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SOUTHEAST ASIA BUILDING

November / December 2021

EKH Children Hospital

Samut Sakhon, Thailand

PROJECTS Medical Facilities
TRENDS Architects Share Universal Design Trends In A Post Covid World
PLUS Mechanical, Electrical & Plumbing Systems News

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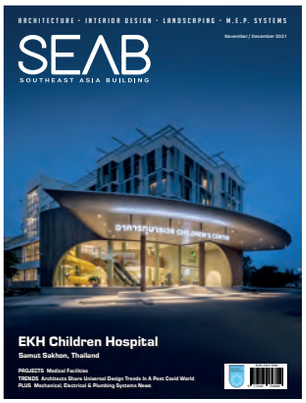
CONTENTS

nov-dec 2021

Features

Regulars



On the Cover: EKH Children Hospital in Samut Sakhon, Thailand. Photographer: Ketsiree Wongwan

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Dear readers, welcome to the last issue of 2021. The Nov/Dec issue is packed with Hospital projects from Southeast Asia. They demonstrate how the needs of patients were met through careful and sensible design. They also highlight the need to rethink hospital design after Covid-19 so that the healthcare sector can handle the pandemic more effectively.

In the Trends section, the theme on Universal Design looks at the opportunities and challenges of having a universal design post pandemic. Architects from around the world share their thoughts with us.

Next year, we are dedicating a theme for each issue. The objective is to offer more interesting and thought-provoking content to our readers. The theme for the Jan/Feb 2022 issue is 'Green' and we explore sustainability in landscape architecture. Do read it when it comes out.

Meanwhile stay safe and I wish that 2021 ends on a good note for all of us.

Amita Natverlal

JANUARY/FEBRUARY 2022 ISSUE

The Green Issue – Sustainability in Landscape Architecture

Sustainable landscapes also contribute to the development of healthy communities. This issue explores the importance of a good ecological design for large-scale projects such as buildings and cities and small-scale projects such as outdoor playgrounds, public parks and gardens. Includes projects, trends and experts' opinion.

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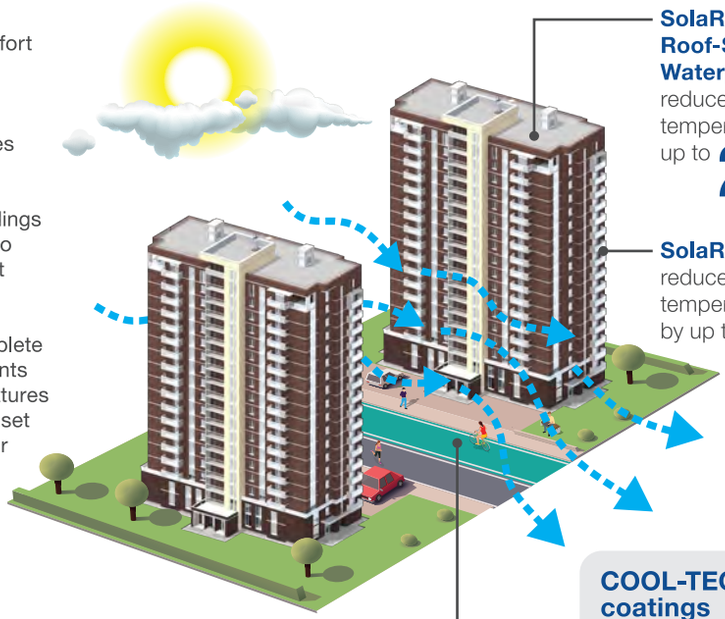

SolaReflect Roof-Seal Waterproofing reduces roof surface temperatures by up to **22°C***

SolaReflect reduces wall surface temperatures by up to **2°C***

SolaReflect CoolFloor reduces paved surface temperatures by up to **9°C***

COOL-TEC SolaReflect coatings collectively reduce overall outdoor air temperature by around **2.49°C***

[1]Results of a case study conducted by independent researchers in Singapore on the effects of COOL-TEC SolaReflect coatings on roofs, walls and roads on lowering surface temperatures and ambient (outdoor air) temperatures.

[2]The Paris Agreement is a legally binding international treaty on climate change. Its goal is to limit global warming to well below 2°C, and preferably to 1.5°C, compared to pre-industrial levels.

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10 Design's scheme of a transport oriented retail destination in the old Nanjing Military Airbase secures planning approval


Rendering: © 10 Design

Hong Kong – International architecture practice, 10 Design, has released new plans for one of the largest transport-oriented retail destinations and most complex developments in Nanjing. In 2020, 10 Design won an international design competition to transform developer China Fortune's 243,768 square metres site into a contemporary mixed-use project. In June 2021, the Nanjing Planning Bureau granted planning consent for the project, which is part of the wider redevelopment of the historic Nanjing Dajiaochang military airbase in China. The scheme is an evolution in design of transport-oriented developments to create a high-quality retail environment that fully integrates with the rail network and the extensive public realm.

Jointly led by two Design Partners, Chin Yong Ng and Lukasz Wawrzenczyk, the scheme envisions the integration of retail while preserving the 2.6 kilometres airport runway which has been kept in its original form as a historic feature. The runway will be reimagined as a multifunctional cultural boulevard that doubles as a green pedestrian axis. The development involves three interconnecting buildings, incorporating a shopping mall, retail, cultural and office spaces along with a boutique hotel. Adjacent to the Nanjing Cultural Palace, this mixed-use project will run parallel to the remaining runway.

With two underground railway stations embedded into the site, connectivity is one of the key design drivers. The design includes a central glass box corridor with key entrances positioned directly on top of one of the railway tracks, providing a feature passageway for commuters to navigate through different levels of the scheme. All three buildings are connected via an underground retail spine and street-level pedestrian walkways: the pedestrian bridges provide further connectivity between the two shopping malls.

The coherent building facades echo the local culture through their metallic brick-shaped features that reference the adjacent Nanjing Cultural Palace and traditional ceramic facades. The facade pattern reflects the ancient city wall of Nanjing built in the early Ming Dynasty, further enhancing the historic and cultural connection to the city.

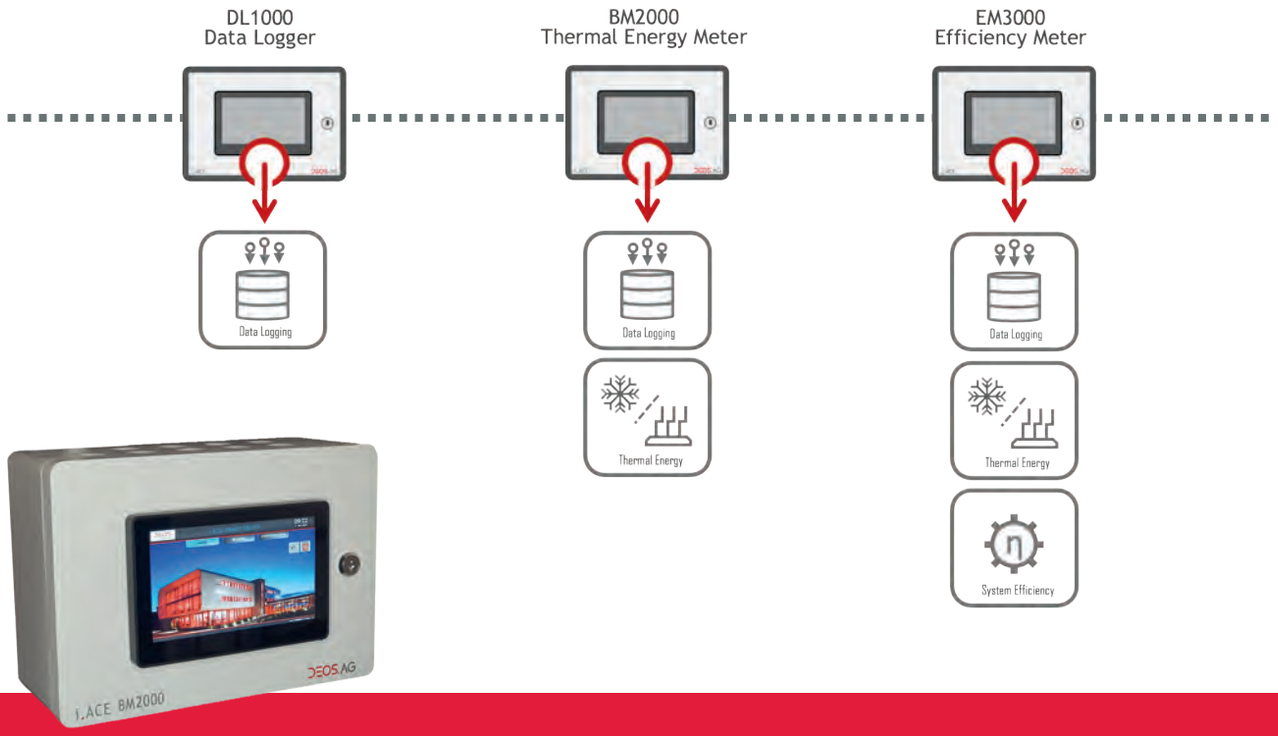
One of the challenges of the restrictive site was to maximise the pedestrian flow from two underground railway lines to the retail areas. It was resolved by creating a large underground 'retail spine' that connects and sits beneath the three main buildings on the site. A series of sunken plazas extend out to the street level, punctuating the ground level and bringing natural light into the subterranean areas. The basement retail area is an impressive double height space of up to 9 metres – a unique underground space with natural light that would normally only be achieved at ground level.

The redevelopment of the airbase has been designed to echo the past whilst reflecting the future of Nanjing. This important new destination will provide the city with a cosmopolitan landmark, which in parallel responds to the cultural richness of its location.

i.ACE Smart Meter

Smart Metering

i.ACE is a smart meter for measuring data, thermal energy and system efficiency. The native BACnet meter is designed to register and calculate HVAC system's operating information for data analytics, performance validation and efficiency verification. There are three members of i.ACE: DL1000 Data Logger, BM2000 Thermal Energy Meter and EM3000 Efficiency Meter.



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CDL recognised as GRESB 2021 Global Sector Leader for Diversified–Office/Retail category for its robust decarbonisation effect

Singapore – City Developments Limited (CDL) has been recognised as Global Sector Leader and Overall Regional Sector Leader in the Global Real Estate Sustainability Benchmark (GRESB) 2021 Diversified – Office/Retail category. This marks the second consecutive year the company was listed as Global Sector Leader and the fifth consecutive year it was named Overall Regional Sector Leader. The company also maintained its GRESB 5 Star rating, which recognises entities placed in the top 20 percent of the benchmark.

Tagore 23, one of CDL's industrial buildings in Singapore. Photo: © City Developments Limited

Each year, GRESB assesses and benchmarks the Environmental, Social, and Governance (ESG) performance of assets worldwide, providing clarity and insights to financial markets on complex sustainability topics. The GRESB Assessments are guided by what investors and the industry consider to be material issues in the sustainability performance of asset investments and are aligned with international reporting frameworks, goals and emerging regulations. In 2021, the GRESB ESG Benchmark grew to cover more than US$6.4 trillion of assets under management, up from US$5.3 trillion the year before.

CDL's GRESB score complements its bold net zero commitment made this February. As the first real estate developer in Singapore and the first real estate conglomerate in Southeast Asia to sign the WorldGBC's Net Zero Carbon Buildings Commitment, CDL pledged to achieve net zero operational carbon by 2030. This commitment covers all its new and existing wholly-owned assets and developments under its direct operational and management control.

Stepping up on technology application to decarbonise its older assets, CDL entered a Power Purchase Agreement (PPA) with solar energy provider Sunseap Group last month. The PPA entails installing PV panels across an area spanning around 2,000 square metres at Tagore 23, one of CDL's industrial buildings. With installation slated for completion by end of Q2 2022, the renewable energy generated is projected to offset some 50 percent of the building's annual energy consumption. In August this year, CDL submitted its 1.5°C warmer scenario greenhouse gas reduction targets to the Science Based Target initiative (SBTi) for validation. This complements CDL's net zero commitment and pledge of support to the Business Ambition for 1.5°C led by UN Global Compact, SBTi and We Mean Business coalition, of which CDL was one of the pioneering 87 signatories of the campaign in September 2019. In 2018, CDL was the first real estate company in Singapore to set the STBi validated GHG reduction targets based on 2°C warmer scenario.

Ms Esther An, CDL Chief Sustainability Officer, said, "2021 is the year of a sustainability reawakening, with ESG issues fast becoming mainstream. To meet the rapidly growing investor appetite for quality ESG disclosure, it is critical for corporates to step up on decarbonisation, disclosure, and digitalisation. We are honoured to be conferred the GRESB Sector Leader recognition in the Diversified – Office/Retail category once again this year."

Mr Sebastien Roussotte, GRESB CEO, said, "Across the globe, organizations are demonstrating a deep commitment to ESG integration while making important strides towards a more sustainable future for us all. GRESB Sector Leaders are the organisations setting the pace and driving progress toward a net zero future. We are proud to recognize your determination, achievement, and leadership in creating a more sustainable world."

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Revised Green Mark 2021 scheme raises sustainability standards for new and existing buildings

Singapore – Mr Desmond Lee, Minister for National Development and Minister-in-Charge of Social Services Integration, launched the Building and Construction Authority (BCA)'s Green Mark 2021 at the opening ceremony of the International Built Environment Week (IBEW) 2021 on Tuesday, 7 September 2021. The revised Green Mark Scheme aims at raising energy efficiency requirements and environmental sustainability standards for new and existing buildings.

Under the revised scheme BCA Green Mark 2021 (GM: 2021), buildings would need to meet higher minimum Energy Efficiency levels and score sufficient points in the Sustainability Sections to be certified under the BCA GM: 2021. The key outcomes include:

- Raising energy performance;
- Designing for maintainability;
- Reducing embodied carbon across a building's life cycle;
- Using smart technologies;
- Enhancing a building's resilience to climate change; and
- Creating healthier environments for building users.

Mr Desmond Lee, Minister for National Development and Minister-in-Charge of Social Services Integration, at the IBEW 2021 opening ceremony. Photo: © Building and Construction Authority

The certification will be applicable to buildings/developments that are (a) new, (b) existing, and (c) "In Operation", (buildings and developments, which have been certified under BCA Green Mark in the past). For more information, visit https://go.gov.sg/gm2021.

"The refreshed BCA Green Mark 2021 Scheme is an outcome of the co-creation process that has brought together many passionate stakeholders and industry experts. The scheme represents our shared vision for a green and sustainable future. We hope that it will help Singapore meet our sustainability targets in the Singapore Green Building Masterplan and create more opportunities for our green building practitioners. I am very encouraged by the passion and commitment by the green building community, having had the opportunity to participate in this collaborative effort. Let us work together for a more sustainable future for Singapore," said Architect Tang Kok Thye, President of the Singapore Green Building Council.

Revised Green Mark scheme aligned with international benchmarks and goals

The BCA GM: 2021 is aligned to international sustainability goals and requirements such as the United Nation Sustainability Development Goals, World Green Building Council Health & Wellbeing Framework, global real estate reporting frameworks like Global Real Estate Sustainability Benchmark (GRESB) and recommendations under the Taskforce for Climate Related Financial Disclosures (TCFD)*. Developers and building owners pursuing BCA GM: 2021 certification for their developments and buildings will continue to have access to green finance. The BCA GM: 2021 focuses on environmental sustainability aspects – such as whole-of-life carbon, health and well-being, climate resilience, design for maintainability and adoption of integrated digital solutions – which promote outcomes that are aligned with the United Nations Sustainable Development Goals.

*The TCFD recommendations provide a framework for companies to disclose climate-related risks and opportunities relating to their ESG performance. BCA GM: 2021 promotes the use of TCFD recommendations in the evaluation of project-specific climate-related risks and opportunities.

New BCA Green Mark Super Low Energy (Residential Buildings) standard

As part of the BCA GM: 2021 certification scheme and to push for more Super Low Energy (SLE) developments in Singapore, BCA and the industry created a new standard for super low energy residential buildings.

The BCA GMSLE:RB standard emphasises passive design* for the residential units and common areas, active designs* through high performance, energy-efficient systems, smart energy management using sensors to control the use of services such as lighting, fans, air-conditioning and escalator operations, and the use of renewable energy such as solar power for common facilities such as swimming pools, gymnasiums and function rooms.

*Good design strategies (e.g., active and passive designs) can be cost-effective as they reduce the energy consumption of a building's cooling systems and lighting. Some good design strategies include optimising north-south orientation, window-to-wall ratio, shading at balconies, maximising natural / cross ventilation in the design of bedrooms and living rooms, and types of glass used.

CBRE acquires Wolf Studio, Singapore-based commercial design firm

Singapore – CBRE announced it has acquired commercial design firm Wolf Studio. Wolf Studio serves clients throughout the Singapore area/ Southeast Asia region and offers a full range of real estate design and related services, including design consultancy, design-build, feasibility studies and visual content planning.

The Directors of Wolf Studio, Chrisandra Heng, Brandon Liu, Micah Valenzuela and Mervin Geronimo, will take on senior leadership roles within the CBRE Singapore Design team, led by Sebastian Mann, who leads the CBRE design business for the Asia Pacific (APAC) region. "The acquisition of this talented team marks an exciting milestone for the development of our regional design business, and the creation of our APAC hub of design," said Mr. Mann.

"The experience and creative horsepower of the Wolf team, combined with our broad and deep real estate services platform, will enable us to further assist our clients in their strategic decision making," added Mr. Mann.

Brandon Liu, Director, Wolf Studio, said: "We are excited to join CBRE and offer our design strength to deliver comprehensive, fully integrated commercial real estate solutions. Wolf Studio has quickly grown to become a leading design firm in Singapore and CBRE's platform will accelerate our reach and growth across the region in supporting our clients with our design solutions. We look forward to working across the CBRE platform to do great things together."

Wolf Studio's work can be seen throughout Singapore and the Southeast Asia region, and the team is responsible for some of the most iconic commercial design projects in Singapore. Its broad design portfolio and range of global clientele showcase the strength of their team's commitment to great design and being at the forefront of shaping the workplace design industry.

Sebastian Mann leads the CBRE design business for the Asia Pacific region. Photo: © CBRE

CBRE Design is part of the APAC Advisory Project Management business line, and the Wolf team will collaborate closely with our Workplace Strategy and Office Services teams.

Nouryon to build Bermocoll facility in Southeast Asia to meet global demand in paints and coatings end-market

Singapore – Nouryon, a global specialty chemicals leader, plans to build a new production facility to meet the increasing global demand for innovative and sustainable additives for the rapidly growing paints and coatings end-market and other high-growth end-markets. The new facility will be situated in Southeast Asia, and with a capacity of 15–20 kilotons, it will expand Nouryon's Bermocoll® business, which supplies ethyl hydroxyethyl cellulose (EHEC) and other essential ingredients to multinational and regional customers.

Nouryon expects the final site selection to be made in the fourth quarter of this year, with construction beginning in late 2022. The start-up of the production facility is anticipated to be in mid-2024. The facility will expand Nouryon's global capacity to produce EHEC, complementing the company's existing plants in Ornskoldsvik, Sweden, and Ningbo, China.

"Nouryon is considering several locations in Southeast Asia for the new facility because the region is a key growth market of the global chemical industry and presents great business opportunities for our organisation," said Sobers Sethi, Senior Vice President of Emerging Markets and China at Nouryon. "This facility will reflect our strategy of growing with our customers by providing innovative and sustainable technologies, while leveraging high-growth end-markets," added Sobers.

Photo: © Nouryon

Centara opens first Centara Mirage Resort in the Middle East

Bangkok, Thailand – Centara Hotels & Resorts, Thailand's leading hotel operator, will expand its global collection of world-class resorts with the opening of Centara Mirage Beach Resort Dubai on 14th October 2021, a fantastic new family-friendly destination which is inspired by mythical Thai and Arabian adventures and promises fun-filled, activity-packed stays for all ages.

The new resort – a joint venture with world-leading master developer Nakheel, creator of the award-winning Palm Jumeirah and the new Deira Islands waterfront city – will bring a new concept in hospitality to Dubai, in line with the emirate's tourism strategy.

Nestled in a prime waterfront setting on the Deira Islands, overlooking the Arabian Gulf just 30 minutes from Dubai International Airport and just minutes away from the newly opened Souk Al Marfa seafront souk and marketplace, this brand-new themed resort offers 607 rooms and suites, ranging from Superior, Family and Mirage Rooms to Junior and Two-Bedroom Suites with 32 to 95 square metres of bright, contemporary space and panoramic city or sea views.

Mirage represents Centara's themed family resort concept, where the whole family's, and especially the children's, happiness is at the heart of the experience. Parents can rest assured that their youngsters will enjoy unforgettable, inspiring stays, with a wonderful water park, multiple kids' clubs, a colourful candy-themed children's spa, and the dedicated Mirage Family Lounge, a club lounge experience for all the family. The rooms are perfectly suited to families, with flexible bedding options including bunk beds that accommodate up to two children.

Youngsters can spend exhilarating days at this aquatic oasis, which is centred around a thrilling water park with lagoon pools, a lazy river, kids' splash play area, waterslides and cliff jumping platforms, rope climbing course, all surrounded by palm trees and sun decks. Winding wooden walkways lead to the golden beach and turquoise sea, which creates a sparkling setting for water sports.

Children will be kept entertained at three age-specific kids' clubs, an outdoor playground and Candy Spa, the colourful,

candy-themed children's wellness zone. Adults can work out at the fully-equipped fitness centre and unwind with Thai-inspired therapies, including couples' treatments at Spa Cenvaree.

Outstanding cuisine and social venues can be enjoyed at a choice of our nine dining experiences. Suan Bua specialises in authentic Asian cuisine, while Uno Mas is a traditional Argentinian grill with its own wine cellar. Fresh seafood and prime meats can be savoured at Sands, the casual beach club, Waves Pool Bar and Zing promise refreshing drinks and light bites, and Sheesh is a chic rooftop shisha lounge and Lebanese restaurant. Finally, meeting planners can host one-of-a-kind events in a choice of indoor and alfresco function spaces.

"It gives me great pleasure to introduce Centara Mirage Beach Resort Dubai, our inaugural resort in the UAE, as we continue to bring our timeless values of Thai hospitality to travellers around the world. The Centara Mirage concept immerses visitors in a world of wonders, creating unparalleled guest experiences. This marks another major milestone for Centara in 2021, following the opening of Centara Mirage Resort Mui Ne in Vietnam and Centara Reserve Samui, the world's first Centara Reserve resort in Thailand," commented Thirayuth Chirathivat, Chief Executive Officer, Centara Hotels & Resorts.

RDA nears completion on Essence Financial Securities HQ skyscraper

Hong Kong – Construction is wrapping up at Rocco Design Architects' (RDA) latest project, a 193.5-metre-tall headquarters building for Essence Financial Securities featuring triple- and septuple-height courtyards that rise through the floors.

Located in Futian, the central business district of Shenzhen, the tower combines two separate headquarters offices, financial trading halls, and commercial office space into a vertical neighbourhood. The headquarters offices occupy three stacks of floors at the upper reaches of the tower. All are defined by voids at the centre of the floorplates – rising six floors in the lower headquarters and three in the upper – that act as communal courtyards and visually interconnect the floors into cohesive office clusters.

RDA developed a novel structural approach to achieve the courtyards, using

Photo: © Rocco Design Architects Associates

a twin-side core with an exoskeleton reinforced by horizontal trusses. This frees the centre of the floorplates from structural elements and makes it possible to cut the courtyard through them – creating visually interconnected and cohesive multi-floor offices. The courtyards also improve natural light and generate a chimney effect that enhances ventilation and passive temperature regulation, resulting in a highly sustainable workplace.

Below the top headquarters is a set of full-depth floors that houses communal functions and executive offices. At the centre of these floors is a double-height lecture theatre with tiered seating. On each of the two floors it extends through, the theatre is wrapped with VIP offices and conference rooms that boast commanding views over the city and nearby Shenzhen Golf Course.

The exterior design lifts the main bulk of the tower above the ground, opening up a pedestrian passageway that connects the entrance plaza to the neighbourhood's axis of green space and walkways. At the base, low-slung volume clad in green walls and topped by a public roof deck extends into a public plaza, engaging the street. Pedestrian sky bridges link the tower to nearby buildings, joining them into a cohesive campus.

The tower's lower levels array commercial offices. These offices span the entire floor plate, maximizing net rentable space. Between the commercial offices and the headquarters offices is a sky lounge with amenities including a gym, conference rooms, and social areas, creating a communal hub of interaction at the heart of the building.

Construction on the tower is expected to finish later this year.

DEWA appoints Ghantoot Group, Moro Hub, Johnson Controls and Microsoft to implement the latest technologies at its new Al Shera'a headquarters

Dubai, UAE – Dubai Electricity and Water Authority's (DEWA) has appointed a consortium led by Moro Hub (Data Hub Integrated Solutions LLC), a subsidiary of Digital DEWA, the digital arm of DEWA, Ghantoot Group, Johnson Controls and Microsoft, to implement the latest digital twin technologies, the Internet of Things, cybersecurity, Artificial Intelligence, and smart building management solutions in DEWA's new headquarters, called Al Shera'a (Arabic for sail). Al Shera'a will be the tallest, largest, and smartest government Net Zero Energy Building with net zero carbon emissions in the world. The total energy used in the building during a year will be equal to or less than the energy produced on-site.

HE Saeed Mohammed Al Tayer, MD & CEO of DEWA, said that this partnership supports DEWA's work to establish a global benchmark for buildings that achieve a balance between development and the environment. This is done by monitoring the energy efficiency and space performance using central artificial intelligence. This helps with remote diagnostics, predictive maintenance, compliance monitoring, and advanced risk assessments.

Al-Shera'a is expected to be ready by 2023 and it will feature an array of artificial intelligence solutions across systems and spaces, including a digital concierge for every employee and visitor. Comprising 15 floors, a basement, and a four-storey car park, the building will offer capabilities to accommodate an onsite presence of over 5,000 people.

DEWA's new Al Shera'a headquarters. Photo: © DEWA

DEWA's new headquarters are designed for a platinum rating by LEED (Leadership in Energy and Environmental Design) and a silver rating from the WELL Building Standard. DEWA is also expected to announce two more phases to implement work on the Internet of Things and Artificial Intelligence and the photovoltaic solar systems for the building.

HDB and Tampines Town Council launch cool paint pilot project

Singapore – Residents in Tampines can potentially enjoy a cooler living environment under a pilot project by the Housing & Development Board (HDB) and Tampines Town Council (TC), which will see approximately 130 HDB blocks painted with cool paint. The pilot aims to reduce the ambient temperature of the site by up to 2°C, through the use of cool paint – a type of paint containing additives that reflect the heat of the sun to reduce surface heat absorption and emission. The large-scale pilot project is being rolled out under the HDB Green Towns Programme, a key initiative under the Singapore Green Plan which aims to build a greener Singapore in the face of climate change.

Tampines TC launched the tender for cyclical Repairs and Redecoration (R&R) works on 6 Aug 2021, which called for interested tenderers to use cool paint to re-paint the first batch of more than 20 blocks at Tampines Street 83 and 84 as well as pavements, among other repair works. The remaining blocks under the pilot will be re-painted with cool paint progressively, in tandem with the R&R works scheduled by Tampines TC.

HDB's Chief Executive Officer, Mr Tan Meng Dui said, "HDB is committed to providing our residents with quality homes and living environments. We are delighted to collaborate with Tampines TC on this unique pilot project under HDB's Green Towns Programme, which marks the first-time cool paint will be used to re-paint HDB blocks starting on a precinct level and extending across neighbourhoods. The outcome of this pilot will help us test the market readiness of cool paints for wider implementation and pave the way for its use in more HDB towns, to mitigate urban heat effects and further improve the liveability of our HDB towns."

Bukit Purmei. Photo courtesy of the Housing & Development Board

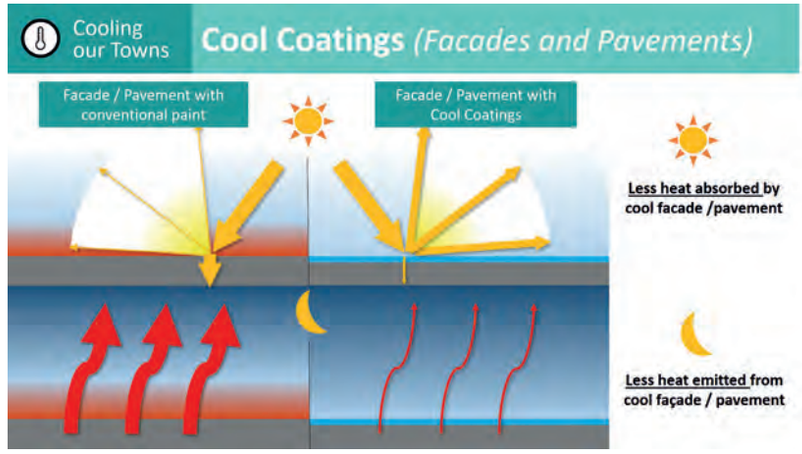


Image courtesy of the Housing & Development Board

Previous small-scale trial at Tuas and Bukit Purmei

To assess the efficacy of cool coatings in reducing ambient temperature, HDB had collaborated with Nanyang Technological University (NTU) on a small-scale trial at eight blocks in Tuas and Bukit Purmei, between 2018 and 2020. During the trial, HDB and NTU studied the temperature reduction at the buildings which were coated with cool paint, as compared to the buildings coated with conventional paint. Temperature sensors were located at the roofs, façades and ground level to take regular readings to monitor the temperature changes. Preliminary findings have shown that cool paint could reduce the ambient temperature around the buildings coated with cool paint by up to 2°C in the day and night.

Large-scale pilot project in Tampines

While cool paints have been in the industry for some time, they were less economically viable before, and the thermal insulation efficacy and durability of cool paints also required further study. In recent years, the market for cool paint technology has matured significantly as more suppliers entered the market, leading to better performance of commercially available cool paints and more competitive pricing.

With the encouraging preliminary findings of the past small-scale trial in Tuas and Bukit Purmei, HDB with the assistance of Tampines TC, will be implementing a larger scale pilot involving about 130 HDB blocks in Tampines. The aim is similarly to reduce the ambient temperature by up to 2°C. Tampines was selected for this large-scale pilot as HDB's analysis of satellite images and meteorological data on various towns showed that the town has a higher average land surface temperature compared to other towns.

Hettich opens new Experience Centre in Singapore

The company's first-ever Experience Centre in Southeast Asia is a one-stop hub to witness innovative German quality furniture fittings for entire home.

Singapore – Hettich, one of the world's largest furniture fittings manufacturers launched its new Experience Centre on 4 October 2021 in Singapore. Located at OXLEY Bizhub, it is the German company's first-ever 'Experience Centre' in the whole of Southeast Asia.

The Hettich Experience Centre seeks to provide customers and partners in Singapore and the region with aspirational ideas combined with practical solutions for versatile urban living in small spaces.

The display at the Experience Centre includes a Transforming Apartment that will illustrate seamless, flexible and innovative solutions for all spaces in a contemporary apartment including the living area, bedroom, bathroom, and the kitchen – reinforcing Hettich's role as a solutions provider to support and enhance customers' home design needs.

Matthias Bertl, Managing Director of Hettich, Southeast Asia said "With Hettich´s first 'Experience Centre' in Singapore, we show the end-users what solutions could look like in their entire home - bedroom, living room, bathroom and of course, their kitchen. The possibilities of Hettich's solutions

Hettich's new Experience Centre in Singapore. Photo: © Hettich

are endless. Being Germany's biggest fittings manufacturer, we are pleased to provide Singapore and the rest of the region with a unique opportunity to experience premium German furnishings with our new Experience Centre. Let us fascinate you with solutions."

Hettich's broad product portfolio is ubiquitous in the furniture industry – from the indispensable hinges and drawer runners to the highly-in-demand sliding and folding door systems, which are concealed yet form an indispensable part of the whole range.

Renowned globally for durable German-quality design, Hettich seeks to provide convenient, reliable and safe

Matthias Bertl, Managing Director of Hettich, Southeast Asia. Photo: © Hettich

functionality in the world of furniture fittings – for both public spaces and private ones, including homes.

The Hettich Experience Centre is in OXLEY Bizhub at 65 Ubi Road 1, #01-77 Singapore 408729. Opening hours are from 2:00 pm to 6:00 pm, Monday to Friday. Visitors are kindly requested to email sg.showroom@hettich.com or call +65 6443 3070 to book an appointment for their visit. All visitors need to observe ongoing Covid-19 healthcare protocol.

Aurecon appoints Ichsan Kurniawan to head Indonesian operations

Sydney, Australia – International engineering, design and advisory company, Aurecon has announced the appointment of Ichsan Kurniawan as its new Country Manager, Indonesia, effective from 5 August 2021. He will be based in Aurecon's Indonesian headquarters in Jakarta. This appointment is the latest development in the company's ongoing investment and expansion across Asia, a region that remains a key strategic priority and growth market for the business.

In his role as Country Manager, Indonesia, Ichsan will be responsible for growing Aurecon's business in Indonesia, with a particular focus on the infrastructure, built environment and energy sectors. With over 25 years of engineering experience, Ichsan will bring his insights and knowledge to projects that he and the team will be working on, ensuring quality delivery to Aurecon's clients. He reports to Jean-Marc Girard, Chief Financial Officer and Chief Operating Officer, Aurecon Asia.

"I am excited to join Aurecon. Aurecon has a long-standing reputation for designing innovative, sustainable and resilient solutions that bring value to clients across the project lifecycle through the company's deep technical and advisory expertise. I am inspired at how Aurecon's designs ensure that clients are ready for the future and engineered for life," he said.

Ichsan Kurniawan, Country Manager, Indonesia, Aurecon. Photo: © Aurecon

TOSO sets up its first TOSO Gallery in Singapore spanning 2,000 square feet of floor area

Singapore – Japan's number one curtains and blind tracks manufacturer TOSO has set up its first TOSO Gallery in Singapore, in partnership with mc.2. With presence in over 17 countries, TOSO is the top choice of five-star hotels all over the world, from The Ritz Carlton and Park Hyatt Shanghai to The Peninsula, Westin and more. TOSO curtain tracks and Roman shades are also fixtures at the Taj Mahal Palace and Towers.

As a traditional Japanese company with over 70 years of history in a traditional trade of blinds and curtains, this is TOSO's first bold move to set up a gallery for shoppers to touch, feel, and experience its superior quality product and technology. The new gallery will span 2,000 square feet and have over 20 selections of blinds and curtain tracks in live sizes for demonstration, each a testament to TOSO's Japanese design, production, and quality assurance.

Being the first of its kind, this new TOSO Gallery is expected to revolutionize the way shoppers browse and purchase their blinds and curtains. The TOSO Gallery will house the largest range of TOSO products in one place, with over 20 selections of curtains and blinds put on display. Products will be incorporated in various home settings simulating a Japanese home for easy visualization. The spaces, styled by top Japanese interior designer Sangetsu, range from styles that are modern, classic, natural, minimal, vintage, cool Japanese and even Scandinavian to suit various tastes and preferences.

TOSO Gallery is its latest personification of all its values with all products and systems being proudly made in Japan. Every single product that has been produced and sent to customers has been strictly checked manually by a team of trained specialists. At the TOSO Gallery, customers can also find the largest selection of Japan's largest supplier for fabric and wallpapers by Sangetsu. All these products are fabricated directly in Japan for quality assurance.

Photo: © mc.2

ST Telemedia Global Data Centres announces two new data centres in Tokyo to be developed in conjunction with Goodman

Singapore – ST Telemedia Global Data Centres (STT GDC), a leading data centre service provider headquartered in Singapore, has announced plans for two data centres in Tokyo, to be developed by and leased from Goodman.

"This investment marks our first foray into the Japan data centre market, and with the establishment of 5G services and digital advancements being a high priority, we are delighted to be working with Goodman to support the country's increasing demand for quality data centre services. Goodman has a stellar track record as one of the world's biggest owners, developers and managers of industrial property, and along with our own expertise in operating state-of-the-art, carrier-neutral data centres, we are well positioned to serve the growing needs in this market," said Bruno Lopez, President and Group Chief Executive Officer, ST Telemedia Global Data Centres.

The two new data centres will comprise 60,000 square metres of gross floor area, resulting in a development potential of 60 megawatts of IT power across the two buildings. This new data centre campus will be located within Goodman Business Park in Inzai City in the Greater Tokyo area. Goodman Business Park is an integrated industrial and data centre estate with over 800,000 sqm of lettable area upon completion, with a value of more than A$4 billion. Under this development and operating arrangement, Goodman Japan will develop the shell and core of the data centres and lease the buildings on a long-term basis to STT GDC. STT GDC will fitout and then operate state-of-the art data centres, with the first building expected to be ready for service in Q2 2024.

"With power already secured, these new, carrier-neutral facilities are purpose-designed to meet the scalable capacity demands of hyperscale and enterprise customers looking for large scale facilities to meet growing requirements. With this, we are confident of bringing significant value to the Japan data centre market as we grow with our customers who are expanding their footprint into this market," said Nicholas Toh, CEO – Northeast Asia, ST Telemedia Global Data Centres.

Greg Goodman, CEO of Goodman Group, commented: "We are excited to welcome STT GDC to Goodman Business Park and the opportunity to partner with a fast-growing global data centre operator. With this pre-lease, we will have fully leased eight separate stages of development within Goodman Business Park, which also includes amenity and retail offerings for our customers and the wider community. This new partnership with STT GDC illustrates our global strategy of providing high-quality assets in attractive locations to suit our customers' needs. With several sustainability initiatives planned for this project, we will also continue to execute on our commitment to sustainability and best-in-class amenity for our customers."

Photo: © Goodman Group

The Fullerton Ocean Park Hotel Hong Kong named the first Hotel in Hong Kong and mainland China to attain the internationally acclaimed WELL v2™ Precertification

Hong Kong – Sino Group (the 'Group') is delighted to announce that The Fullerton Ocean Park Hotel Hong Kong (the 'Hotel') has attained the WELL Precertification under the WELL Building Standard™ v2. The precertification is a milestone achievement recognised by the International WELL Building Institute™ (IWBI™) that awards a project's intent to implement health and wellbeing strategies that will be third-party verified upon completion.

As the first hotel project in Hong Kong and mainland China to receive this internationally acclaimed recognition, the precertification exemplifies the Group's commitment to integrating health and sustainability strategies into every aspect of its operations and efforts in making business a driver of sustainability for a better future.

Mr Daryl Ng, Deputy Chairman of Sino Group, said: "The built environment has a profound impact on our health and wellbeing. Sino Group is committed to developing projects that link sustainability with design and operational strategies to promote health and wellness. We are grateful that The Fullerton Ocean Park Hotel Hong Kong, the latest addition to the Fullerton family, has been the first hotel in Hong Kong and mainland China to attain this internationally acclaimed WELL v2™ precertification. As we commit to Creating Better Lifescapes for the communities we serve, I would like to thank the Sino team for their endeavours in supporting the Group to deliver on our commitment to promote a more sustainable community as we continue our sustainable journey towards Sustainability Vision 2030."

The Fullerton Ocean Park Hotel Hong Kong has become the first hotel project in Hong Kong and mainland China to be awarded the WELL v2 precertification. Photo courtesy of Sino Group.

"Congratulations to The Fullerton Ocean Park Hotel Hong Kong for achieving WELL Precertification through its exemplary planning to implement health and wellbeing strategies into the hotel property," said Xue Ya, President of IWBI Asia. "In a post pandemic world, public confidence in the health and safety conditions of hotels is essential for economic recovery, and Sino Group's commitment to creating a healthier experience for guests and employees leads the charge for the hospitality industry."

SAA Architects designs new tennis facility in a garden

Singapore – SAA Architects, a member of the Surbana Jurong Group, has won the tender for the design and build of a new tennis facility in Singapore called the "Kallang Tennis Centre".

Envisioned as a first-class venue for tennis events and a vibrant addition to the nearby Singapore Sports Hub, the Centre will house up to seven indoor and 12 outdoor courts and amenities such as a sheltered event plaza, sponsorship lounge and viewing gallery. Completion is expected in end 2022.

The Kallang Tennis Centre is designed to be airy with visual and physical porosity that welcome visitors into the naturally ventilated space.

Aerial view of Kallang Tennis Centre. Artist's impression: © SAA Architects

The green boulevard between the nine outdoor practice courts is a mini park on its own, providing a soothing environment to rest or watch others practice tennis. Singapore's reputation as a city in a garden inspired SAA to design the Centre to be set amidst lush greenery that extends from the Geylang River nearby. The greenery continues onto the rooftop public park and the vertical greenery surrounding the outdoor courts.

On top of the basic sports facilities, the team recognises the importance that the Centre is sustainable as a vibrant sports village. Features are designed to nurture the Centre into a bustling hub of community activity and spaces are planned such that they can be opened to the public when tennis tournaments are not taking place to encourage visitors of all ages to take up tennis.

Surbana Jurong has been appointed as the civil & structural engineering, mechanical & electrical engineering, and environmental sustainability design consultants for this project.

Entrance of the Centre. Artist's impression: © SAA Architects

Tennis court in the Centre. Artist's impression: © SAA Architects

Two LWK + PARTNERS projects earn esteemed recognitions at The Global RLI Awards 2021

Hong Kong – LWK + PARTNERS is pleased to announce that two of the firm's design projects in China won distinguished acclaims at world-renowned The Global RLI Awards 2021. The awards were announced in a hybrid presentation ceremony held in London on 23 September.

Zijing Paradise Walk, Hangzhou, China

- RLI Most Innovative Retail & Entertainment Project (Highly Commended)

Zijing Paradise Walk, Hangzhou, China. Photo: © LWK + PARTNERS

Designed with culture and wellness themes, this shopping mall freshens up the local retail scene with playful references to village life, Hui-style architecture and traditional Chinese gardens. Not only is the building aesthetically pleasing, but it also provides cool shades for passers-by with shifting and cantilevered forms.

MixC Dongguan Songshan Lake District Mixed Use Development, Dongguan, China

- RLI Future Project (Highly Commended)

MixC Dongguan Songshan Lake District Mixed Use Development, Dongguan, China. Photo: © LWK + PARTNERS

The project is conceived as a catalyst of urban transformation turning a sub-urban industrial landscape to a robust lifestyle and cultural hub. Featuring diverse energising public spaces and multifarious greenery, the project also benefits the community with premium apartments and commercial facilities.

Ferdinand Cheung, Director of LWK + PARTNERS, joined the ceremony online and noted: "I would like to thank RLI and the jury for the recognition. Credits to the team for their continuous efforts through the challenges in both projects. We also look forward to the completion of the MixC project in Dongguan."

The Global RLI Awards celebrates the most visionary and innovative retail and leisure concepts from across the globe. Since its inception 16 years ago, it has been regarded as one of the world's most representative award programmes in the sector.

Seoul Urban Pinball Machine – A new fun urban play in central Seoul

Seoul, South Korea – Seoul Urban Pinball Machine is a new public place and landscape experienced visually and physically through the city's extensive materials and textures. Studio Heech designed the project which is a three-month temporary installation at the Seoul Hall of Urbanism & Architecture. It was an invited competition hosted by Seoul government. The outdoor pinball machine utilising the museum's slope along with the objects made of eco-friendly materials provides a new excitement to the city. The proposed objects were made using recycled upcycled materials typically constituting the city. The materials we propose such as reused old wood, bioplastic, eco-friendly MDF resistant to decay etc. are tangible confrontations against the climate crisis our city is facing in the aftermath of the pandemic.

Photo: © Doyeon Gwon

Mowilex wins gold medal for Global CRS Best Environmental Excellence Award

Jakarta, Indonesia – Paint manufacturer PT Mowilex Indonesia has won several Corporate Social Responsibility (CSR) awards since the premium wall paint brand started operating in 1970. In September 2020, Mowilex was granted a gold medal for the 12th Annual Global CSR Best Environmental Excellence Award. The high-profile event, held virtually due to the Covid 19 pandemic, assesses companies from many countries and regions in Asia, such as Singapore, Malaysia, India, Taiwan, Cambodia, and the Middle East.

The Global CSR Award is Asia's most prestigious grant held since 2009 for Corporate Social Responsibility. Global CSR Award rewards companies for their innovative products, services, projects, and programs. The selected project is considered to demonstrate the company's commitment to implement ethical business practices consistently and uphold appropriate values for the environment, community, and society.

Founder and Director of Williams Business Consultancy Sdn Bhd, as one of the judges, Prof. Dr. Geoffrey Williams, noted that they received over 300 submissions from 120 companies worldwide and selected 48 of them as winners in the 16 main award categories. "Having judged for over 12 years, it is encouraging to see that these companies have continuously set higher standards and goals to achieve every year, not only in terms of their social and environmental impact but also the innovativeness of some of these projects," he said.

Planting Trees, Mowilex CSR Program, Purwakarta. Photo: © PT Mowilex Indonesia

President Director of Mowilex, Niko Safavi, stated that the Global CSR Best Environmental Excellence Award strengthens the company's commitment to continue implementing its sustainability programme, namely "Kurangi, Hindari, Imbangi (Reduce, Avoid, Offset)". "We always encourage our CSR programs to remain in line with sustainability and environmental initiatives," said Niko in Jakarta, October 13th, 2021.

The grant from Global CSR is an award for Mowilex's long journey in preserving the environment. As the first paint manufacturing company in Indonesia that is certified Carbon Neutral, Mowilex participated in environmental preservation by reducing more than 12,000 plastic water jugs and bottled water since the initiative started in October 2019. The company also delivers sustainability in its operations by taking the initiative to reduce electricity use. Therefore, Mowilex is replacing freon in air conditioners and office and factory lights with LED technology.

In 2019, Mowilex also stopped producing certain colours of lead-containing wood and metal paint two years before the deadline recommended by the United Nations alliance. Mowilex also invested time and resources to launch a lead-free formulation for Wood and Iron Paints. These steps prove its commitment to contribute to the environment. The company is aware that long-term investment correlates to the sustainability of the planet we live in and its services to the local communities. It focuses on searching for eco-friendly solutions and reducing carbon footprints.

Mowilex continues to strive to make a positive impact on consumers and the environment. Its carbon offset funds are used for regional habitat conservation and community empowerment. The company is also involved in protecting whale sharks and their 1,500-kilometre habitat in Saleh Bay, Sumbawa, West Nusa Tenggara. Mowilex also collaborates with the Indonesian Ministry of Environment and Forestry to plant 50,000 new trees, including 5,500 mangrove plants that protect coastlines and capture carbon in Bali, and 500 Tabebuya (*Handroanthus chrysotrichus)* in Purwakarta, West Java.

Aedas' design comes first in the Shenzhen Airport Training Base Design Competition

Hong Kong – Aedas' innovative scheme came first in the Shenzhen Airport Training Base Design Competition. The design builds an airport education portal that represents the spirit of symbiosis, marrying urban life and training through the provision of rich cultural, sports and public leisure spaces. The design accommodates various business functions including office, training, residential, and conferencing, while installing a standard football field with a 400-metre track.

"We hope to integrate urban activities into the project by providing public space for cultural and athletic activities, and giving stronger social attributes to the teaching and training buildings. The overarching goal is to improve the well-being of users," articulated by Aedas Executive Director Kelvin Hu.

Photo: © Aedas

Meliá to open on Thailand's Mai Khao Beach

Phuket, Thailand – Meliá Phuket Mai Khao, a 30-suite and 70-villa resort on eight acres of Phuket's northwestern coastline overlooking the sky-blue Andaman Sea is slated to open in December.

Fronting Phuket's longest stretch of sand, the resort on Mai Khao Beach is close to an array of attractions such as Sirinat National Park, Mai Khao Marine Turtle Foundation, and Wat Phra Thong temple. Phuket International Airport is a 15-minute drive.

Authorities plan to open Thailand to fully vaccinated tourists from countries deemed low-risk from November 1.

Photo: © Melia Phuket Mai Khao

Launched by Melia Hotels International and owned by Thailand's leading residential real estate developer Phuket Villa Group, the five-star resort is part of a roll-out of the Meliá brand in key destinations across Thailand including Koh Samui, Chiang Mai and Bangkok.

The new resort's saltwater swimming pools, private villa pools, a reflection pond with sunken seating areas, water gardens, vertical falls and irrigation mist evoke a restorative atmosphere. The overarching design pays tribute to contemporary aesthetics and traditional Thai touches.

The contemporary, light-filled and spacious Mediterranean-inspired accommodations comprise 30 one-bedroom suites and 70 one-bedroom villas that each cater for up to two adults and two children. All feature outdoor bathtubs, open-air showers and vast outdoor terraces.

The 78 square metre suites are complemented by cabanas and the 85 square metre one-bedroom villas have private plunge pools. Fifteen "wellness villas" feature an open-air Vitamin C shower, daily massage, ultrasonic essential oil diffuser, GermGuardian air purifier, Tempur-Pedic pillows, fit ball and yoga mat.

Meliá Phuket Mai Khao will explore a diverse culinary landscape from four outlets. Near the beach pool with its cabanas and sun lounges, chic Gaia Beach Club is "the place to be". Drawing on Meliá's Spanish origins, Gaia celebrates Spain's famed gastronomy by serving Mediterranean and fusion cuisine from an open kitchen and an imaginative cocktail selection from a long bar.

Elegant all-day dining restaurant SASA specialises in Southeast Asian cuisine. A warm and intimate setting adorned with timber finishes, SASA offers casual fine dining by night. Elyxr Café serves freshly squeezed juices and locally brewed liquors.

Shaded by a broad spectrum of native plants, the resort's design deploys a neutral palette of colours as a complement to Mai Khao's sandy shore. Its high ceilings, floor-to-roof glass panels and decorative metal screens take advantage of the natural surrounds and abundance of sunshine.

At 300 square metres, Meliá's signature YHI Spa is home to five treatment rooms. In addition to its extensive menu of massages, facials, body scrubs and wraps, spa therapists also provide poolside and in-villa treatments.

The fitness centre is equipped with treadmills, ellipticals, exercise bikes, and weights machines. The kids club Kidsdom has workshops to keep youngsters entertained.

An idyllic venue for weddings and events, the resort's conference facilities include a grand ballroom and two additional multi-function rooms. The resort's event planners offer customized catering and mini mindfulness sessions.

"Through our partnership with Spain's leading hotel group, we are thankful that we can significantly contribute to Phuket's recovery in the wake of COVID-19 by creating much-needed jobs for the local tourism sector and setting a new benchmark for hospitality on Thailand's largest island," said Mr Maetapong Upatising, Phuket Villa Group's Managing Director.

"With its breathtaking beauty and serenity, there isn't a more desirable place to be on the water than Mai Khao Beach," said Ms Magdalena Martorell, Meliá Phuket Mai Khao's General Manager. "We're looking incredibly forward to unveiling a bleisure resort defined by a distinct focus on customer wellbeing with Meliá's sunny Spanish hospitality and passion for service."

Frasers Property Group tops Global Real Estate Sustainability Benchmark 2021 rankings with five global and regional sector leadership positions

Singapore – Frasers Property Limited ("Frasers Property", and together with its subsidiaries, the "Group"), announced that the Group has been recognised as a global and regional sector leader in five categories in the Global Real Estate Sustainability Benchmark (GRESB) 2021. The GRESB Sector Leader Awards recognises real estate and infrastructure companies, funds and assets that have demonstrated outstanding leadership in sustainability each year. All Frasers Property entities took part in the standing investments categories, with relevant entities also participating in the development projects categories. Frasers Property Group achieved top positions in the following categories:

Development Projects

- Frasers Property Industrial was named the Overall Global Sector Leader and Global Sector Leader in the Diversified – Office/Industrial category for its development projects in Australia (Score: 95 > Peer average: 90)

Standing Investments

- Frasers Property Industrial was recognised as the Overall Regional Sector Leader and Regional Sector Leader in Industrial for its existing Australian assets. (Score: 91 > Peer average: 73)
- Frasers Property Singapore was acknowledged as the Regional Sector Leader for the Diversified – Office/Retail category (Score: 87 > Peer average: 75)
- Frasers Property UK topped the local market's Office/Industrial category (Score: 85 > Peer average: 68)

Frasers Centrepoint Trust (FCT), Frasers Property Industrial (Australia), Frasers Property Australia, Frasers Logistics & Commercial Trust, and Frasers Property Singapore received 5 Star ratings for their respective portfolios of existing assets. Among the entities participating in the standing investments categories, FCT achieved the highest overall score of 92. In addition, Frasers Property Industrial (Australia) and Frasers Property Australia received 5 Star ratings in the development projects categories, with the former chalking up a score of 95. Frasers Property's portfolio in Australia has maintained a 5 star rating since 2018.

Mr Chia Khong Shoong, Group Chief Corporate Officer, Frasers Property Limited, said: "This is the first year where all our entities across markets, including listed and non-listed ones, made individual submissions to GRESB to benchmark themselves in their respective sectors. Entities that participated previously showed strong improvement in their overall scores. We value the sector-specific benchmarking of our sustainability practices, which provides greater transparency and accountability to our stakeholders. These encouraging results reflect our deep commitment towards achieving key sustainability goals, such as having climate-resilient portfolio adaptation and mitigation plans by 2024 and achieving net-zero carbon by 2050."

Frasers Tower in Singapore. Photo: © Frasers Property Limited

Mr Sebastian Roussotte, CEO of GRESB, said: "GRESB Sector Leaders are the organisations that are setting the pace and driving progress toward a net zero future. We are proud to recognise your determination, achievement, and leadership in creating a more sustainable world."

Aedas-designed Yi by Jereme Leung shines at the 2020-2021 LEAF Awards

Photo by Owen Raggett.

Hong Kong – Designed by Aedas Interiors Executive Principal Simon Thompson and Associate Director Ji An, Yì Restaurant by Jereme Leung was crowned Best Hospitality Building Project at the 2020/2021 LEAF Awards.

Adapted from the Chinese creation myth, Yì by Jereme Leung depicts the creation of Heaven and Earth by the god Pangu. The restaurant celebrates the concept of family roots and values passed onto future generations through storytelling. The journey begins as guests pass through a stunning floral tunnel at the entrance and enter the dining hall in a garden setting.

A refined yet humble palette of natural materials is applied to bring the earth concept to life. The plaster ceiling sculptures, moon gate and custom modern chinoiserie artworks, make for a coherent narrative of nature. By reinterpreting tradition in a modern, progressive way, a hidden world is created within the historical landmark of Raffles Hotel Singapore.

Mitsubishi Electric to integrate Building Systems business into subsidiary via company split

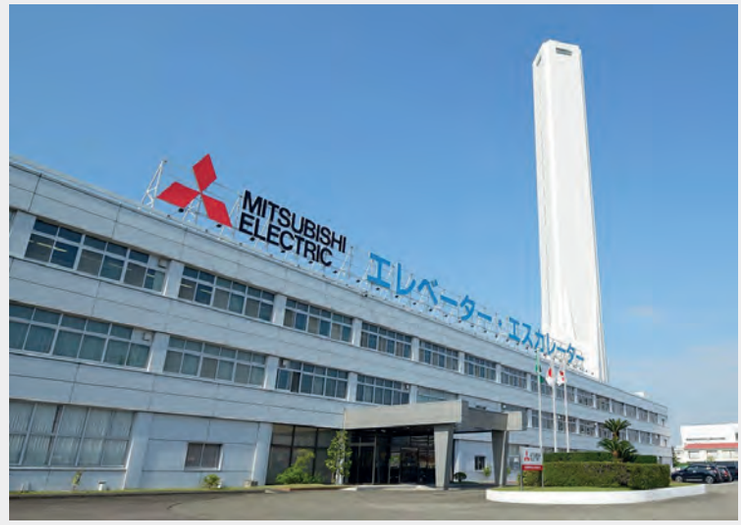
Tokyo, Japan – Mitsubishi Electric Corporation announced that it will transfer its building systems business and assets, including the manufacture and sales of elevators and escalators, to its wholly-owned subsidiary Mitsubishi Electric Building Techno-Service Co., Ltd. (MELTEC). The transfer will be achieved by means of an absorption-type company split ("Company Split"); certain information is accordingly being omitted from this announcement.

Purpose of company split

In its medium-term management plan for fiscal 2026, Mitsubishi Electric identified the building systems business as one of its key growth areas, and the company is accordingly working to expand the scale of this business and improve its profitability by investing management resources more intensively to drive growth.

In order to further strengthen its global competitiveness and improve efficiency, Mitsubishi Electric has decided to consolidate its management structure by transferring its building systems business, which is mainly responsible for new installations of elevators and escalators, to a wholly-owned subsidiary primarily responsible for the maintenance and renewal of elevators and escalators.

Through this business integration, Mitsubishi Electric and MELTEC will achieve an integrated business operation covering all aspects of the elevator and escalator business, from new installations to maintenance and replacement. At the same time, the two companies aim to help address various social issues, such as the realization of a decarbonized society, by providing new one-stop solutions that leverage the core building facilities, field knowledge, and maintenance and operation management data and know-how accumulated by the two companies.



Mitsubishi Electric's Inazawa Works

New regulations for periodic inspection of building facades to start from 1 January 2022

Singapore – The Building and Construction Authority (BCA) announced that the new Periodic Facade Inspection (PFI) regime will take effect from 1 January 2022. The regulation is aimed at helping building owners detect and address facade deterioration in a timely manner.

Responsible parties, such as building owners, Town Councils and management corporations, have a duty to ensure that building exteriors are properly maintained. Under the new PFI regime, facade inspections will need to be conducted every seven years for buildings that are more than 13 metres tall, once they are over 20 years old. Landed houses and temporary buildings are exempted from these requirements. Responsible parties must appoint a Competent Person (that is Professional Engineer or Registered Architect with a Certificate in Facade Inspection), who can be assisted by a Facade Inspector (FI), to conduct the facade inspections. The Competent Person will need to propose appropriate rectification works if deterioration is detected. Responsible parties must ensure that these works are carried out within a period specified by BCA.

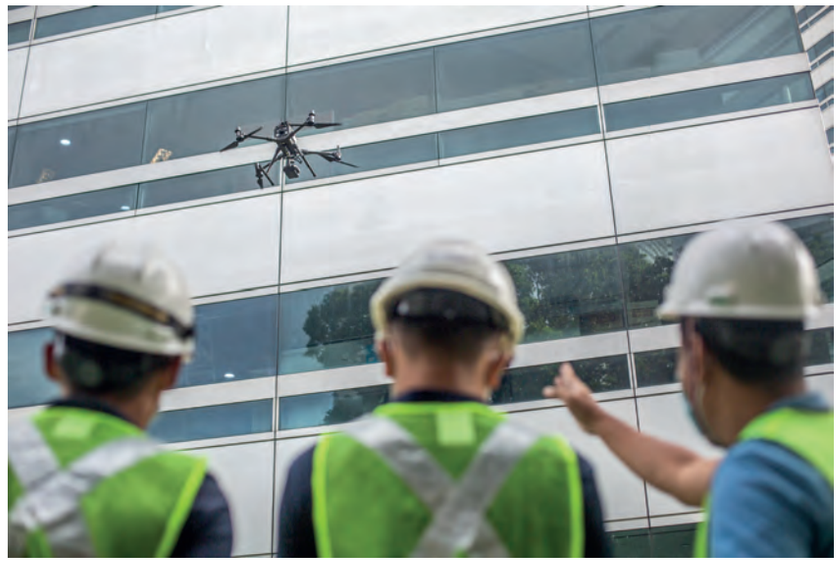


Photo: © BCA

BCA has conducted two rounds of public consultations and more than 20 engagement sessions with building owners, Town Councils, management corporations and industry professionals to gather feedback on the new requirements. Overall, the industry is supportive of the new PFI regime.

BCA has also received feedback from responsible parties and will implement initiatives to help them adapt to the new PFI regime. For example, BCA will issue advisories to responsible parties at least one year before their building is due for inspection. This will provide responsible parties with ample time to plan for the inspection. Responsible parties may consider scheduling their Repair and Redecoration (R&R) works or external building maintenance works to coincide with the PFI, which may allow for cost savings.

BCA has also issued a set of PFI guidelines as reference for Competent Persons and Facade Inspectors carrying out facade inspections. A copy of the PFI guidelines can be found at https://go.gov.sg/pfi-guidelines.

Leveraging technology to conduct PFIs

As part of the ongoing transformation efforts for the Built Environment sector, BCA has been encouraging the use of available technologies to increase productivity and efficiency. When conducting facade inspections, Unmanned Aircraft Systems (UAS), also known as drones, can be used to assist the Competent Person in performing the visual inspection. The usage of drones makes facade inspections safer, more efficient and less labour intensive.

Together with industry stakeholders, BCA has developed the world's first Technical Reference on using drones to conduct building facade inspections under the Singapore Standardisation Programme administered by Enterprise Singapore. The Technical Reference, titled TR78:2020, provides a set of specifications and good practices when using drones to conduct building facade inspections such as giving at least 3 days of notice with details of the inspection to building occupants, how images or video recordings taken during facade inspections using drones should be handled, as well as the implementation of systems and processes to prevent any unauthorised usage of images and footages captured.

Responsible parties and drone service providers should put in place such systems and processes to safeguard data privacy. For example, images of residents captured during facade inspection should undergo anonymisation through masking using a masking software or by other methods to render them unidentifiable.

Raising capabilities of personnel conducting PFIs

About 30,000 buildings will be required to undergo facade inspection within the first seven-year inspection cycle. To ensure that there are sufficient skilled persons to conduct facade inspections, BCA has worked with the industry to develop and implement a mandatory training course – "Certificate in Façade Inspection". The course equips participants with the essential knowledge and skills required to conduct facade inspections. The course is offered by the BCA Academy and the Institution of Engineers Singapore Academy. As of September 2021, there are 149 Competent Persons and 140 registered Facade Inspectors.

CTBUH reveals 84 percent of tall buildings have been constructed since 9/11

Chicago, USA – The Council on Tall Buildings and Urban Habitat (CTBUH) released its latest data study, The Global Impact of 9/11 on Tall Buildings, part of the Tall Buildings in Numbers series. Today, 20 years later, how did 9/11 impact tall building development? The study had several startling findings; the most surprising shows that 84 percent of all buildings 200 metres or taller currently in existence were built after 2001. Eight of the 10 current tallest buildings in the US have been built since 2001, and if the original World Trade Center towers were standing today, they would rank as the world's 31st- and 32nd-tallest buildings.

CTBUH Chief Executive Officer Antony Wood states, "The 11th of September was seared into the consciousness of people around the entire world in a way that no other event had, and the tall building typology along with it. The findings of this data study point to the possibilities that 9/11 actually became a catalyst, rather than an inhibitor, for tall buildings."

Among many other insights, the latest data study also shows that of the world's current 100 tallest buildings, 86 have been built since 2001. In the 20 years since 2001, in addition to the overall growth of buildings 200 metres or taller, the height of tall buildings continues to soar. Since 2001, the average height of the 100 tallest buildings in the world has increased by 141 percent, from 284 metres to 399 metres. Since 2008, every building in the 100 tallest list has been a "supertall" building, which CTBUH defines as a building 300 metres or higher.

Tall building growth has shifted globally as well. In 2001, 49 percent of all 200-metre-plus buildings were in North America. Today, only 15 percent of such buildings are in North America, with significant growth of tall buildings now seen in Asia and the Middle East.

To see the full interactive data study, visit The Global Impact of 9/11 on Tall Buildings at ctbuh.org/9-11-global-impact.

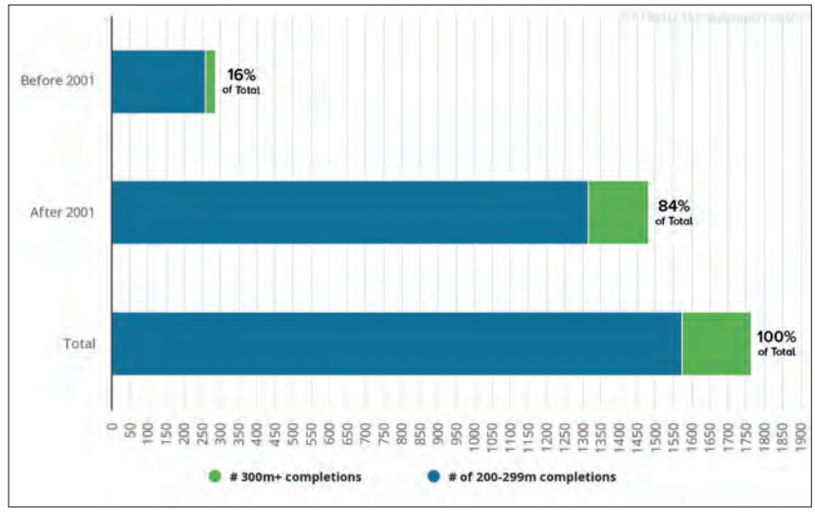
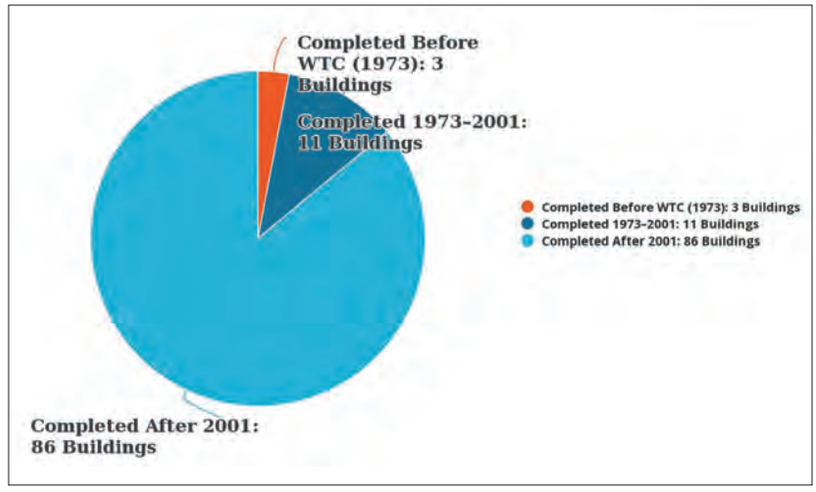


Photo: © CTBUH



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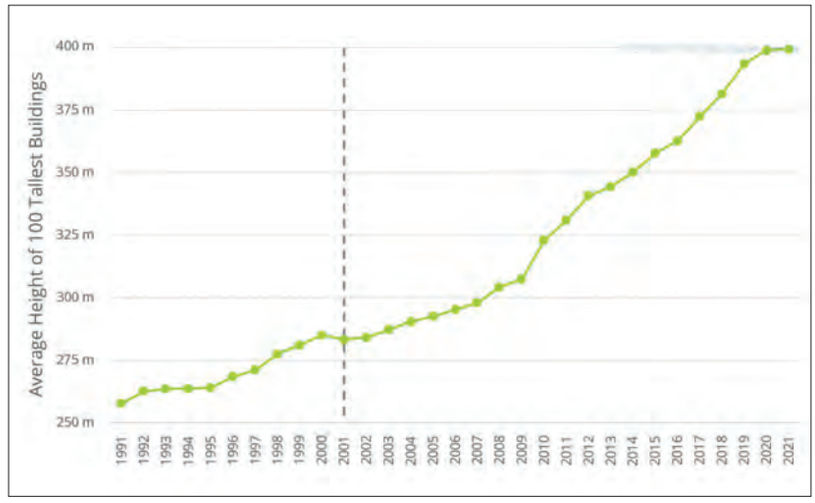


Photo: © CTBUH

ERA Architects' design for Ken Soble Tower serves as model for tower renewal across North America

Hamilton, Ontario, Canada – Leading the way in tower retrofits across North America, ERA Architects (ERA) has designed Ken Soble Tower, an ambitious transformation of a declining post-war, affordable seniors housing tower into a barrier-free, healthy and resilient landmark. The 18-storey, 146-unit building is set to become one of the largest Passive House retrofits in North America – earning the coveted EnerPHit certification – serving as a model for comfortable and quality living environments.

As the oldest high-rise, multi-residential building in CityHousing Hamilton's (CHH) portfolio, the white brick Ken Soble Tower has stood proud in Hamilton's skyline on MacNab Street North in the West Harbour neighbourhood since 1967. Ken Soble Tower was fully occupied until 2014 when a mix of aging infrastructure and increasing capital costs led it to fall into disrepair.

Following several studies and consultations with residents and community members to explore the future of the building, including renovation, sale or replacement, a decision was made to retrofit the tower in 2016. As the most cost-effective undertaking, a retrofit also ensured much-needed affordable housing options were maintained in the rapidly evolving neighbourhood, unprecedented sustainability goals could be met, and allowed for dignified aging-in-place.

CHH's bold vision for inclusive and socially sustainable housing, along with continued support from CHH's Board of Directors and City of Hamilton Council, have helped meet projected long-term growth in demand for affordable seniors' housing that will support tenants and the surrounding neighbourhood.

Ken Soble Tower. Photo: © Codrin Talaba

ERA, the Toronto-based architecture firm known for its deep expertise in restoration and adaptive reuse of existing buildings including low-carbon retrofits and tower renewal, was brought in to lead the transformation of this significant cornerstone of Hamilton's fabric. ERA's design vision ensured a highly integrated approach with a dynamic team specializing in apartment retrofits, including construction manager PCL, to meet the rigorous Passive House standards.

Ken Soble Tower has achieved a staggering 94 per cent reduction in greenhouse gas emissions and an 89 per cent reduction in thermal energy demand intensity (TEDI).

As an example of Canada leading in large scale net-zero-ready retrofit, it showcases a set of strategies which can be scaled up nationwide in support of Canada's climate and housing renewal goals, according to the Tower Renewal Partnership, a non-profit research and policy initiative co-founded by ERA that aims to preserve and enhance aging housing across Canada.

HHF + Kwong Von Glinow complete Swiss Consulate in Chicago's Hancock Tower

Chicago, Illinois, USA – The new Swiss Consulate Chicago brings a domestic language to the office interior at the Hancock Tower. As a collaborative design project between Swiss Architecture office HHF and Chicago-based practice Kwong Von Glinow, the architects took inspiration from Swiss-born Architect Otto Kolb who taught in Chicago at Illinois Institute of Technology in the 1960s to link the two cultural architectural histories of Switzerland and Chicago. As such, Villa Kolb – the architect's primary residence – espoused organic geometry and fluidity in the home's architecture, allowing for a succession of spaces that flow between one another. Similarly, the Swiss Consulate Chicago is organised around a "Green heart" at the center of the space where the staff gather together and from which all of the consular program is visible and accessible.

Surrounding the Green Core are the office spaces, a conference room, and support areas. The Green Core creates a soft division within the Consulate between the social areas and the working areas. Curvilinear built-in benches and a kitchenette mediate the two programmatic areas. The light filtering curvilinear elements allow for a soft contrast between the organic geometry of the Green Core and the abstract furniture of the working areas. The repetitive vertical slats of the curvilinear walls emphasize the verticality of the 14' tall exposed ceiling. The frosted glass of the enclosed offices and the conference room further emphasize connection between all areas of the Consulate and give added depth and light to the space. The General Consul's office is marked by its signature furniture and adjacency to the open working are through the translucent glass.

Photo credit: James Florio

First quadrant of OMA's Kadewe Berlin masterplan revealed

Berlin, Germany – The historic Berlin department store Kaufhaus des Westens (KaDeWe) opened the doors to the first quadrant of the masterplan designed by OMA. A concentric void spanning six floors holds a series of wood-clad escalators. At the base, in extension of the Tauentzienstraße main entrance, the void serves both as a retail and event space. Outside, a two-storey-high shop window for analogue and digital presentations has been introduced on the corner of the Tauentzienstraße and Passauer Straße. Rather than treating the existing building as a singular mass, the project introduces four quadrants which fragment the original mass into smaller, easily accessible and navigable sectors. With this project, OMA and KaDeWe address the accelerating shifts in consumer behavior and the challenges brought by online retail that are affecting the traditional department store.

Photography by Marco Cappelletti, courtesy of OMA.

OMA Partner Ellen van Loon said: "The renovation of the KaDeWe aims to redefine the dynamics between retail space, its patrons, and the urban environment, in a time when e-commerce is reshaping our relation with in-person shopping. The project reinterprets the fundamental elements of a typology that has remained virtually unchanged for more than 100 years."

The masterplan and renovation of the Berlin department store, ongoing since 2016, marks OMA's first project for KaDeWe Group. The project is led by Ellen van Loon and Rem Koolhaas, with Project Architect Natalie Konopelski. Van Loon is also undertaking the design of the new store by KaDeWe Group in Vienna.

OMA's built projects in Berlin include the Axel Springer Campus (2020) and the Netherlands Embassy (2003).

PES-Architects wins design competition for Shanghai Submarine Museum

Helsinki, Finland – PES-Architects has won the invited international architecture competition for the Shanghai Submarine Museum on the Huangpu riverfront in Shanghai, China.

The new museum, administratively part of the China Maritime Museum in Shanghai, will occupy a prominent position in a dock of the former Jiangnan Shipyard, more recently part of the 2010 Shanghai World Expo site. The west bank of the Huangpu River in central Shanghai is currently undergoing a major urban transformation with old industrial docks and sites being converted into cultural venues, public parks and recreational sites.

The museum will initially showcase a decommissioned submarine, later to be expanded with flexible exhibition/event spaces and a restaurant.

In PES-Architects' concept, the museum is placed as a bridge on top of the submarine and across the dock pool, allowing for continuous flow across the site while leaving most of the dock intact. A low, simple structure of 500 square metres in the first phase, set to be completed in the first quarter of 2022, the building will grow upwards by 3,000 square metres in the second phase (2023).

The building forms a symbiosis with the submarine and hovers over the dock as a mysterious, intriguing object with fantastic views towards the river, the dock and the submarine. The reflective mirror facade simultaneously amplifies its context and disappears, attracting attention yet respecting its environment. Glass, steel and wood form an elegant contrast to the rough textures of the museum dock.

Bird's eye view. Rendering: © PES-Architects Ltd

The dock floor has a gradually undulating topography that can be partially filled with water to form pools of various sizes, changing the outlook and function of the area.

WACKER to raise prices for dispersions and dispersible polymer powders in Asia

Munich, Germany – WACKER, the Munich-based chemical group, is to raise its prices for VINNAPAS® dispersions and dispersible polymer powders in Asia. Effective September 15, 2021, prices for its complete product range will rise by up to 10 percent, or as customer contracts allow. This measure has been necessitated by the increase in raw-material costs and the extreme tightness of various raw materials.

The price adjustment enables WACKER POLYMERS, a WACKER business division, to continue providing customers with a wide range of innovative quality products and comprehensive technical, sales and customer-support services. VINNAPAS® dispersions and dispersible polymer powders find application in numerous industries, ranging from the construction, adhesive and caulk sectors, through nonwovens, paints and surface coatings, to paper, carpets and textiles.

Photo: © Wacker Chemie AG

Lendlease and Stora Enso launch global sustainable timber partnership

Milan, Italy – A major new partnership between international real estate group, Lendlease, and one of the world's leading suppliers of sustainable timber, Stora Enso, is set to supercharge the use of environmentally friendly construction products in some of the world's most recognised cities. Launched on 1 October 2021 in Milan, Italy, where Lendlease has A$7.9 billion in urbanisation projects underway, the new partnership will focus on three key areas: R&D into sustainable timber products including cross laminated timber (CLT); new ways these products can be used in construction; and their accessibility in the global market.

Building that Lendlease has worked with Stora Enso on. The Pavilion at IQL in London, UK. Photo: © Hufton+Crow

As part of announcement, Lendlease also announced the establishment of a dedicated studio in Milan to facilitate the creation of new sustainable timber products and increased use of sustainable timber across its A$52 billion portfolio of European development projects. Named Podium MX, the new Milan studio will be based at the company's A$3.6 billion Milan Innovation District (MIND), the former 2015 World Expo site, and will complement a similar facility established in Silicon Valley earlier this month. In addition, Stora Enso's product catalogue will be fully digitised through Lendlease's end-to-end digital platform, Podium, making it easier for the company to design and build with sustainable timber in the future. Today's announcement further cements the already strong relationship between Lendlease and Stora Enso. In the past decade, the two companies have worked together to deliver eight sustainable timber buildings in cities including London, Sydney and Brisbane. For example, the use of sustainable timber instead of conventional reinforced concrete at Lendlease's 25 King office project in Brisbane, Australia, reduced carbon emissions by 74 percent, or 5,000 tonnes of carbon.

Given the built environment currently contributes about 40 percent of greenhouse gas emissions globally, sustainable timber products represent a compelling opportunity for the construction industry to lighten its environmental footprint. Strong, lightweight and resilient to fire and shocks, sustainable timber contains much less embodied carbon than traditional building materials such as steel and cement.

Building that Lendlease has worked with Stora Enso on. 25 King in Brisbane, Australia. Photo: © Lendlease

Tony Lombardo, Global CEO and Managing Director, Lendlease, said: "This global partnership between Lendlease and Stora Enso represents a natural evolution of a relationship stretching back more than a decade between our two companies. Stora Enso is an undisputed world leader in the development of products that have a lighter environmental footprint. This is particularly relevant for Lendlease given we've set ourselves the challenge of achieving the most aggressive emissions reduction targets for the real estate sector globally – net zero carbon emissions by 2025 and absolute zero by 2040."

Lars Völkel, Executive Vice President, Stora Enso Wood Products division, said: "We are delighted to strengthen our partnership with Lendlease, a true frontrunner in sustainable building solutions. Together we will lead the transition towards more circular, innovative and digitalised solutions to help speed up the construction industry's transformation."

Student 'Town House' named UK's best new building – 2021 RIBA Stirling Prize winner

London, UK – The Royal Institute of British Architects (RIBA) has named Kingston University London – Town House designed by Grafton Architects, as the winner of the 25th RIBA Stirling Prize.

A progressive new model for the design of higher education buildings, the dynamic student 'Town House' expertly captures the spirit of learning and the value of community cohesion.

Grafton Architects have designed a purposefully democratic and open space, as its name suggests: Town – referring to the building's civic dimension, and House – reflecting a sense of home and belonging. Many of the students at Kingston are the first in their family to attend university and this building sends an important message to them, their educators and the local community, that this is a place where everyone is welcome and valued.

Set back from the street, the project extends the public realm, generously blurring its boundary with the pavement and inviting everyone in – students, locals and visitors alike. There are no barriers. A 200 metre long six-storey, deep colonnade offers shadow and shelter, with terraces and gardens above creating shelves of connected public space. The facades are permeable: open and transparent at the lower levels – revealing views to the passer-by of the engaging activities taking place inside – becoming more shaded at upper levels.

Equally open and spacious inside, users and visitors are greeted by the public forum, leading to an amphitheatre. From the ground floor, eyes are drawn up through the building – through voids and staircases – to complementing social and study spaces. Exemplary acoustic design enables the bustling public forum, quiet library, archive, dance studio and theatre to co-exist, and enrich the experience of the users.

Generous volumes allow people, light and air to flow naturally through the building, which also uses a thermally-activated concrete frame to reduce operational energy use. This highly-adaptable building will stand the test of time and provide an inspiring environment for students, residents and visitors for years to come.

Speaking on behalf of the 2021 RIBA Stirling Prize jury, Lord Norman Foster, said: "Kingston University Town House is a theatre for life – a warehouse of ideas. It seamlessly brings together student and town communities, creating a progressive new model for higher education, well deserving of international acclaim and attention.

In this highly original work of architecture, quiet reading, loud performance, research and learning, can delightfully co-exist. That is no mean feat. Education must be our future – and this must be the future of education."

Grafton Architects, said: "We imagined a place where students would feel at home. This building is about people, interaction, light, possibilities. It is about connecting to the community, the passer-by, an invitation to cross the threshold; a three-dimensional framework with layers of silence and layers of sound. Space, volume and light are the organisers. The building edges are not boundaries but active gathering spaces, terraces, galleries. Being outside under the big sky is always just a few steps away. Kingston University gave us this educational vision which we translated into a spatial open matrix. We are absolutely delighted the Kingston Town House has won the prestigious Stirling Prize."

Kingston University Vice-Chancellor, Professor Steven Spier, said: "We had an incredibly ambitious brief – to create a space

Kingston University London – Town House by Grafton Architects © Ed Reeve

Kingston University London – Town House by Grafton Architects © Dennis Gilbert

Kingston University London – Town House by Grafton Architects © Ed Reeve

Kingston University London – Town House by Grafton Architects © Alice Clancy

Kingston University London – Town House by Grafton Architects © Alice Clancy

for students that would allow them to benefit from knowing each other, a library to inspire learning, dance studios and a softening of the threshold between gown and town. Grafton Architects delivered just such an innovative programme. The result is a breathtaking new building for Kingston University.

The Stirling Prize confirms Town House as a world-class building and, therefore, a fitting foil to the aspirations of our students, many of whom are the first in their families to go to university. It is invigorating to witness the creativity, collaboration and shared learning this open, inviting space fosters. Our students have embraced Town House, relishing the opportunity to find their place within it and make its many spaces their own.

Working with an architecture practice of Grafton Architects substantial expertise and international stature on what was their first building in the United Kingdom has enabled us to attain our bold vision for Town House – an achievement of which our students, staff and the wider community are truly proud."

The jury for the 2021 RIBA Stirling Prize was: Lord Norman Foster (Chair), Simon Allford (RIBA President), architect Annalie Riches (2019 RIBA Stirling Prize winner) and artist Dame Phyllida Barlow. The jury was advised by architect Mina Hasman (Sustainability Expert).

Grafton Architects won the 2013 RIBA Competition to design the Town House. It is the Dublin-based practice's first built project in the UK. Grafton Architects was the recipient of the Royal Gold Medal for architecture in 2020.

Norwegian solar energy company REC Group becomes part of Reliance Industries Ltd. and accelerates its expansion

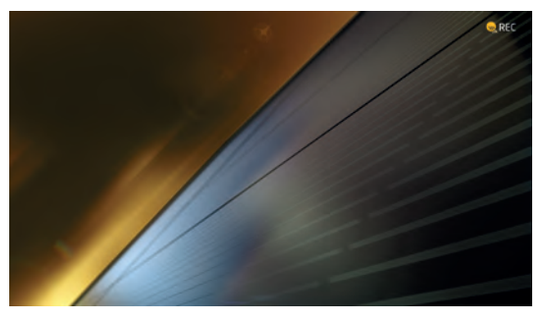
Munich, Germany – REC Group, an international pioneering solar energy company headquartered in Norway, announced that Reliance New Energy Solar Limited, a wholly owned subsidiary of Reliance Industries Ltd (Reliance), has signed a definitive binding agreement to acquire 100 percent shareholding of the largest European solar panel brand. REC Group (REC) welcomes the decision as this will allow a significant acceleration of the company's expansion plans.

Over its 25-year history, REC has consistently set new standards and introduced numerous innovations in the solar PV industry. This deal is therefore a perfect fit for the two strong brands with big ambitions to speed up the energy transition for a cleaner future. REC's production capacity has limited the company in serving more customers in more markets which demand its cutting-edge high-quality products. This new ownership will allow REC to rapidly boost its scale and better serve its increasing customer base and end consumers.

With Reliance's financial strength and commitment to solar, REC will grow to over 5 GW of capacity within the next 2 to 3 years in Singapore, Europe and USA. In India, Reliance plans to use this industry leading technology in their fully integrated, metallic Silicon to PV Panel manufacturing giga factory at Dhirubhai Ambani Green Energy Giga Complex, Jamnagar initially starting with 4 GW per annum capacity and eventually growing to 10 GW per annum. The combination of high-efficiency solar panels and economies of scale will allow consumers in more markets around the globe to access REC's premium solar panels and benefit from highly competitive electricity costs per kWh while actively reducing carbon emissions. As part of the Reliance family, REC and Reliance will accelerate their joint mission to empower people around the globe with clean and affordable solar energy.

Headquartered in Mumbai, India, Reliance is India's largest private sector company, with a consolidated turnover of INR 539,238 crore ($73.8 billion), cash profit of INR 79,828 crore ($10.9 billion), and net profit of INR 53,739 crore ($7.4 billion) for the year ended March 31, 2021. Reliance's activities span hydrocarbon exploration and production, petroleum refining and marketing, petrochemicals, retail and digital services.

REC production site in Singapore. Photo: © REC Group



REC Alpha Pure Series. Photo: © REC Group

Julie Bargmann wins the inaugural Cornelia Hahn Oberlander International Landscape Architecture Prize

Washington, D.C., USA – The Cultural Landscape Foundation ("TCLF") announced that Julie Bargmann is the winner of the inaugural Cornelia Hahn Oberlander International Landscape Architecture Prize ("Oberlander Prize"). The biennial Oberlander Prize, which includes a $100,000 award, two years of public engagement activities focused on the laureate's work and landscape architecture more broadly and is named for the late landscape architect Cornelia Hahn Oberlander, is bestowed on a recipient who is "exceptionally talented, creative, courageous, and visionary" and has "a significant body of built work that exemplifies the art of landscape architecture."

The Oberlander Prize Jury Citation notes of Bargmann: "She has been a provocateur, a critical practitioner, and a public intellectual. She embodies the kind of activism required of landscape architects in an era of severe environmental challenges and persistent social inequities."

Bargmann, a native of Westwood, NJ, is a Professor of Landscape Architecture at the University of Virginia in Charlottesville, VA, and the founder of D.I.R.T. ("Dump It Right There") studio. She earned a Bachelor of Fine Arts in Sculpture from Carnegie Mellon University and a Master in Landscape Architecture at Harvard's Graduate School of Design (1987). In 1989–90 she was a Fellow in Landscape Architecture at the American Academy in Rome.

The Oberlander Prize Jury met virtually in June, July and August 2021 to select the inaugural laureate, due to the global novel coronavirus pandemic and the necessity for social distancing. According to Dorothée Imbert, Chair of the seven-person international Oberlander Prize Jury, qualities that made Bargmann stand out include: "her leadership in the world of ideas, her impact on the public landscape, her model of an activist practice, and her commitment to advancing landscape architecture both through teaching and design." As Bargmann has said of herself: "The two ends of my barbell are designer–artist and political animal."

For more than 30 years as a teacher and a landscape architect, Julie Bargmann has principally focused on contaminated, neglected, and forgotten urban and post-industrial sites. According to Bargmann: "Unearthing the raw ingredients of design from waste and wastelands defines my life's work. Both the pedagogy of my teaching and my methodology as a designer address the social and ecological imperatives to reclaim degraded land. Integrating regenerative technologies with design propositions and built landscapes embodies my contribution to the discipline of landscape architecture." Since she started teaching and founded D.I.R.T. studio, she has created alternatives to counter the limitations of typical remediation (defined as "correcting a fault") by offering more dynamic modes of regeneration (or, "creating anew").

For many of her recent projects, Bargmann and D.I.R.T. have acted as the conceptual design lead, working with other experts throughout the planning and design process, and sticking with many projects through construction. Multi-disciplinary collaborations with architects, historians, engineers, hydrogeologists, artists, and, most importantly, the residents of the area in which she is working, are hallmarks of Bargmann's approach. Artistically, she is strongly influenced by the work and writings of Robert Smithson, the American artist known for his land art installations including Spiral Jetty, and the American artist Eva Hesse. Bargmann describes her approach as "rigorous intuition or intuitive rigour."

Core City Park Detroit, MI, Spring 2021. Photo courtesy Prince Concepts and The Cultural Landscape Foundation.

Turtle Creek Water Works, Dallas, TX, 2021. Photo © Barrett Doherty, courtesy of The Cultural Landscape Foundation.

Urban, Outfitters, Philadelphia, PA, 2021, Julie Bargmann landscape architect. Photo © Barrett Doherty, courtesy of The Cultural Landscape Foundation.

Julie Bargmann, 2021 Oberlander Prize laureate. Photo © Barrett Doherty, courtesy of The Cultural Landscape Foundation.

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2021
30 Nov -2 Dec

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2021
1-2 Dec

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2021
1-4 Dec

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Kuala Lumpur, Malaysia
T: +60 3 7982 4668
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W: www.marvex.my

2022
23-24 Mar

Geo Connect Asia 2022
Sands Expo & Convention Centre
Marina Bay Sands
Singapore
W: www.geoconnectasia.com

2022
1-2 June

Sydney Build 2022 Expo
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W: www.sydneybuildexpo.com

2022
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Joan Kirner Women's and Children Hospital

Substrates were treated with ECO PRIM T PLUS and levelled with ULTRAPLAN ECO before installing resilient materials.

An external view of the hospital.

MAPEI PRODUCTS FOR RESILIENT MATERIALS WERE SPECIFIED ON THIS CUTTING-EDGE FACILITY MAINLY INTENDED FOR MOTHERS AND THEIR CHILDREN.

Melbourne's West has seen rapid and continuous growth for many years now, with increasing numbers building homes, raising families, and having babies. Consequently, this area has seen a growing demand for women's and children's health services. The new Joan Kirner Women's and Children's Hospital was completed in May 2019 and provides a family-centred facility that allows women in the district to give birth closer to home. The centre will provide care for thousands of children in the decades to come.

The hospital boasts modern health care facilities with eye-catching art and design, as well as the world's first-ever neonatal intensive care unit, 39 special care nursery cots, 64 maternity beds, 32 paediatric beds, 20 labour delivery rooms, and 4 dedicated operating theatres. This facility is a fitting testament to Joan Kirner's legacy. Victoria's first female premier (1990–1992), Joan Kirner was a social justice warrior and a tireless voice for women, children, and families.

Designed for families

The design was developed by Lyons architects with a "Salutogenic" approach to the build. Natural colour schemes, spaces with views, plenty of natural light and intuitive way-finding which is simulated by the use of shapes and dynamic, modern design. The floors and walls have seamless cohesion as circular shapes sprawl over each level, colour co-ordinated with all other finishes of the build. The building itself has become a jewel in the heart of the western region of Melbourne. The technicoloured interior is truly breathtaking. Each level has a different colour scheme associated with the branch of healthcare it coincides with. Floor to wall vinyl accompanied by circular shapes promotes relaxation, warmth and creativity to the patients treated in this space.

Substrate preparation

Floor91 was the company contracted to complete the installation of the wall and floor coverings in the first stage of the refurbishment. Preparation included extensive diamond grinding, screeding and waterproofing. Materials installed ranged from floor and wall vinyl to carpet tiles, matting and stair nosing. The 8 Level installation took place over 6 months with 85 percent of the work completed over 18 weeks. Mapei

1

2

Photos 1, 2 & 3: Vinyl coverings were installed in different areas with ULTRABOND ECO V4SP on floors and ROLLCOLL on walls. Textile floors were, on the other hand, installed with ULTRABOND ECO TACK.

products were used for substrate preparation as well for the installation of the floor and wall coverings.

With over 80 percent of the concrete floors needing to be levelled, the substrates were firstly primed using ECO PRIM T PLUS, low odour acrylic primer in water dispersion with very low emission level of volatile organic compounds (VOC), followed by the application of ULTRAPLAN, a self-levelling, ultra quick-hardening smoothing compound for thicknesses from 1 to 15 mm, with a very low emission level of VOC, preparing substrates to receive any kind of floor covering where an excellent resistance to loads and traffic is required. Concrete substrates that only required small patching repairs were rectified using PLANIPREP SC, a fibre-reinforced skim coating compound distributed in Australia by Mapei Australia, and NIVORAPID, ultra-fast setting, thixotropic, cementitious levelling compound for horizontal and vertical surfaces. Some parts of the flooring had lead sheeting installed to act as a barrier between x-ray rooms and offices. These areas were levelled using NIVORAPID mixed with LATEX PLUS to improve the deformability and bonding strength of the levelling mortar.

Waterproofing wet areas

The floors and walls in the bathrooms and wet areas were waterproofed using MAPEGUM WPS, fast drying flexible liquid waterproofing membrane. Once the second coat of this product was dry, the substrates in these areas were primed with a layer of undiluted ECO PRIM T PLUS, smoothed with PLANIPREP SC in preparation to install the vinyl coverings. MAPEFLEX PU 45 FT paintable, rapid, high modulus polyurethane sealant and adhesive was used for sealing expansion and distribution joints. All wet area vinyl coverings were installed using ADESILEX G19, two-component, epoxy-polyurethane adhesive for resilient and textile floorings.

Installing vinyl and textile coverings

Over 60,000 square metres of vinyl floors supplied by Tarkett were installed in the public areas using ULTRABOND ECO V4 SP, a high-performance adhesive especially suitable for installing PVC and rubber flooring as well as a universal adhesive for all common resilient floor coverings. About 28,000 square metres of vinyl coverings were, on the other hand, installed on walls using ROLLCOLL, a universal adhesive in water dispersion for vinyl and textile floor and wall coverings. In other areas, textile floors were installed by using ULTRABOND ECO TACK, acrylic tackifier dispersed in water with a very low emission level of volatile organic compounds (VOC).

3

Mapei Products
Preparing substrates: Primer MF, Mapeproof 1K Turbo*, Latexplan Trade*, UC Leveller*, Eco Prim T Plus
Waterproofing substrates: Mapegum WPS
Sealing expansion and distribution joints: Mapeflex PU 45 FT
Installing vinyl floors: Ultrabond Eco V4 SP, Adesilex G19
Installing vinyl wall coverings: Rollcoll
Installing textile floors: Ultrabond Eco Tack

*These products are distributed on the Australian market by Mapei Australia.

ULTRABOND ECO V4SP

Problems and solutions
Mapei high-performance products ensured a proper preparation of the substrates, which is essential to guarantee a safe installation of resilient coverings. Waterproofing compounds such as MAPEGUM WPS were applied in the wet areas. Mapei adhesives (ROLLCOLL, ADESILEX G19, and ULTRABOND ECO V4 SP) ensured a perfect bonding of vinyl wall and floor coverings in record time, to meet the contractor's needs.

PROJECT DATA

Project Name: Joan Kirner Women's and Children's Hospital
Location: Melbourne, Victoria, Australia
Period of Refurbishment: July 2017 – April 2019
Period of the Mapei Intervention: July 2018 – March 2019
Owner: Victorian State Government
Design: Lyons Architect
Main Contractor: Lendlease Pty Ltd.
Installation Company: Floor91
Project Manager: Shane Ward, Floor91
Mapei Coordinator: Jamie Billing, Mapei Australia
Photos: Images provided by Mapei

Article source: Realtà Mapei International no. 84/2021

For more information, email mapei@mapei.com.sg.

EKH Children Hospital

IN BANGKOK, **INTEGRATED FIELD CO., LTD.** CREATED A 'FUN' ELEMENT IN THE INTERIOR DESIGN OF THE EKH CHILDREN HOSPITAL FOR KIDS TO FEEL COMFORTABLE.

A hospital is the kind of place most people would rather avoid as much as they can. We have witnessed more medical institutions' attempt to create a more pleasant and friendlier environment, some with the architecture and interior decoration that are almost equivalent to a shopping mall or hi-end hotels. If such built environment can make the feeling of going to a hospital for us adults more tolerable somehow, what about the experience of the little ones?

For the kids, luxury isn't something that can comfort them from the pain, fear for needles or even the bitterness of the medicine. We, therefore, look for the things that will bring them happiness throughout their experience at the hospital. With the children's mindset, Integrated Field discovered that 'fun' is what every child instinctively looks for. Despite their different backgrounds, all kids want to live their lives looking for something fun to do. Using this element of 'fun' as the key becomes a great challenge considering how we have to approach the design from the perspective of a child (which we, unfortunately, don't have that much left) while constantly reminding ourselves that we would actually have to make a hospital a 'fun' place.

Such thought process leads to the design of the EKH Children Hospital with a giant slider situated right at the front of the entrance hall (imagine being a kid dreading going into the hospital, the slider will definitely make you stop crying). The waiting area of each clinic is designed into a playground, which becomes somewhat a burden for the parents of having to convince the kids to leave the hospital). The program also includes an indoor swimming pool that has a bunch of artificial clouds floating atop.

The children dimension is created using various physical shapes, colours and symbols materialized from the design language that is made up of delicately curved lines and deliberately avoids the perfect geometric forms. The design renders the aesthetics, which reminisces the way one continues drawing of a curved line without focusing on whether it will be able to form a perfect circle or not, and it ends up bringing a sense of freedom to the young users' experience of the space. These lines are formed into the arches constructed above the doorways and seating areas with the sizes calculated to correspond with children's body proportion, creating a built environment that truly accommodates children's behaviour and preferences. The pastel colour tone encourages the children's use of imagination (as a kid, we all create our own imaginary world when we are experiencing a space for the first time). The architect believe that children will be able to enjoy the spaces inside of the hospital according to their own personal imagination and individually develop an experience through their interactions with the curated spatial program.

A scenario is designed and constructed near the pharmacy counter as a part of the layout of the 'waiting area', which embraces the 'play space'. The program enables interactions between parents and children while allowing the adults to watch over their little ones during the wait. The use of indirect light with all the hallways of the hospital ensures that the young patients won't be disturbed by the discomfort of excessive brightness.

The hospital offers four room types, categorised not as a standard, special or suite room, but in the friendlier names of Whale, Turtle, Lion and Rabbit Constellation. Each room is decorated in a different colour and installed above the bed is a glow-in-the-dark constellation with a customised lamp to provide both a standard lighting and the level of illumination that is suitable for a good night's sleep.

As we adults find ourselves amazed if not a bit jealous by the mesmerizing variety and development of children's toys or even snacks these days, EKH Children Hospital will change everyone's perception about what the space of a children's hospital can be.

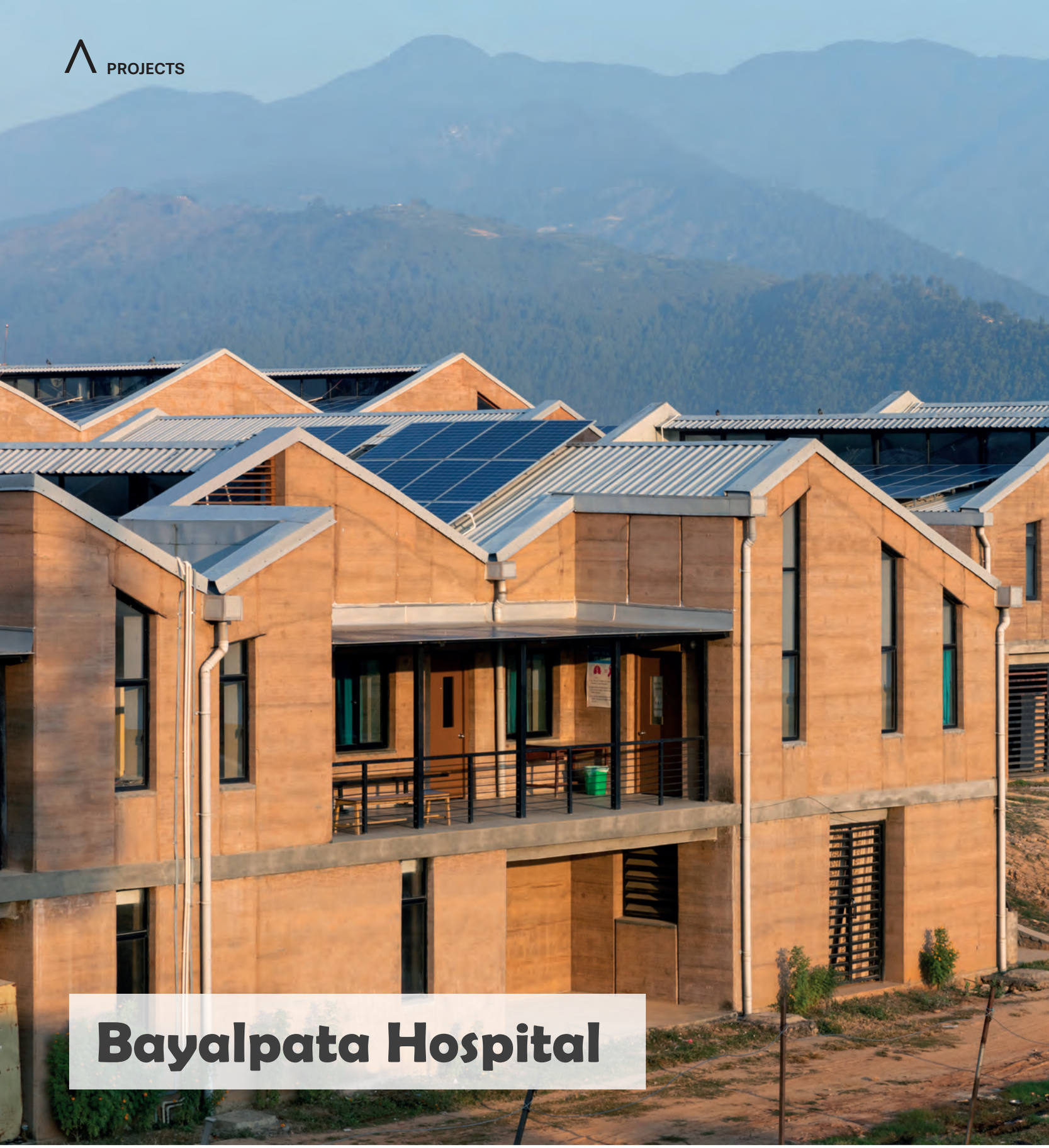
Worawut Oer-areemitr.
Photo courtesy of IF (Integrated Field)

"In this project, we design with the mindset that this is a hospital for kids, not just the parents who bring them there. 'Children dimensions' are the terms we use to define the scale, shape, form, and colour in the space, along with some childhood imagination. Also, we introduce a new dialogue in the waiting area where parents can observe their kids playing during the wait in the warm atmosphere with less direct light. With these approaches, we create space where children can enjoy the hospital experience which plant them the healthy behaviour."

Worawut Oer-areemitr, Design Director / Partner, Integrated Field Co., Ltd.

PROJECT DATA

Project Name: EKH Children Hospital
Location: Samut Sakhon, Thailand
Owner: Ekachai Hospital
Architect: S:CSB Co., Ltd
Interior Architect and Facade Designer: IF (Integrated Field Co., Ltd.)
Interior Area: 6,000 square metres
Completion: August 2019
Photographer: Ketsiree Wongwan



Bayalpata Hospital

SHARON DAVIS DESIGN HAS TURNED AN OLD CLINIC IN RURAL ACHHAM, NEPAL INTO A HIGH-QUALITY HEALTHCARE FACILITY.

The expansion of the Bayalpata Hospital has transformed an aged and overrun clinic into an exemplary model for sustainable rural healthcare, delivering low-cost, high-quality care to 75,000 patients per year through a public-private collaboration between the Nepali government and an NGO Possible Health.

The site is in Achham, one of Nepal's poorest and most remote districts, with few healthcare providers despite a population of over 250,000. Patients and visitors can travel up to seven days on foot to reach the rural hospital, and many of them have never received modern medical care or experienced a facility of this scale.

Set on a hilltop and surrounded by the terraced slopes of the Seti River valley, the 3-hectare (7.5 acre) campus with 4,225 square metres (45,500 square feet) of built area includes five major medical buildings that house outpatient, inpatient, surgery, antenatal, and emergency facilities for 70 beds, plus clinical functions such as pharmacy, radiology, and laboratory spaces. An administration block with offices and a 60-seat canteen, plus 10 single-family houses and an 8-bedroom dormitory, serve the hospital's staff and their families. The architecture maintains a vernacular scale through setbacks and gabled roofs. Tall windows frame dramatic views and clerestory glazing provide natural daylighting throughout all clinical areas, reducing electrical needs. Landscaped courtyards offer a pleasant, sheltered environment for designated patient seating and informal family waiting areas. All rooms provide patients with access to outdoor gardens or balconies.

The primary source of energy for the campus is a 100kW photovoltaic array installed across all south-facing roofs. Passive heating and cooling are also essential to the design – only the operating theatre within the surgery building is mechanically conditioned. Insulated roofs, an uncommon feature in the region, along with thermally massive rammed earth walls, hold daytime heat

gain in the winter, and in summer keep interiors cool. Breezeways, clerestory ventilation, and ceiling fans increase airflow to further mitigate summer heat. The campus includes new water supply and storage, wastewater treatment facilities, and a network of landscaped terraces and bio-swales that reuse greywater and manage monsoon-driven erosion.

Sharon Davis Design introduced rammed earth as a locally available material and low-tech construction method, minimising the often cost-prohibitive transportation of building materials. Soil from the site was mixed with a 6 percent cement content to stabilise the earth for better durability and seismic resistance. Reusable, plastic lock-in-place formwork facilitated faster construction and the employment of unskilled local labor. Local stone was used for foundations, pathways and retaining walls. Built-in furniture, exterior doors, and louvers were fabricated from local Sal wood.

Construction of the hospital commenced in late 2014 and proceeded in phases, with medical

services remaining operational during construction. The work was slowed by the devastating earthquakes in April and December of 2015, which set Nepal into crisis, putting strain on government aid, limiting availability of labour and materials, and closing off road access to the site for almost a year. The staff housing and dormitories were the first structures to be completed and occupied, in 2016, with the majority of the hospital buildings completed and occupied in 2017–18. The final two hospital structures were recently completed in early 2019.

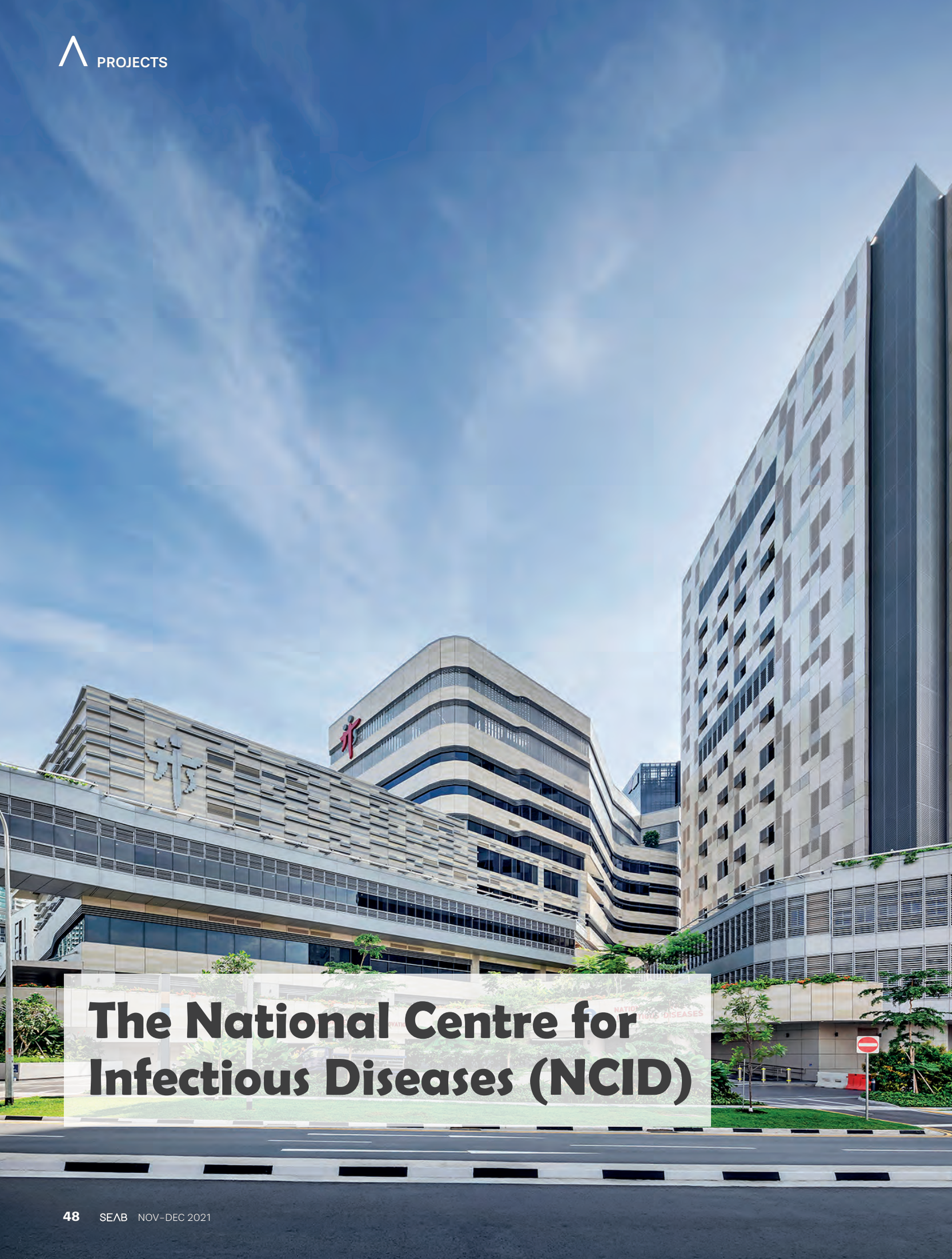
Sharon Davis. Photo: © Elena Seibert

"The region has endemic poverty and the majority of patients arrive on foot, unannounced, after a long journey, so the accommodation of large numbers of patients was important. We were also concerned about their experience while waiting to be seen, and so we provided protection from the elements through courtyards and shading canopies. We were mindful that many patients may never have been to a major hospital before, an experience that can be scary, and if you're making the journey then it's most likely for a major health reason when you're already emotionally vulnerable. We felt it was important to create a welcoming environment, a space that didn't feel cold and institutional, where patients could be comfortable and feel at home. This goal influenced our design approach of breaking down the scale of the complex with multiple, smaller buildings, grouped around private courtyards, with plenty of access to outdoor spaces, including balconies. This also influenced the choice of materials, using warm, local materials such as earth and wood, wherever possible."

Sharon Davis, Principal, Sharon Davis Design

PROJECT DATA

Project Name: Bayalpata Hospital
Location: Achham, Nepal
Client: Possible Health (USA) / Nyaya Health (Nepal) and the Nepal Ministry of Health and Population
Architecture Firm: Sharon Davis Design
Campus Size: 3 hectare / 7.5 acres
Built-Up Area: 4,225 square metres / 45,500 square feet
Completion: 2019
Photos: © Elizabeth Felicella



The National Centre for Infectious Diseases (NCID)

National Healthcare for Infectious Diseases (NCID) building. Photo: © CPG Consultants Pte Ltd

NCID IS A PURPOSE-BUILT AND INNOVATIVE MEDICAL FACILITY DESIGNED BY **CPG CONSULTANTS PTE LTD.**

The National Centre for Infectious Diseases (NCID) was commissioned by the Ministry of Health Singapore (MOH) and MOH Holdings (MOHH), and designed by CPG Consultants Pte Ltd to strengthen Singapore's capacity and capability in infectious disease management and prevention.

CPG with feedback from the users, designed the building to be well-connected to the main Tan Tock Seng Hospital allowing for integrated planning of operations. This proved pivotal especially during the current outbreak where both TTSH and NCID leverage on the same pool of resources and manpower.

NCID is a self-contained 330-bed hospital with a full suite of facilities – isolation rooms, negative pressure rooms, ICUs, diagnostic imaging, operating theatres, mortuary, laboratories, an outpatient clinic and screening centre. These standalone facilities allow for a lockdown of the building during a large outbreak while minimising the risk of transmission of pathogens from highly contagious cases to patients, public and healthcare workers.

NCID was also built with an expansion capacity and the flexible design of patient rooms allows NCID to accommodate more than 500 beds during an outbreak. NCID is equipped with advanced safety features that protect the people within the building and the surroundings. The airflow design is a single-pass air-conditioning system without recirculation with separate air handling units supplying fresh air to different zones. Exhaust air passes through HEPA filter before it is dispersed into the atmosphere. There is clear segregation of people and materials flow and a safe and thorough waste management system.

Clinic J at NCID. Photo: © The Write Edition

High Level Isolation Unit. Photo: © The Write Edition

Awards won by NCID

NCID won three award categories at two prestigious international healthcare design awards held in 2020. At the European Healthcare Design Awards 2020, NCID won the coveted "Healthcare Design (over 25,000 square metres) award" and was judged to have displayed high levels of sustainability and urban integration.

The project was once again highly commended in the "Design for Adaptation and Transformation" category, which lauded the facilities for its transformation ability when such an impact is crucial in resolving the complex service design challenges often present in dealing with a major health crisis.

At the "Design & Health International Academy Awards", an award programme which recognises professional excellence in the design and research of health environments, NCID received a high commendation for the award category of "International Health Project over 40,000 square metres for demonstrating a sustainable and salutogenic approach in the innovative design of a health facility.

Prof Leo Yee Sin, Executive Director of the NCID, said, "The timely opening of NCID last year has enabled us to mount a coordinated and swift response to contribute to Singapore's fight against the COVID-19 pandemic."

Isolation room. Photo: © The Write Edition

Negative pressure room with double door. Photo: © NCID

Screening centre at NCID. Photo: © The Write Edition

Ar. Jerry Ong.
Photo: © CPG Consultants Pte Ltd

"Good medical planning and architectural design are important cornerstones of building the NCID. We want to design facilities that not only remain clinically efficient and effective all the time, but can also adapt to future outbreaks. We purpose-built the 330-bed NCID with expansion capacity to accommodate more beds in the event of a surge in patient load. The naturally ventilated cohort wards were also designed to be flexible for conversion into isolation rooms. These strategies proved useful in dealing with a pandemic like COVID-19."

Jerry Ong, Senior Vice President, CPG Consultants Pte Ltd

PROJECT DATA

Project Name: The National Centre for Infectious Diseases (NCID)
Location: Singapore
Client: Ministry of Health Singapore (MOH) and MOH Holdings (MOHH)
Architecture Firm: CPG Consultants Pte Ltd
Gross Floor Area: 104,000 square metres
Official Opening: September 2019

Mohalla Clinics

ARCHITECTURE DISCIPLINE CREATES MOHALLA CLINICS FOR THE DELHI GOVERNMENT FROM UPCYCLED SHIPPING CONTAINERS TO BRING AFFORDABLE MEDICAL SERVICES TO EVERY NEIGHBOURHOOD IN DELHI, REDEFINING UNIVERSAL, PRIMARY HEALTHCARE.

Day view of Mohalla Clinics at Rani Bagh, Delhi, India. Image credit: Jeetin Sharma

Delhi-based architecture firm Architecture Discipline has used upcycled shipping containers to create Mohalla Clinics, providing a compact, portable, and sleek primary healthcare solution for neighbourhoods in Delhi. In the first phase of deployment, two clinics have been installed in two urban settlements in Delhi: Shakur Basti and Rani Bagh.

The clinic's design is developed by Architecture Discipline and set up with the support of Tata Power-DDL for the Delhi government's Aam Aadmi Mohalla Clinics programme.

The Mohalla Clinics are built from shipping containers salvaged from various container yards in Delhi and Haryana. Two 20-foot-long containers are joined together to form a single clinic that includes an examination room, a reception and waiting area, a pharmacy accessible from outside, and a washroom. The clinic is fully equipped to support routine health checks, testing, and medicine purchasing.

The clinics are prefabricated and come preinstalled with electrical and lighting fixtures, essential interior finishes, and furniture. Their compact size allows them to be easily transported to various locations and be installed with minimal on-site construction.

The clinics' interiors are oriented towards creating a hygienic and optimistic patient friendly environment, with air-conditioning and insulated walls that protect visitors from Delhi's searing heat. Interior finishes such as the anti-microbial vinyl flooring and medical-grade stainless steel countertops are designed to be easy to maintain.

The Mohalla Clinics aspire to provide an affordable, space-efficient, and high-quality model of healthcare to all neighbourhoods in Delhi, especially in dense residential clusters that are hard-pressed for space and have limited access to premium healthcare facilities. "We have been experimenting with the use of shipping containers as a building material for a long time now, in typologies

Night view of Mohalla Clinics at Rani Bagh, Delhi, India. Image credit: Jeetin Sharma

Interior of Mohalla Clinics at Rani Bagh, Delhi, India. Image credit: Jeetin Sharma

Day view of Mohalla Clinics at Shakur Basti, Delhi, India. Image credit: Jeetin Sharma

ranging from hotels to workspaces. Our own studio has an extension created out of a repurposed shipping container," said Akshat Bhatt, Principal Architect of Architecture Discipline.

This experience made the firm fairly proficient in the art of converting repurposed shipping containers into high-quality, usable spaces.

"Ever since the pandemic began, we have been exploring the potential of containers in creating healthcare facilities. We designed the Life Community Medical Facility (LifeCMF), a concept for a modular healthcare facility built out of shipping containers that was presented at the London Design Biennale 2021," added Akshat.

The Mohalla Clinics are a scaled-down version of LifeCMF, drawing on its central ideas of prefabrication, rapid deployability, and economic feasibility.

Interior of Mohalla Clinics at Shakur Basti, Delhi, India. Image credit: Jeetin Sharma

Upcycled Shipping Containers: A Sustainable Building Material

Intermodal shipping containers are steel containers of standardized dimensions, used in freight transport to carry a large number of items at once. Because of their durable steel body and structural integrity, these containers can be reused many times over and are ideal for a range of building applications. Reusing containers in buildings prevents the use of materials like cement and bricks, along with eliminating the carbon emissions occurring due to them. Hence, upcycled shipping containers are inherently sustainable in nature.

Interior of Mohalla Clinics at Shakur Basti, Delhi, India.
Image credit: Jeetin Sharma

Interior of Mohalla Clinics at Shakur Basti, Delhi, India. Image credit: Jeetin Sharma

Akshat Bhatt

"The clinic's design capitalizes on the structural strength of a discarded shipping container and works with it as a module, reducing the need for costly modifications or custom-built additions. In this manner, it redefines post-industrial waste as a medium for universal affordable healthcare. By taking something forgotten and giving it a new lease of life, the Mohalla Clinics present a sustainable solution for the health infrastructure crisis in our country."

Akshat Bhatt, Principal Architect of Architecture Discipline

PROJECT DATA

Project Name: Mohalla Clinics
Locations: Shakur Basti and Rani Bagh in Delhi, India
Client: Government of Delhi / Aam Aadmi Party
Supported by: Tata Power-DDL
Architecture Firm: Architecture Discipline
Electromechanical Consultant: Techfour Solutions
Signage Design: Visions DIS India Pvt. Ltd.
Completion: 2021

Symbiosis University Hospital and Research Centre (SUHRC)

SUHRC IS AN AWARD-WINNING BUILDING DESIGNED BY **IMK ARCHITECTS** USING LOCALLY-SOURCED AND ECO-FRIENDLY MATERIALS.

Entrance porch at SUHRC.

Occupying the lower slopes of a hill within Symbiosis International University's 260-acre estate in Lavale, Symbiosis University Hospital and Research Centre (SUHRC) is a 41,800-square-metre, 216-bed, multi-specialty hospital that represents a new and progressive face for healthcare infrastructure in India. With its state-of-the-art healthcare facilities and a research centre to enhance skill development, it is firmly anchored today as a COVID-19 quarantine and treatment facility, contributing to Maharashtra's fight against the pandemic.

SUHRC's design draws from the ideas of biophilia (an innate human tendency to seek connections with nature and other forms of life) to promote recovery and rejuvenation for patients and healthcare professionals. Two large courtyards landscaped with flowering shrubs and trees bring in ample daylight and views of the outdoors into the interiors, while creating buffer zones to reduce cross infection. Critical areas such as ICUs are endowed with soft and soothing hues to reduce anxiety; while the OPD has no air conditioning but allows for fresh, natural air – thereby reducing the AC load and power consumption for these areas.

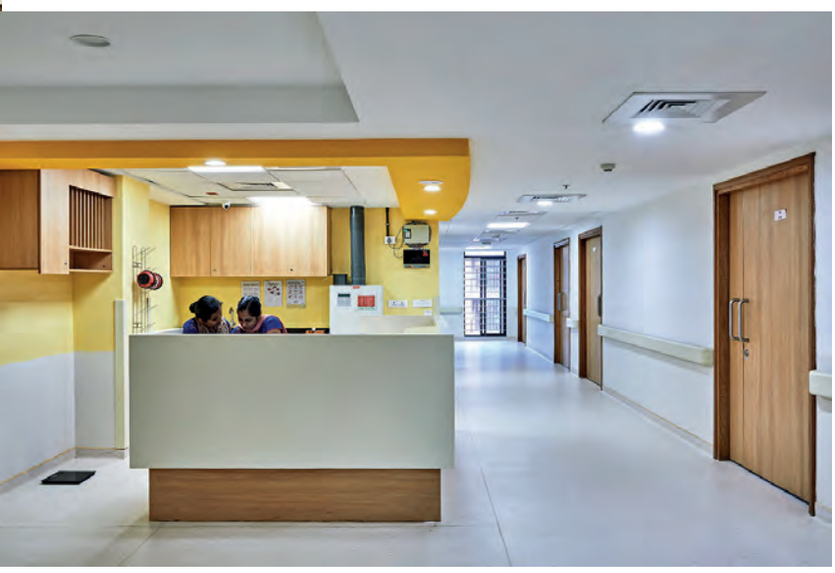
Building facade of SUHRC.

Functionally, the building comprises four sections; three of them belong to the hospital and the last one being the Skill Centre. The hospital is planned across five levels; departments such as the OPD, casualty, radiology, MHC etc. This helps in keeping the departments separate, and thus maintaining the sterility of each floor function-wise.

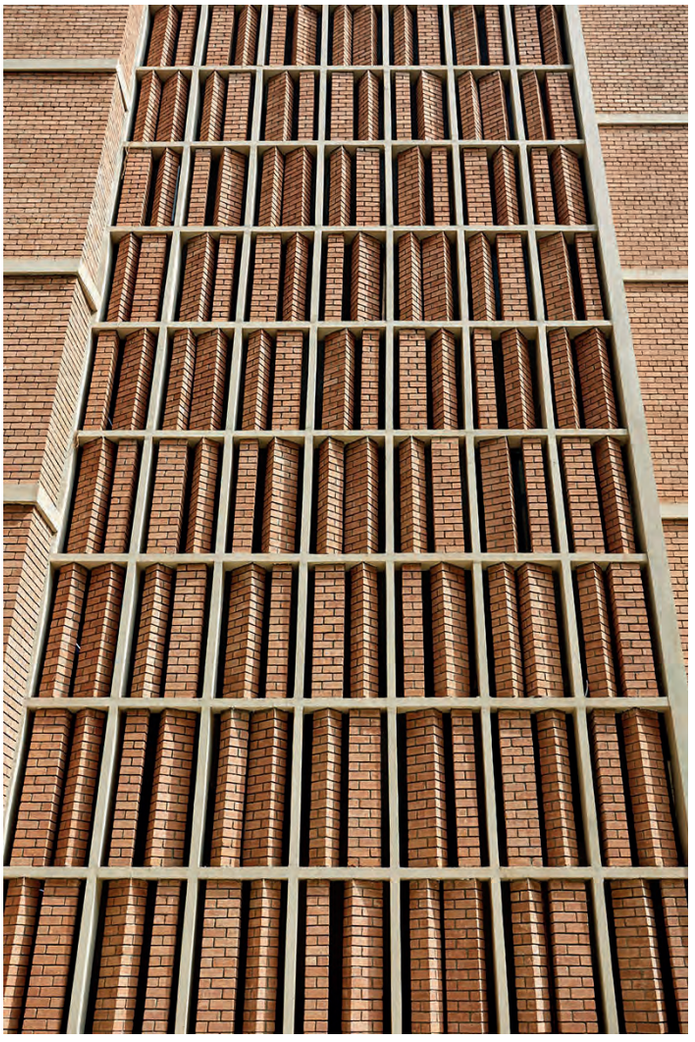
Carefully and strategically planned, the building attempts to make gestures that are grand, yet local and responsive with attention to details such as the brick-art and the exposed concrete. The project is an exemplar of passive design and sustainability. Naturally-

The entrance canopy for the Skill Centre draws inspiration from stainless steel surgical instruments.

Landscape courtyard at SUHRC.



Nurse's station at SUHRC.



Multi-faceted brick facade at SUHRC.

compressed, sundried earthen bricks (CSEB) were produced on site and are used to create a double-skinned façade with boxed forms and deep shading projections to reduce heat gain. CSEB through its own porosity and its use in elements such as cavity walls and *jaalis* enables the structure to cope with climate of the region by allowing the building to breathe. This reduces the internal heat gain allowing for maximum thermal comfort, reducing energy consumption. The bricks were produced on site using a block-making machine, thus providing additional employment opportunities to the locals as well as ensuring minimal carbon emissions. This is the first time CSEB has been used in a project of such a large scale.

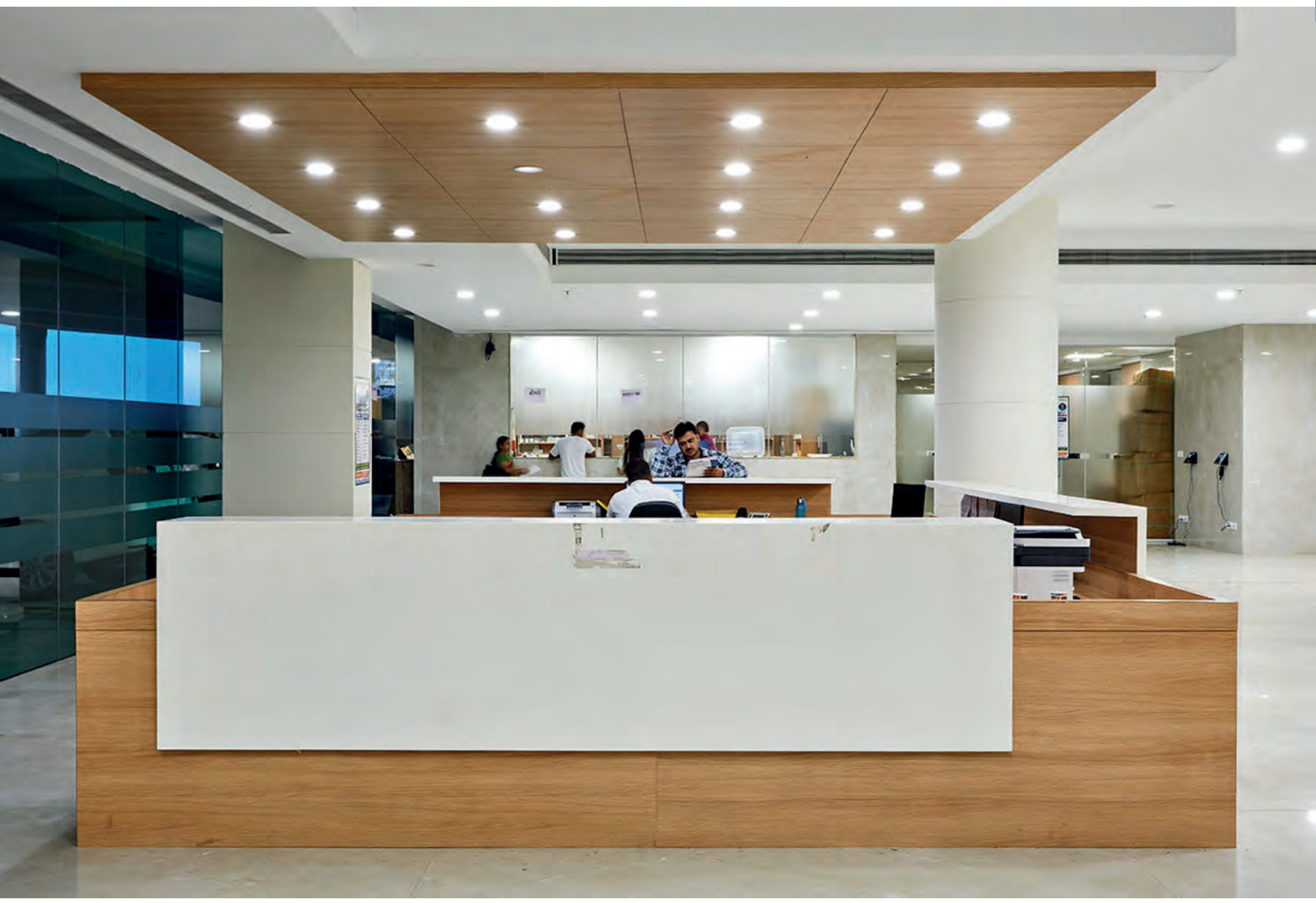
Compressed Stabilised Earth Bricks (CSEB): An alternative low-cost carbon-neutral building material

At IMK Architects, the firm strives to use locally sourced, eco-friendly materials in all its projects. For the Symbiosis University Hospital and Research Centre, Pune, they wanted to design a facade, which required minimum maintenance. This influenced the choice of using Sundried Compressed stabilised Earth Bricks in the project. The bricks were made using a natural mix of different types of locally available soils, stabilised with 5 percent cement, ensuring their durability. They were made on site by using a block-making machine, cutting the emission of carbon. The on-site manufacturing process also reduced the transport costs and the wastage of materials. The bricks were sundried as opposed to kiln fired, making it an extremely environmentally friendly process. CSEB through its own porosity and its use in elements such as cavity walls and *jaalis* enables the structure to cope with climate of the region by allowing the building to breathe. This reduces the internal heat gain allowing for maximum thermal comfort, reducing energy consumption. Masons from the nearby villages were hired to make the bricks, providing additional employment opportunities to the local communities. The flexibility of the bricks allowed for innovation in designing different facade compositions through brick boxing, creating a strong visual identity.

CSEB: innovation and process

CSEB was used for the first time ever on a campus of this scale. Its manufacturing process is a time consuming one as the bricks need to be sundried the monsoon season. This had to be accounted for in the overall project timeline. It was essential to design the soil mix to ensure its stability and durability. After conducting extensive research and experimenting on the natural mix of different types of locally available soils, the perfect blend of – red soil, sand and *murum* was chosen. Through a sustainable process, the bricks were manufactured on site wherein block-making machines were installed and additional masons were hired from the nearby villages to make the bricks. The initial few months were spent in training the local masons in the craft of making the

Interior room at SUHRC.



Reception desk at SUHRC.

Singly-loaded corridor looking into the central courtyard.

Rahul Kadri

bricks for this project – this contributed positively to enhancing the skill set of these masons.

Sustainability statement

Locally available raw materials like red soil, sand and *murum* (local subsoil), were used in manufacturing CSEB. The red soil and *murum* soil were reused from the excavation on site, reducing wastage and the need for transportation. The bricks were made on-site using block-making machines, resulting in no carbon emissions. The flexibility of the material allowed for innovation in designing different façade compositions such as – cladding, boxing, twisted and screen *jaalis*. The bricks' natural porosity creates breathability in the facade and the facade elements act as shading devices for the interiors. This effectively reduces the internal heat gain reducing energy consumption. A building constructed in CSEB requires 80 percent less energy consumption to achieve thermal comfort, significantly reducing the operations costs. Thus, CSEB is an extremely sustainable material providing several environmental and social benefits.

The Initial Embodied Energy of CSEB produced on site with 5 % cement = 548.32 MJ/m^3

The Carbon Emissions of CSEB produced on site with 5 % cement = 49.37 Kg of $CO2/m^3$

The values are as per the research published by Auroville Earth Institute for Compressed stabilised Earth Bricks. Auroville Earth Institute is a non-profit organization specializing in earth-based building technologies for sustainable development. They are representatives of the UNESCO Chair "Earthen Architecture" and also partnered with – ICOMOS-ISCEAH (International Scientific Committee of Earthen Architectural Heritage) and CRATerre (International Centre for Earth Construction, Grenoble).

SUHRC was awarded 'Supreme Winner' at the prestigious 2021 Surface Design Awards in London, UK.

"We wanted to design a hospital that could last around 50-100 years. Driven by this aim, we designed a façade with natural materials that would save on energy. The facade reflects the light from the sun in different ways through its twisted brick-boxed forms, to reduce internal heat gain and create a gleaming effect of light."

Rahul Kadri, Partner & Principal Architect of IMK Architects

PROJECT DATA

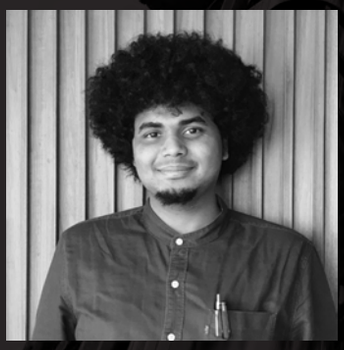
Project Name: Symbiosis University Hospital and Research Centre (SUHRC)
Location: Lavale, Pune, India
Client: Symbiosis Society
Architecture Firm: IMK Architects
Square footage: 449,930 square feet (Phase 1)
Completion: May 2020
Photos: © Rajesh Vora

Trends in Universal Design In A Post Covid World: Global Perspectives

Rachna Agarwal
Founder and Design Ideator, Studio IAAD

Ar. Frven Lim
Director at DP Architects (London). Photo by DP Architects.

Nayan Parekh
Global Consulting & Real Estate Services Practice Leader & Principal, Gensler. Photo: © Gensler



Jayesh Ganesh
Design Lead & Regional Head – Bengaluru, Edifice Consultants Pvt Ltd

Robert Brodeth
Associate Director, ONG&ONG. Photo: © ONG&ONG

Universal Design will become more important following the pandemic, as social distancing becomes the norm. How can the design meet the needs of both the abled and disabled people as they look forward to returning to a safer workplace or school? What are the opportunities and challenges of having a universal design post pandemic? **Here are some thoughts on the design strategies from architects around the world.**

RETHINKING UNIVERSAL DESIGN IN NEW NORMAL

Rachna Agarwal

With social distancing becoming a norm, people-centric, humanist principles drive the design of workspaces. The design and architecture realm are experiencing paradigm shifts in the post-pandemic world. The benchmarks for what is acceptable in offices continues to change with flexi-work hours and hybrid offices.

Contactless technology and hygienic practices have become more important than ever. No-touch fixtures like door sensors, automatic soap dispensers and basins in the washroom and voice-activated elevators. Vestibules with automatic thermal sensors and heat-sensing cameras scan temperatures, minimising risks of infection spread.

Durable building materials that stand up to frequent deep-cleaning are here to stay – think stone or tiled floors instead of carpets. While open layouts will define the workspace spatiality, clusters of pods can serve as an escapade for tranquillity and 'me time.'

Reimagined workspaces also feature better ventilation systems for indoor spaces. Natural lighting becomes the cornerstone of a healthy workspace because of its antiviral and antibacterial properties.

Biophilic elements delve into the ecological narrative with micro-level changes like indoor plants that naturally purify the air. Energy-efficient expansive windows and skylights give an indoor-outdoor connection to enhance emotional & physical well-being.

Architects and designers can achieve a universal design narrative to create healthier and happier workspaces by adapting to these changes.

SPACES FOR SOCIAL WELL-BEING

Ar. Frven Lim

The indiscriminate nature in which the pandemic has swept the world has made us realise not only the fragility of the human body but more importantly, our humanness and the need for elevated baseline for mental well-being. Regardless of personal wealth, status and culture, as a human race, we share the fundamental need and right to connect, participate, belong and access resources.

Universal Design, pre-pandemic, advocates this concept of inclusivity. Entering a post-pandemic age, we as designers, must recognise that this is no longer enough. Inclusivity must be a prerequisite in design. How, then, can architects make a difference? In our study on achieving happiness through design, we have learnt that the brain and body are intrinsically and inextricably connected; and are, in turn, influenced by how one is affected by one's environment and vice versa. Architecture and design can, therefore, create spaces of opportunities for cross-interaction and encourage engagement.

This entails, for example, the re-imagining of the stairwell as stair-way that integrate break-out spaces purposed for both communal and contemplative modes of use; or the thoughtful use of materiality in complement to spatial organisation to evoke a deep sense of place and belonging. Leveraging the social draw and cognitive benefits of inclusivity, such spaces also become a mode for battling inactivity and therefore, contribute to health-span; allowing us to achieve a win-win in the everyday.

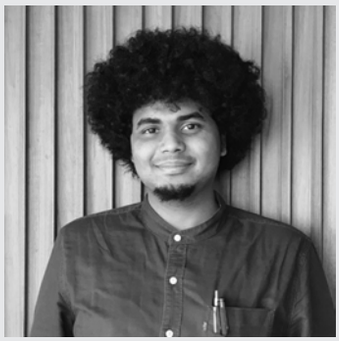
Nayan Parekh

CULTURE OF ACCESSIBILITY

A year ago, my colleagues Amy Pothier and Gail Napell wrote how the impacts of the COVID-19 pandemic have been particularly acute for people with disabilities, sighting examples such as frequent hand-washing is not always possible for people with certain types of physical disabilities, and physical distancing is especially challenging for those who rely upon personal aides or caregivers.

As we now begin to imagine what a post-pandemic world needs, we are taking a closer look at the needs of people with varied abilities exploring the opportunities to remake the places we live, work, and play in more accessible and more inclusive. To overcome the ignorance and prejudice surrounding disability, we need to educate ourselves and understand the current experiences of exclusion so we can be more thoughtful about how we design and curate spaces.

However, accessibility is about more than just making physical changes to a space. To succeed in designing inclusive environments, we need to start with building a 'culture of accessibility' first because we know that spaces become inclusive when empathy and freedom are built into them for people of all abilities.



Jayesh Ganesh

NO-ONE SHOULD BE LEFT BEHIND

Accessible design had traditionally always been based on a response to physical limitations. Life in the pandemic has brought out the importance of mental and emotional wellbeing in stark relief. At the heart of our design process is the approach of inclusivity rather than accessibility. Our spaces respond to this ever-present need for compassion in the space.

Our post-COVID design process looks at two important spatial challenges. First, there is a need to reconcile the highly collaborative work styles which have emerged in institutions and workplaces with a need for social distancing. Access to collaborative spaces thus becomes an important aspect of inclusion. Second, there is a need to ameliorate the shock of returning from the calm of one's home to the energetic work environment. Here, we look at placing quiet zones and biophilic environment solutions within contextually designed spaces to alleviate social, emotional or mental anxieties.

Culturally speaking, the 'break' of 18 months, has created space for dialogue to reassess our attitudes towards inclusion in a more holistic manner. In many of our projects, thanks to the ability to connect globally on virtual platforms, clients, architects and users have been able to establish a common ground for what inclusion means to their organization or institution. This has allowed us to slowly realize our practice's policy towards inclusion which is 'no-one left behind'.

MAKING SPACES TOUCH-FREE

Robert Brodeth

What we learned during this pandemic is that many principles of universal design are much more relevant. Simple applications to space planning like wider passageways that consider wheelchair-users, are likewise helpful today to health precautions in social distancing.

In mitigating physical contact to reduce the spread of germs and pathogens, we now make use of an assortment of tools to make our spaces touch-free. Be it digital interfaces or analog devices, such as the use of automatic doors, foot pedals to control lifts and sinks, still fall within means for applying minimal effort in accessing environments for the differently abled.

However, where contact is needed like safety grab bars, new attention should be made on the choice of materials. Ideally making use of surfaces that are self-cleaning or non-conducive to germ growth.

I think many things we design now shall be seen through the lens of the pandemic, allowing more flexibility and functionality in creating healthful environments.

The Safer Option for your Fire Protection

Every building in the world is unique, but safety is the top priority. Text and photos courtesy of dormakaba.

Even as building designs become increasing creative and abstract, the need for safety does not falter.

Each building has its purpose to fulfill and people to serve. However, all buildings have one thing in common; be it a skyscraper, airport, hospital, or a school, safety and security are top priorities for its inhabitants.

Although each leap in technological advancement forces developers, planners, and architects to push their designs to the next level, the requirement for occupant safety remains the number one priority of every construction project.

The safety of its inhabitants remains a priority for developers, planners, and architects.

Fire safety is a crucial component of these safety considerations. To increase the safety of buildings, there has been a continuous trend of stricter fire testing standards. In particular, an integral part of the fire protection of a building is the fire doors that need to be self-closing, in order to protect emergency exit pathways, contain dangerous smoke and remain impermeable to the ravaging fires.

dormakaba is at the forefront of this increasing trend of stricter fire safety requirements for hardware like door closers in order to safeguard lives and assets. As a trusted industry partner, dormakaba consistently aims to offer the highest levels of certification for their products to ensure optimal efficiency and performance. Through constant research and development, dormakaba's products and services continue to offer high standards of safety, security, and relevance.

In dormakaba's quest for ongoing improvement, their wide range of door closers for fire doors have now gained a crucial asset through their patented FPP and FRX technologies.

With dormakaba's patented FPP and FRX technology, buildings are now in safer hands.

Both technologies have been specially developed to optimise the consistency in the performance of dormakaba door closers in the event of a fire. During a fire, the surface temperature of a door, even the unexposed side, will rise reaching high levels very quickly. The patented Fire Protection Plate ensures that the door closer body is not affected by this intense heat, eliminating the potential for damage to the fire barrier and reducing the risk of fire and smoke spread through the building. The FRX design, on the other hand, is optimised with a unique hydraulic fluid to offer significantly higher fire resistance.

Not only do these dormakaba technologies allow their door closers to comply with standards worldwide, they are also able to meet the highest possible rating requirements of up to 4 hours, as tested on uninsulated metal doors to EN1634-1 under SS332:2018.

dormakaba's customers can rely on the promise that the door closers can be used at any fire door without the necessity of spending excess time and effort to detail fire rating requirements.

This simplifies construction planning, installation and can save lives in an emergency.

dormakaba listens to, and creates products to suit their customers' needs. More than anything, dormakaba prioritises their customers' safety and security. By ensuring their products and services stay up to date with industry standards, dormakaba's innovations will continue to serve and protect for generations to come.

Panasonic launches new factory in Vietnam for indoor air quality devices

Osaka, Japan – Panasonic Corporation announced that Panasonic Ecology Systems Co., Ltd. and Panasonic Life Solutions Vietnam Co. Ltd. have completed a new factory in Binh Duong Province in Vietnam, and will start the production and shipment of ceiling fans and ventilating fans from October 13, 2021. This is the first factory in the Panasonic Group to handle this product category in Vietnam.

In recent years, interest in better air quality through measures including ventilation has been growing around the world, resulting in increasing demand for indoor air quality (IAQ) related devices such as ventilating fans. Under these situations, Panasonic has been constructing a new factory since October 2019 to meet the active global demand for ventilation solutions.

Panasonic's new factory in Vietnam. Photo: © Panasonic

Located on a site of 49,995 square metres just north of Ho Chi Minh City, the new two-storey factory has a gross floor area of 24,066 square metres. This factory will start with production of ceiling fans for the Vietnamese market this year and add ventilating fans for the domestic and overseas markets, such as Asia, the Middle East and Africa, in the next fiscal year ending March 2023 (FY 2023). As a main production hub for indoor air quality related devices in Southeast Asia, the factory will increase Panasonic's production volume of these devices in the region to approximately 1.5 times in FY 2026 compared with FY 2021. In FY 2024, a research and development department focused on indoor air quality solutions will be established on the site to develop products tailored to each country's lifestyles and needs, thereby allowing the site to operate as a factory that integrates development, manufacturing, and sales.

This year, the Panasonic Group marked its half-century anniversary of business in Vietnam since the Vietnam National Company, which manufactured and sold radios and TVs, was established in 1971. In the IAQ field, the Group has been conducting activities to raise awareness of the importance of ventilation through local seminars and exhibitions on ventilation since the late 1990s. The Group is also contributing to the improvement of indoor air quality in Vietnam by promoting a culture that values ventilation.

With the establishment of the new factory, Panasonic will provide healthy and comfortable indoor environments for people by supplying high quality and energy efficient indoor air quality related devices and solutions in Vietnam, Asia, and other global markets.


Ceiling Fan. Photo: © Panasonic


Ventilating Fan. Photo: © Panasonic


Ceiling Mount Ventilating Fan. Photo: © Panasonic

Daikin India signs land deal at Sri City, Andhra Pradesh

Sri City, Andhra Pradesh, India – Daikin Air-Conditioning India Pvt. Ltd., a 100 percent subsidiary of Daikin Industries Ltd., Japan – one of the world's leading air-conditioning companies has signed the land purchase deal at Sri City, Andhra Pradesh, for manufacturing of ACs & components as part of the recently announced PLI scheme by the Government of India in the AC manufacturing space.

Daikin India is the first Japanese AC company to take this pioneering & leadership step to invest in India with a view to give prominence to – 'Atmanirbhar' India (self-reliant). Sensing a big manufacturing opportunity in India and an endorsement for the Indian government's 'Make in India' vision, Daikin chose Sri City in Southern India as one of the hottest next destinations to set up its third manufacturing base.

With India gaining a status of a reliable manufacturing destination, favourable policies, bold government reforms and ease of doing business, Daikin India took the first move towards a significant investment over the next two – three years. This third factory of Daikin will serve both domestic & international markets with its cutting-edge India-manufactured products. With the starting of the third manufacturing unit at Sri City, Andhra Pradesh, Daikin aims to achieve aggressive market growth in the AC exports over the next few years. Daikin wants to make India its manufacturing hub to serve markets such as West Asia, Sri Lanka, Middle East, South America and Africa.

Speaking on the Momentous occasion, KJ Jawa, Chairman & Managing Director, Daikin India affirmed, "For the AC segment, as a strategy, we are increasing our focus on markets that are witnessing rapid growth. India is the fastest growing market for us. Daikin has a very clear strategic intent to enhance its Air-conditioning, Air filtrations & refrigeration portfolio for which India has been identified as a developmental hub. We believe India has the potential to become our offshore delivery centre for R&D and exports. We believe it can serve as a regional hub for markets such South America, Middle East and Africa."

Ravindra Sannareddy, Founder Managing Director, Sri City (left) and KJ Jawa, Chairman & Managing Director, Daikin India (right). Photo: © Daikin Industries, Ltd.

With AC penetrations still at 5-6 percent in India, there is huge potential for air conditioner and consumers are looking for energy-efficient products with a lower total cost of ownership. At Daikin, we are witnessing a faster adoption of ACs across the globe pointing us towards making this investment in India.

Speaking on the Land Signing Presentation, Ravindra Sannareddy, Founder Managing Director, Sri City said, "We feel extremely glad to welcome Daikin Group, a worldwide leader in air-conditioning and refrigeration, with global headquarters in Japan, to the Sri City community. Daikin's choice to locate their production unit at Sri City, their first in Southern India, underlines it as an attractive location for the consumer durables industry."

Delta showcases containerised plant factory and building automation solutions for eco-friendly living at JTC's Punggol Digital District in Singapore

Singapore – Delta, a global provider of power and thermal management solutions, has introduced a containerised smart plant factory and its building automation solutions at Punggol Digital District (PDD), Singapore's first smart business district planned by JTC – a statutory board under Singapore's Ministry of Trade and Industry. As one of four initial corporations joining the district, Delta integrated a broad range of energy-efficient industrial automation, thermal management and LED lighting systems to enable a 12-metre containerised smart plant factory capable of regularly producing vast amounts of pesticide-free vegetables with only a fraction of carbon and space footprint as well as less than 5 percent the water consumption of traditional farmland. Delta's solutions further mankind's resilience against environmental challenges, such as carbon emissions and water scarcity.

The event was held on 28 July 2021 with the presence of Singapore's Minister for Trade & Industry, Mr Gan Kim Yong; Senior Minister and Coordinating Minister for National Security, Mr Teo Chee Hean; and Senior Minister of State, Ministry of Communications and Information, and Ministry of Health, Dr Janil Puthucheary.

The containerised smart plant factory integrates Delta's industrial automation, DC brushless fans, and LED lighting systems to create optimal environmental conditions for the cultivation of high-quality, eco-friendly vegetables. For example, up to 144kg of Caipira lettuce can be produced per month in one 12-metre container unit. Unlike most hydroponics vertical farms, Delta's smart farm solution adopts a modular system, giving flexibility for the expansion of production scales. The solution can also be customised to produce up to

Interior of Delta's Containerised Plant Factory.

46 different types of vegetables and herbs and at the same time, ensuring stable and constant supply of quality yield. On average, a container unit may produce up to 10 times vegetable output while consuming less than 5 percent the water needed in a traditional farmland of equivalent size. The solution allows for monitoring and data analytics of the environmental and machine metrics, enabling farmers to make more informed decisions about their production process.

In addition, Delta retrofitted the PDD site gallery with its Building Automation Solutions to nurture companies and educate next generation talents on smart living solutions. Building systems, such as air conditioning, lighting, energy management, Indoor Air Quality (IAQ) monitoring and surveillance are all managed on a single platform by adopting LOYTEC's IoT-based building management platform and building control systems.

Delta's building automation solutions installed in the PDD gallery also offer benefits such as human-centric lighting control with circadian rhythm, indoor air quality monitoring and control, smart energy metering, crowd detection and people-counting. These functions are all seamlessly integrated into PDD's Open Digital Platform, which allows remote monitoring and machine learning of usage patterns to obtain the building operation performance and achieve Delta's goal of a smart, healthy, safe, and efficient life. Delta's building automation solutions can help a building project to obtain up to 50 out of 110 points of the total LEED green building rating system as well as up to 39 points of the 110 points of the WELL building certification.

Temasek Polytechnic launches course on chiller refrigerant handling

From October 2022 onwards, companies that carry out the installation, maintenance or decommissioning of water-cooled chillers will be required to employ at least one certified chiller technician to carry out or supervise water-cooled chiller servicing jobs that involve refrigerant handling.

Singapore – Minister of State for Sustainability and the Environment, Mr Desmond Tan launched Singapore's first course on chiller refrigerant handling at Temasek Polytechnic (TP) on 15 September 2021. The course, a collaboration between the National Environment Agency (NEA) and TP, is intended to equip chiller technicians in the refrigeration and air-conditioning (RAC) industry with essential knowledge and skills to handle refrigerants correctly during the installation, maintenance, and decommissioning works on water-cooled chillers. The course supports the aim of the Environmental Protection and Management (Amendment) Bill, which was passed in Parliament on 13 September 2021.

The Environmental Protection and Management (Amendment) Bill is aimed at reducing Singapore's greenhouse gas (GHG) emissions arising from hydrofluorocarbon (HFC) gases in the RAC sector. HFC gases are commonly used as refrigerants in RAC equipment. These gases are sometimes vented to the atmosphere during the installation, maintenance and decommissioning of such equipment. In the atmosphere, HFCs are much more potent greenhouse gases than carbon dioxide and contribute significantly to global warming. For example, the typical refrigerant used in chillers, R134a, has a global warming potential (GWP [1]) of 1,300. In comparison, carbon dioxide has a GWP of 1.

From October 2022 onwards, companies that install, maintain or decommission water-cooled chillers will be required to employ at least one certified chiller technician when any work on a water-cooled chiller involves refrigerant handling.

Mr Ram Bhaskar, NEA's Deputy Chief Executive Officer (Environmental Protection) and Director-General of Environmental Protection, said, "TP's and our industry partners' contributions have been invaluable in planning

(From left) Mr Peter Lam Principal/CEO of Temasek Polytechnic, Minister of State for Sustainability and the Environment, Mr Desmond Tan, and Mr Ram Bhaskar, NEA's Deputy Chief Executive Officer (Environmental Protection) and Director-General of Environmental Protection launching the Chiller Refrigerant Handling course at Temasek Polytechnic. Photo: © Temasek Polytechnic

Minister of State for Sustainability and the Environment, Mr Desmond Tan (fourth from left) accompanied by Mr Ram Bhaskar, NEA's Chief Executive Officer (Environmental Protection) and Director-General of Environmental Protection (first from left) and Mr Peter Lam Principal/CEO of Temasek Polytechnic (second from left) observing the practical training of the Refrigerant Handling for Chiller course. Photo: © Temasek Polytechnic

and designing this course for chiller technicians. The course will raise the industry's competency in handling HFC refrigerants and contribute to Singapore's efforts in mitigating greenhouse gas emissions. The programme is an important measure to help Singapore achieve its commitment under the Paris Agreement to peak emissions at 65 MtCO2e around 2030."

For TP, as front runners in sustainability, this course forms part of its mission to uplift the RAC industry, especially in relation to sustainability and climate change mitigation. "In TP's School of Engineering, our vision is for our students to embrace sustainability and contribute towards the betterment of our community, with the knowledge and skills gained. This course is an excellent example of how, equipped with the right training, chiller technicians can help elevate the RAC industry, in relation to sustainability and climate change mitigation", said Mr Wong Kia Ngee, Senior Director/School of Engineering & Special Projects, Temasek Polytechnic.

For more information on the course, visit https://www.tp.edu.sg/schools-and-courses/adult-learners/all-courses/skillsfuture-series/refrigerant-handling-for-chiller.html

[1] Global warming potential (GWP) is a measure of the warming effect of a gas relative to the warming effect of an equivalent mass of carbon dioxide (CO2), usually over a 100-year time horizon.

Wavin launches first ever pipe fitting that whistles when it detects a leak

Wavin, a world-leading solutions provider for the building and infrastructure industry, has expanded its line-up of innovative pipe and fittings solutions with the launch of the Wavin Tigris K5/M5. The Wavin Tigris K5/M5 is a brand-new press fitting series with a unique acoustic leak alert feature that sets new standards of water management for metal-plastic pipe connections. The Wavin Tigris K5/M5 offers a new approach for governments and organisations looking to secure their water supply right where it all begins – from installation in the buildings.

Not just any ordinary fitting

The Wavin Tigris K5/M5 are the world's first fittings with an ACOUSTIC LEAK ALERT. In a leakage test executed with air instead of water, an unpressed fitting will generate a loud and clear whistle sound (+/- 80 dBA), alerting installers of leaks when fittings are not fully pressed. According to Ruurd van Leeuwen, Global Product Manager (Hot & Cold) for Wavin, "When testing with air instead of water, leak and pressure tests will no longer be a challenge in the building installation phase. Testing with air has several advantages such as no risk of bacterial growth (Legionella) due to water stagnation in the period between testing and final use of the installation. Additionally, it avoids slippery work spaces or water damage and there is no need for using leak sprays. The method is quick, clean and safe as it already works at 0.15 bar, making it also a perfect solution to check prefabricated installations. Ultimately, this approach eliminates dependency on early water supplies at the building site, as a simple air compressor will do the job.

A new generation

As successor of the highly rated Wavin Tigris K1/M1 fitting, the new Tigris K5/M5 have kicked it up a few notches. The Wavin Tigris K5/M5 are best in class in flow performance, with improved flow area, thanks to the increased inner bores,

The Wavin Tigris K5/M5. Photo: © Wavin

The Wavin Tigris K5/M5. Photo: © Wavin

The Wavin Tigris K5/M5. Photo: © Wavin

called OPTIFLOW. It also features MULTIJAW, which means that the fittings can now also be pressed with the most common pressing profiles such as U and Up, TH, H and B. This enables installers to easily switch to Wavin, without switching tools and retain their system warranty.

Furthermore, to make the installation as easy and reliable as possible for installers, the fitting also incorporates IN4SURE, 360° pipe visibility to check if the pipe is inserted properly. It also includes EASYFIT, which means it is not necessary to calibrate or chamfer the pipe after cutting. The Wavin Tigris has two core lines based on the preferred choice of body material. The Wavin Tigris K5 is a press fitting with bodies made of the high technical performance plastic Polyphenylsulfone (PPSU), while the Wavin Tigris M5 is a metal press fitting with bodies made of UBA listed drinking water approved brass materials.

Both radial press-fits, in PPSU or Brass, cover a complete range of fittings that fit up to 40 mm multi-layer composite pipes with Tigris K5/M5 and 50 – 75mm with Tigris K1/M1.

The new Wavin Tigris K5/M5 was launched in Southeast Asia on 8 October 2021.

Most people worry about indoor air quality amidst the COVID-19 pandemic

Helsinki, Finland – A survey ordered by Vaisala, a world-leading measurement technology company, shows that people would feel safer with more data on indoor air quality. The survey, which included over 4,000 respondents in the USA, France, Germany, and Finland, was conducted in the summer of 2021, studying people's concerns regarding indoor air during the COVID-19 pandemic. More than one third of the respondents are concerned about the indoor air quality in their place of work, and more than half said that concerns with indoor air quality impacts their motivation to visit public spaces. Around two thirds of respondents also said that these concerns impact their motivation to travel.

"Vaccination rates are high in the surveyed countries, but the survey revealed high levels of concern with air quality in indoor spaces. We believe this is because, intuitively, people understand that infection risk is higher in indoor spaces where people are in close proximity with each other, and where ventilation is insufficient," said Anu Kätkä from Vaisala's product management.

"When people spend too long in a poorly ventilated space, their exhaled breath causes carbon dioxide (CO2) levels to rise. Higher levels of CO2 impact people's well-being, health and performance, but importantly, monitoring CO2 levels can highlight when the risk of COVID-19 transmission is high and better ventilation is required. By monitoring CO2 levels in indoor spaces, organizations can therefore provide the reassurance that the survey respondents need," explained Kätkä.

Respondents want more data on indoor air quality at workplaces

Out of all the respondents, the Finns are the most confident about going back to work: 71 percent of Finnish respondents feel safe about returning to the workplace. 70 percent of French respondents feel safe about returning; 65 percent of American respondents, and just 55 percent of the German respondents.

50 percent of all respondents said that they would feel safer about returning to work with more information about indoor air quality.

Indoor air quality can be monitored with instruments that measure, among other parameters, CO2, humidity, and temperature. These parameters can be used to automatically inform ventilation and building management systems so that indoor air quality can be optimized.

"Indoor air does not only affect exposure to airborne diseases but also employees' energy levels, because exhaled breath increases CO2 levels which, in turn, increase drowsiness," continued Kätkä.

Indoor air quality monitoring needed in public spaces

The survey also studied people's perception of indoor air quality in public spaces, such as shopping centres, sports facilities, and public transportation. Overall, people are more concerned about indoor air quality in public areas than at their place of work. 50 percent of all respondents would like more information in the workplace, whereas 60 percent would like more information on indoor air quality in public spaces.

Photo: © Vaisala

The concern with indoor air quality in public spaces translates into a reluctance to travel, with 65 percent of respondents saying that concerns with indoor air quality in public places affect their motivation to travel.

Schools, shopping centres, restaurants, stations and airports all benefit from indoor air quality monitoring. Viruses travel faster in dry air, but humidity can make people feel unwell. It is therefore important to monitor and maintain optimal conditions, and to share the monitoring data with all stakeholders, including staff and members of the public.

Majority of people want more accurate data on indoor air

Based on the survey results, indoor air quality is a concern in the mind of at least every third person, and more than half of all the respondents want more information and data on air quality inside those places where they spend time. This means that facility managers face important decisions.

"In recent years, many countries have implemented regulations concerning the monitoring of indoor air quality parameters such as CO2. These regulations are designed to ensure optimal air quality, but in order to achieve this goal, accurate and science-based data is essential," explained Kätkä.

Reliable measurement instruments perform a key role in decision making to prevent the spread of diseases and protect people's health. The prerequisite for healthy indoor air is efficient ventilation and air-conditioning that prevents diseases from spreading, keeps the mind clear, and ensures a healthy environment.

More about the survey

The survey was conducted between June 21, 2021 and July 11, 2021 together with the market research company Norstat in Finland, France, Germany, and the United States. The survey gathered approximately 1,000 respondents in each country, and the respondents included both men and women aged 18-65. The survey was ordered by Vaisala.

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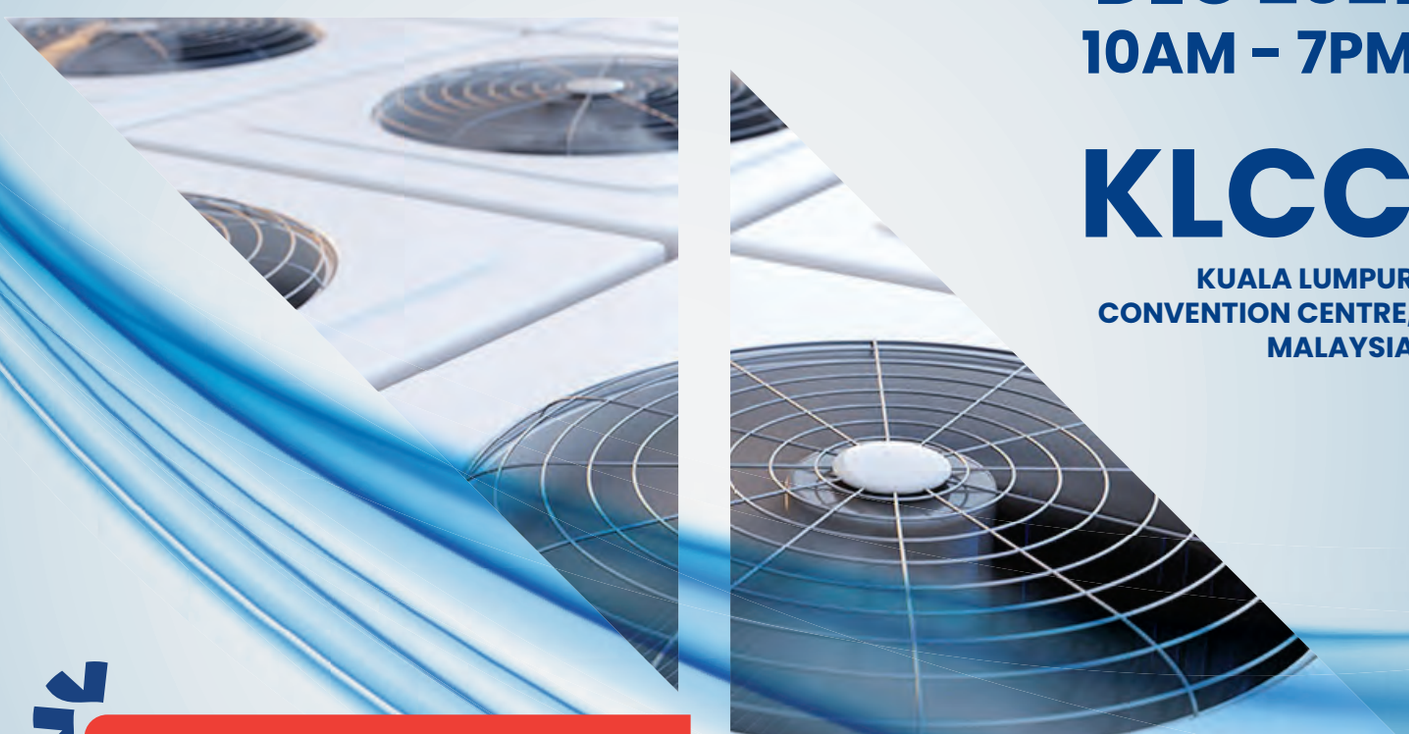

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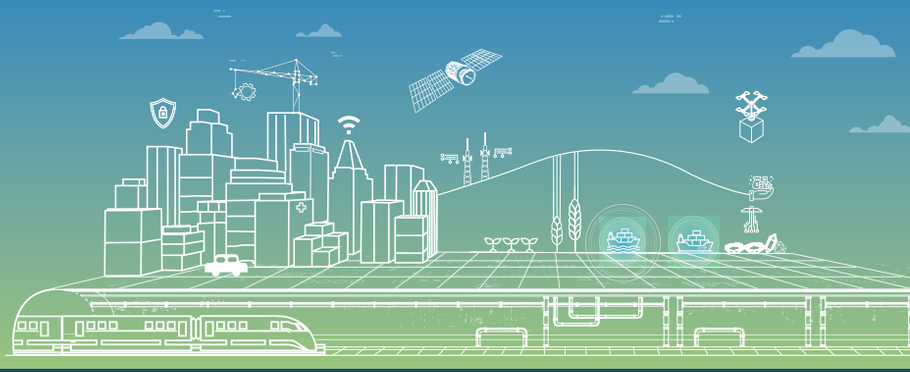

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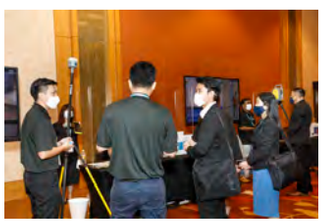

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MARVEX 2021	1 – 4 Dec 2021	Kuala Lumpur	Malaysia	www.marvex.my	75
GeoConnect Asia 2022	23 – 24 Mar 2022	Singapore	Singapore	www.geoconnectasia.com	78
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