need for holistic, system-wide solutions, while NCCS has stressed the need for integrated planning across agencies, sectors, and land uses.

For developers and asset owners, this marks a fundamental shift. Coastal defence is no longer just a technical or legal requirement; it is a shared responsibility with regulatory and financial implications.

The illusion of time

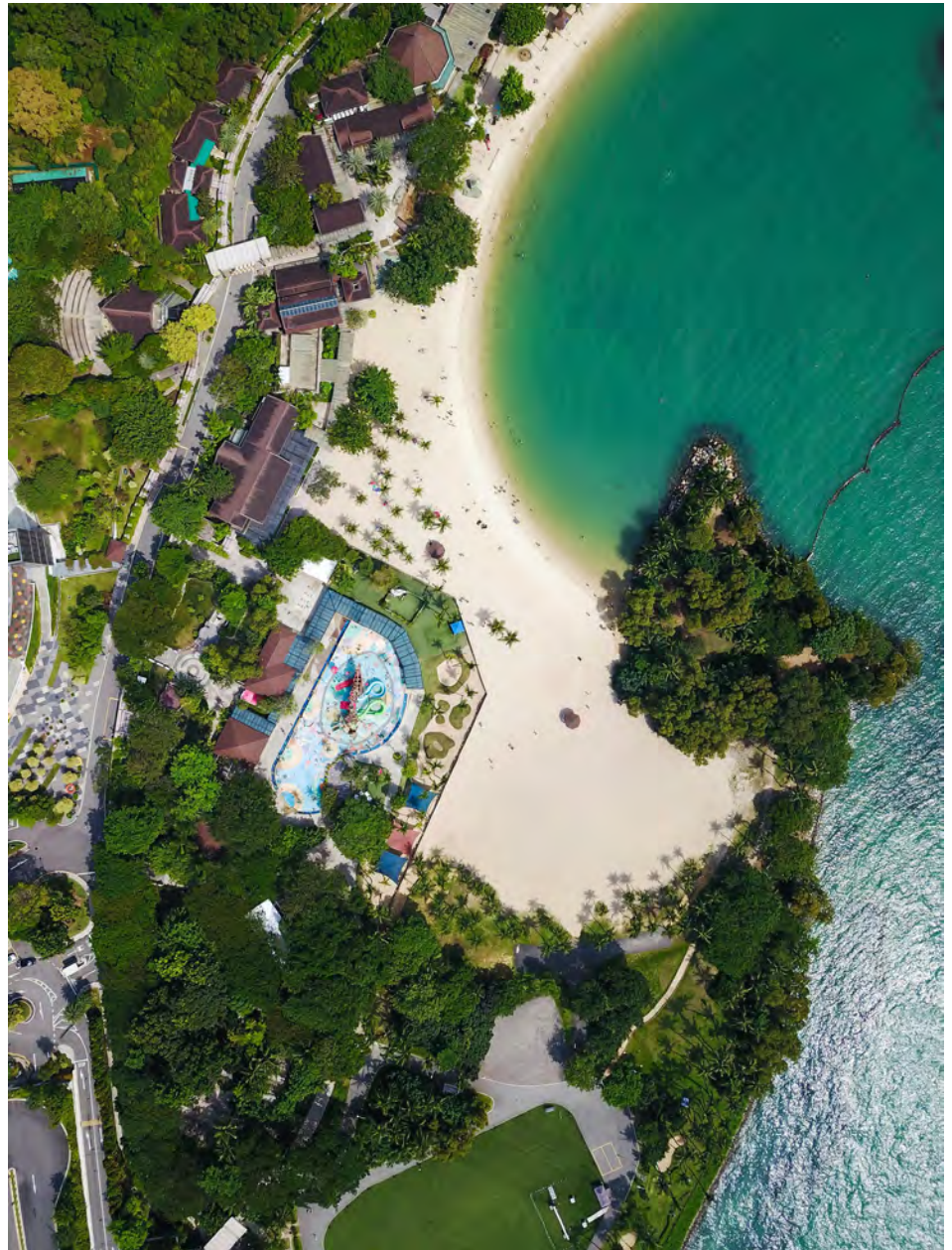
While Singapore's coastal protection plans are framed over decades, this obscures a more immediate reality: the most consequential decisions must be made now.

Major infrastructure and coastal-adjacent developments are already in planning or early execution. Adjusting them to align with neighbouring defence projects can become significantly more complex and costly. Retrofitting solutions, whether raising seawalls or reconfiguring drainage, can also create unintended consequences, including shifting flood risk to adjacent sites.

Faster approvals, higher stakes

Singapore's push for digital transformation in the built environment is accelerating this dynamic. Platforms such as CORENET X, led by the Building and Construction Authority (BCA), are streamlining development approvals and enabling faster project turnaround.

While this improves efficiency, it also raises the stakes for coordination. With shorter approval cycles, there is less time to reconcile differences between adjacent projects. Without alignment at an early stage, developments may proceed based on differing assumptions about sea level rise, flood modelling, or defence standards, creating therefore



Rockwell branding agency

mismatches that weaken overall protection.

In this context, system integrity depends on early alignment with property owners, developers, engineers, regulators, and landowners engaging at the outset, rather than relying on late-stage adjustments.

Moving beyond compliance

Traditional compliance frameworks were not designed to manage this level of interdependence. They ensure that individual projects meet prescribed standards, but do not guarantee that those projects will

function cohesively as part of a larger system.

Singapore's approach, guided by PUB and NCCS, is aiming for an integrated model. However, implementation will require a shift in mindset across the private sector as well. Developers must recognise that their resilience is interconnected with that of their neighbours—and that fragmentation of execution carries real financial and operational risks.

De-risking through shared design intelligence

One practical way forward is through

shared design intelligence. Rather than coordinating at the end of the process, stakeholders can align on key data, assumptions, and system-level objectives from the outset. This includes establishing a common baseline for:

- Sea level rise projections (aligned with NCCS climate scenarios)
- Flood modelling and hydrodynamics (informed by PUB studies)
- Performance standards for coastal defences

From our experience delivering complex, multi-stakeholder infrastructure programmes, early alignment is most effective when supported by integrated digital environments—enabling stakeholders to work from a shared source of truth across planning, design, and delivery. By pooling data and agreeing on modelling assumptions early, developers can ensure that adjacent projects are designed to work together as an integrated system.

This helps avoid the risk of “designing past each other,” where individually robust solutions fail to integrate into a coherent whole. It also creates a foundation for more adaptive, future-ready infrastructure,

where design decisions can be tested, refined, and optimised over time as climate conditions evolve. Importantly, this approach does not require new regulation. It builds on Singapore’s existing policy framework while enhancing outcomes through proactive coordination, transparent data sharing, and a lifecycle-oriented, systems-thinking mindset.

A strategic priority for Singapore For Singapore, the stakes are unusually high. As a low-lying island nation, its long-term resilience depends on the effectiveness of its coastal protection strategy. The significant public investment through the Coastal and Flood Protection Fund underscores this national priority.

However, experience from global coastal and climate adaptation programmes suggests that engineering excellence must be complemented by integrated planning, programme-level coordination, and robust decision-support tools. Digital enablement—from scenario modelling to asset lifecycle management—plays a critical role in helping stakeholders navigate uncertainty, optimise investment, and manage long-term risk. But funding and engineering alone are not enough. The success of these efforts will depend on system-

level coordination across public and private stakeholders.

For urban planners, developers, and infrastructure leaders, this is not just a technical issue, but also a strategic risk management challenge. Misalignment could lead to costly redesigns, regulatory complications, and long-term asset exposure, while well-coordinated approaches can unlock greater value, resilience, and investment certainty over the asset lifecycle.

Looking ahead

Singapore has laid a strong foundation for coastal resilience through forward-looking policy, robust institutions, and sustained investment. The next phase will test how effectively these elements come together in practice.

Closing the gaps, both physical and organisational, will require deeper collaboration, earlier alignment, and stronger integration between digital, engineering, and advisory capabilities. By embedding these principles into project planning and delivery, Singapore can not only strengthen its coastal resilience but also set a benchmark for how cities approach climate adaptation in an increasingly complex and uncertain world.



David Sing

Luxury Living in Coastal Resorts

KulörGroup's **Christopher Chua** shares his experience in designing for coastal projects around the world

Singapore-based design studio, KulörGroup, unveiled the luxury resort .Here Maldives in late 2025. Based in the Maldives, the resort embraces a new spatial logic of verticality as opposed to other resorts in the region.

With the firm's expertise in premium hospitality, Southeast Asia Building spoke to **Christopher Chua, Founder**

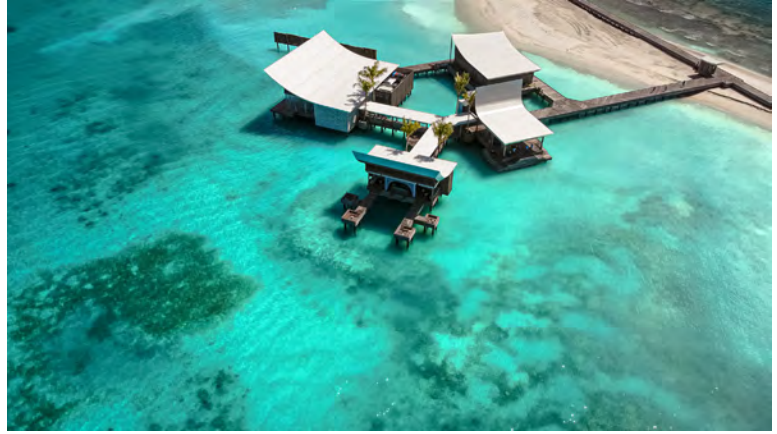
and Creative Director of KulörGroup, to find out more about the project, discovering the process behind creating the resort within its coastal context. From guest considerations to climate-specific qualities, .Here Maldives exemplifies important lessons that any designer can learn from.



Christopher Chua, Founder and Creative Director, KulörGroup



.Here Maldives



Photos above: .Here Maldives

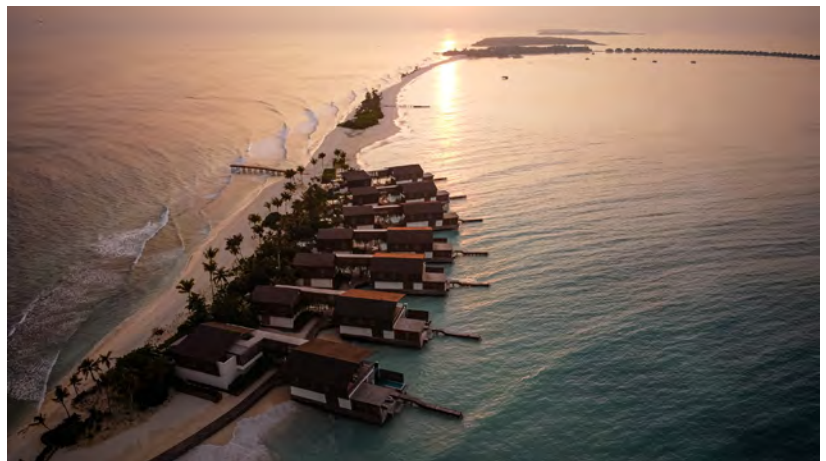
Q: Please introduce yourself and KulörGroup. How did the studio get started, and what led KulörGroup to focus on the hospitality sector?

A: I am Christopher Chua, Founder and Creative Director of KulörGroup.

The studio started at a point in my career when I felt the need to return to the core of design. I had spent years in senior leadership roles within larger firms as Design Director and Managing Director. Those experiences gave me insight into systems, scale, and complexity. But over time, I felt a

growing distance from the immediacy of site, client dialogue, and the hands-on design process.

KulörGroup was founded to close that distance. I wanted a practice that was closer to the place, closer to the people we work with, and closer to our own team. A studio where design



Photos above: .Here Maldives

conversations happen directly and where ideas are not diluted by layers of structure.

Hospitality became our focus because it was already the work I was deeply engaged in. Resorts and complex leisure environments demand both creativity and operational clarity. They are emotionally driven spaces that must also function every day, in every season. That tension between experience and performance is something I find compelling.

Across projects in the Maldives, Bali, and Latin America, our approach remains consistent. We begin with context. Climate, culture, constraints, and long-term viability. Form follows from that understanding.

Q: In late 2025, KulörGroup unveiled the luxury resort .Here Maldives. What was the design process that resulted in a smaller resort? What were the challenges and considerations in designing for a small-scale resort?

A: .Here Maldives grew out of a very specific site and brief.

We had previously worked on the renovation of Finolhu during the Covid period, and this project was conceived as an extension of a narrow natural sandbank at the end of the lagoon. It was a physically constrained and environmentally sensitive site.

The easy solution would have been to apply a familiar resort formula. Beach villas face one direction, water villas face another. Sunrise or sunset. A single primary view.

Instead, we questioned that logic. Why should a guest experience only one orientation?



Finolhu Renovation Project

The design became vertical rather than horizontal. Villas are organised across levels, allowing multiple orientations within a single stay. Lagoon, vegetation, horizon, and sky are experienced together. The resort is conceived as a continuous spatial sequence rather than a spread of individual units.

Designing at a smaller scale increases pressure on every



Finolhu Renovation Project

decision. Circulation becomes critical. Shared spaces cannot feel secondary. There is no room for excess. The challenge was to create richness without fragmentation.

Restraint was important. On a small site, discipline matters more than spectacle.

Q: The resort is a result of a partnership between MuzaLab and Topo Design for interior and landscape architecture. How were the firms' different approaches managed to create a unique, uniform design language?

A: The success of the collaboration stemmed from its integration from the very beginning. Architecture, interiors, and landscape were approached not as separate phases but as interconnected elements. Key stages were developed collaboratively, with ideas shared openly and adjustments made collectively alongside the client.

This close alignment ensured that no discipline was merely applied on top of another. Decisions regarding thresholds, planting, circulation, and spatial transitions were considered in a holistic manner.

While each studio contributed its own expertise, the overarching intent



Six Senses Galapagos

remained unified. The result is a resort that feels seamless and continuous, rather than segmented.

Q: One of the key features of .Here Maldives is its connection to its surroundings. Were there any key preliminary research findings that impacted its design philosophy?

A: The site is located in Baa Atoll, a UNESCO Biosphere Reserve. There is ongoing concern about land reclamation and its impact on reef

systems. That context informed the design from the outset.

The sandbank was stabilised and enhanced through landscape, but we avoided large-scale reshaping. Instead of expanding the land, we lifted the buildings. Elevated structures reduce impact on natural sand movement and marine conditions.

Environmental analysis was undertaken to ensure currents and reef systems were not obstructed. The architecture had to sit lightly and responsibly.



Six Senses Galapagos

The vertical organisation of the villas emerged directly from these constraints. When expansion outward is limited, you reconsider how space is structured.

The design roadmap was driven by ecological sensitivity first, and architecture followed.

Q: Considering that the Maldives is highly vulnerable to climate change, what were the climate-conscious decisions that went into the design of .Here Maldives? How did KulörGroup successfully balance thoughtful design with memorable guest experiences?

A: Climate responsiveness shaped the architecture from the beginning.

Villas are elevated to address rising sea levels and to improve airflow. Covered transitional spaces protect from rain and harsh sun. Cross ventilation reduces reliance on mechanical cooling systems. Roof forms prioritise shading before visual expression.

We also focused on how interior and exterior spaces relate. Guests remain aware of water, breeze, and sky throughout their stay. That connection reduces the need to seal the environment off artificially.

Sustainability should not feel restrictive. When integrated properly, it strengthens the guest experience rather than diminishing it.

Q: What sustainability features were incorporated into .Here Maldives to ensure the longevity of the resort? Are any of them unique to the specific climate of the Maldives?

A: Longevity in a marine climate requires careful material and structural decisions.

We selected super dry kiln timber with natural finishes and no stain, allowing it to age naturally in salt air. The detailing references traditional logic but is executed with contemporary precision.

Elevated platforms mitigate tidal fluctuations. Open public spaces support natural ventilation. The compact masterplan reduces infrastructure strain.

Building in the Maldives involves constant negotiation with water, shifting sand, and living reef systems. Resilience comes from adapting to those realities rather than resisting them.

Q: What were the key takeaways from the .Here Maldives project?

A: One key takeaway from .Here Maldives is that design must begin with context, space, and story. Not with form-making.

That mindset applies across all of our work. We operate in many challenging environments. In Fiji, we responded to steep ridge conditions overlooking the Pacific. In Mexico and Latin America, projects sit within very different climatic and cultural frameworks. In Penang, we are working within an established resort and heritage setting where the task is



Six Senses Galapagos

renewal rather than expansion.

The conditions change, but the discipline remains the same.

We are currently working on a project in the Galápagos, one of the most difficult places in the world to build. It is not only about architecture. It is about restoration and regeneration. We did not start with an image. We started with the site. How do we navigate it without disrupting ecological systems? How does construction avoid blocking what already exists, and instead enhance it?

That includes thinking about farm regeneration, water strategies that support biodiversity, and materials that can be sourced locally. It can be as specific as working with local artisans to produce handcrafted tiles rather than importing everything as a default response.

It is a ground-up way of thinking. Not concept down.

At .Here Maldives, that meant lifting structures rather than reshaping land, consolidating the footprint, and respecting natural sand movement and reef systems. In other locations, it may mean different technical responses, but the principle is consistent.

Design without ego tends to endure. Luxury does not need ego applied to it. It needs clarity, restraint, and respect for the environment it inhabits.

SIEMENS' NEXT-GEN FIRE SAFETY PROTECTION PAVES THE WAY FOR AUTONOMOUS BUILDINGS

Siemens Smart Infrastructure unveiled its new Sinteso Nova and Cerberus Nova fire detector portfolio in late March 2026. Part of the foundation of technologies that will pave the way toward autonomous buildings, it is set to transform traditional fire safety into a proactive, smart, and connected approach.

The new portfolio enhances operational safety, streamlines service team efficiency, enables easy system upgrades, and unlocks

data-driven digital services through its cloud connectivity. With their advanced technology, these systems are designed to meet various needs across industries such as healthcare, higher education, data centres, and commercial real estate.

In healthcare facilities, where patient safety and operational efficiency are both essential, Siemens' new fire detectors deliver continuous, autonomous detection. The automated Disturbance-Free Testing (DFT) technology runs self-

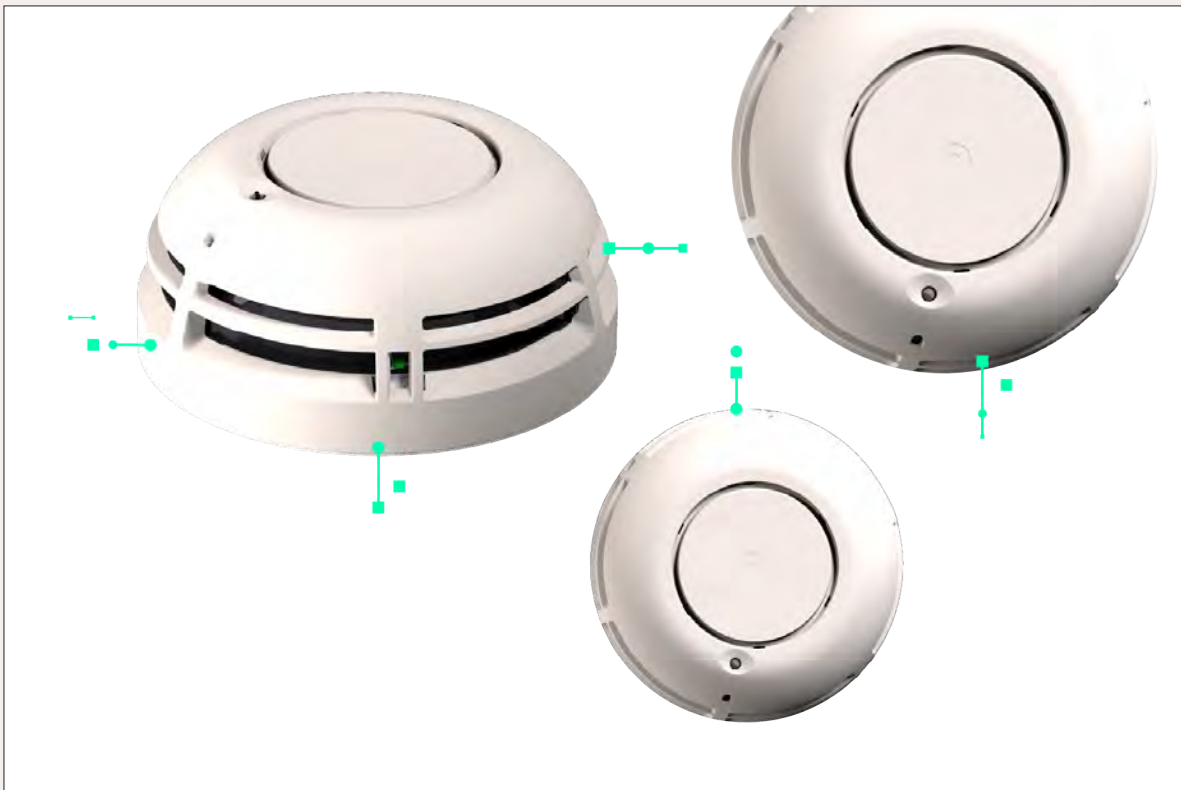
checks around the clock, reducing systems' potential downtime.

With the support of the Smoke Entry Supervision (SES) technology, which monitors smoke entry points in real time, safety teams can intervene immediately before risks escalate. Additionally, the ASPlus technology, incorporating multi-wavelength optical and dual thermal detection, minimises false alarms, decreasing unnecessary evacuations.

The fully IoT-enabled detectors are compatible with cloud-based



Siemens introduces its next-generation Sinteso Nova and Cerberus Nova fire detectors, combining advanced detection technology with cloud connectivity and IoT capabilities.



The Sintesio Nova and Cerberus Nova fire detector portfolio transforms fire safety into a proactive, intelligent approach and paves the way toward human-centric autonomous buildings.

applications, such as Siemens' Building X Fire Apps. These capabilities provide facility teams and service providers with shared, actionable data insights and allow for real-time monitoring, remote diagnostics, and predictive maintenance.

Data centres' high density of electrical systems and the need for continuous operations create unique fire safety risks, including overheating and electrical failures. Siemens' Sintesio Nova and Cerberus Nova detectors not only help maximise the uptime of critical IT and electrical infrastructure but also provide transparency on system conditions. Automated self-checks, cloud-based monitoring, and predictive maintenance enable facility teams to respond quickly and proactively, reducing disruptions and protecting critical assets efficiently.

Other industries, such as higher education and commercial real estate, often operate multiple, widely distributed buildings, making centralised fire safety management essential. Siemens' Sintesio Nova and Cerberus Nova detectors help facility

teams maintain consistent protection standards across all sites by providing continuous monitoring, reducing the risk of unnecessary disruptions, and supporting proactive maintenance. This holistic approach provides oversight of widely dispersed facilities and ensures reliable and resilient operations across the entire building portfolio.

"The launch of our Sintesio Nova and Cerberus Nova fire detection portfolio is a game-changer in ensuring all alarms are accurate as best as possible. By moving from periodic checks to continuous, data-driven, self-supervising systems, we're laying the foundation for truly human-centric, autonomous buildings. By automating testing, delivering real-time insights, and enabling remote action, these solutions protect people while freeing up staff to focus on strategic priorities. This shift isn't just about innovation; it's about smarter, safer, and more efficient operations," said Peter Nebiker, Head of Fire Safety at Siemens Smart Infrastructure Buildings.

The best-in-class Siemens Sintesio Nova and Cerberus Nova detectors

represent a transformative approach to fire safety, regardless of industry. They allow for stepwise upgrades while ensuring continuous protection, making them suitable for both green- and brownfield projects. Existing fire panels remain compatible, eliminating the need for a rip-and-replace approach. By allowing for plug-and-play integration, including automatic transfers of configured settings, these systems offer seamless modernisation while reducing installation time and risk.

Carrying an environmental product performance label—Siemens' EcoTech—for enhanced sustainability transparency, the detectors are made of recycled plastics and promote environmentally responsible design, resource efficiency, and circular economy principles.

The Sintesio Nova and Cerberus Nova fire detectors are part of the Siemens Xcelerator portfolio, an open digital business platform that enables customers to accelerate their digital transformation more easily, faster, and at scale. The offering has been developed in Switzerland, where it is also being produced.



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