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SOUTHEAST ASIA BUILDING

May / June 2024

50 YEARS
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The Sustainability Issue

Hotel Architecture

Exclusive Content: Innovative & Sustainable Materials

ON THE COVER: Artyzen Singapore / Singapore

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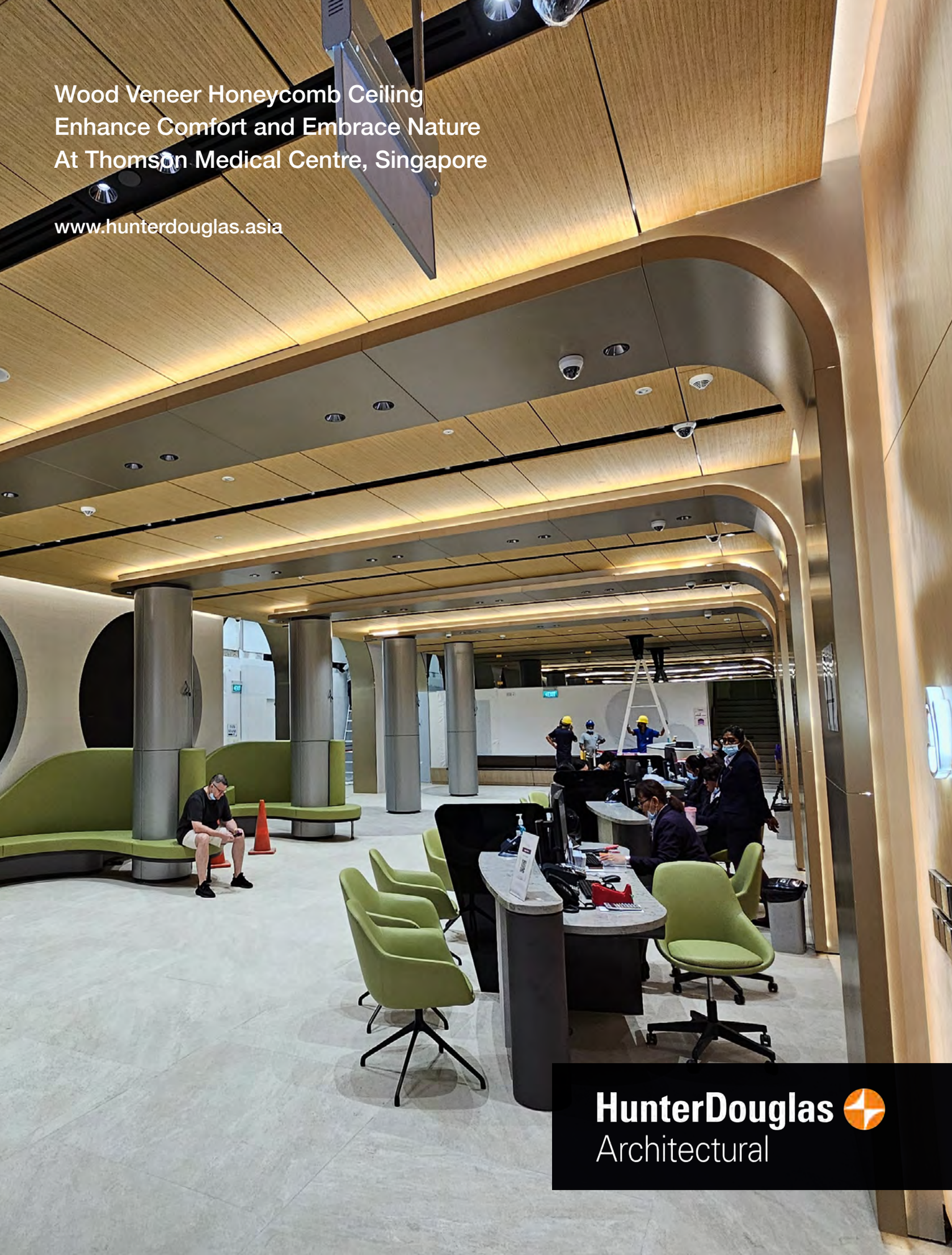

Wood Veneer Honeycomb Ceiling Enhance Comfort and Embrace Nature At Thomson Medical Centre, Singapore

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Welcome to May/June issue!

Dear readers, hello again. We are excited to bring you yet another issue of SEAB and the theme is on hotel architecture. On our cover this issue, we have a great photo of Artyzen Singapore, a modern lifestyle hotel for luxury travellers. The design is inspired by Singapore's culture, colours, and flavours.

Our interior design section is about restaurants and we showcase a restaurant project in China. The Redwood Tribe Shared Restaurant in Jiaxing City in Zhejiang Province in China is a harmonious fusion between the building and its natural surroundings.

In our exclusive content section, we explore innovations in building and construction materials and how they have been used in projects around the world.

In the interview section, Ronald Tay, CEO of CapitaLand Development (Vietnam), tells us the opportunities and challenges in Vietnam's residential sector.

In the PDF version of the magazine on our website, we have an article on Geo Connect Asia 2024 show which took place in Singapore on 6 & 7 March 2024. It features a review of the show and exhibitor stories.

If you have any comments or feedback, please drop me an email at seab@tradelinkmedia.com.sg

Happy reading!

Amita Natverlal

July/August 2024 Issue

FEATURES:

- Industrial Architecture
- Library Interior Design
- Playgrounds & Landscaping
- Interview With Property Developers On Current Issues
- Exclusive Content – Smart Cities (Rise of Smart Cities in Asia)

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AkzoNobel targets growth in Pakistan as new site takes root

Faisaland, Pakistan – A new €26 million manufacturing plant with its own forest has been opened by AkzoNobel in Faisalabad – the company's largest investment in Pakistan to date.

The 25-acre site, which has facilities for making decorative paint, wood finishes, automotive and specialty coatings, coil coatings and protective coatings, will help to meet increasing customer demand across a variety of markets. Also incorporated into the Faisalabad location is a forest spanning an area of 5,450 square feet. More than 1,400 native trees and shrubs – planted using the Japanese Miyawaki gardening technique – are expected to grow into a flourishing self-sustaining ecosystem over the next two years.

AkzoNobel's new manufacturing plant in Faisalabad. Photo credit: AkzoNobel

The site, which employs nearly 200 people, has been constructed to comply with the company's strict environmental standards and includes a series of sustainability features, such as renewable energy generation and energy efficient design.

The inauguration ceremony was attended by several guests of honour, including Ms. Henny de Vries, Ambassador of the Kingdom of the Netherlands in Pakistan.

IHG hits 1,000 open hotels milestone in Asia Pacific

Singapore – IHG Hotels & Resorts has reached 1,012 open hotels in Asia Pacific (APAC) – a major milestone for the global hospitality company as it accelerates its growth across the region.

IHG has welcomed guests at many outstanding new properties in APAC over the past year, with stand-out openings across many of its brands including Holiday Inn Hotels & Resorts, InterContinental Hotels & Resorts, Regent Hotels & Resorts, Hotel Indigo, Vignette Collection, voco hotels and Crowne Plaza Hotels & Resorts.

With demand for hotel stays expected to increase again this year, and strong projected long-term growth, the future looks bright for travel in the region. Having exceeded the 1,000 hotels landmark, IHG intends to be the hotel company of choice for guests and owners across its portfolio of properties in established and upcoming destinations.

Dinso Resort & Villas Phuket, Vignette Collection

Rajit Sukumaran, SVP & Managing Director, East Asia & Pacific (EAPAC), IHG Hotels & Resorts, said: "To hit 1,000 open hotels in Asia Pacific – including more than 700 in Greater China – is a fantastic achievement for IHG in one of the most dynamic regions in the world. We're seizing the great long-term opportunities by investing in our brands, delivering great returns for our owners, and driving growth in our markets."

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Creative Mind Design joins RSP to leverage global expertise and reach new markets

Singapore – RSP Architects Planners & Engineers (Pte) Ltd (RSP), a leading global multidisciplinary architectural and engineering design group headquartered in Singapore, proudly announces the integration of Creative Mind Design (CMD) and its team of innovative designers into its esteemed network. The strategic move was made for the team to leverage RSP's expansive global footprint across key growth markets, including Vietnam, the Middle East, India, and China.

CMD, a distinguished Singapore-based boutique agency specialising in hospitality and commercial interior design services, project management, and consultancy, brings a fresh perspective to property development. Renowned for crafting distinctive and compelling spaces that inspire possibilities through innovative designs, CMD has an impressive portfolio spanning various luxury hospitality interiors projects such as the Marriott-Miri in East Malaysia, Sheraton Colombo in Sri Lanka, and Lancaster Eden Villa in HCMC, Vietnam.

Seah Chee Kien, Senior Managing Director at RSP, shared his insights on welcoming Constance and her team into RSP, highlighting the value the team brings to RSP's global expertise, particularly in interior designs for hospitality projects. He stated, "Constance and her team's addition to our network enhances RSP's capabilities, especially in delivering exceptional hospitality interior designs. Their expertise perfectly complements our commitment to crafting purposeful designs that prioritise the needs of communities and environments worldwide."

Photo credit: RSP Architects Planners & Engineers (Pte) Ltd

With the integration, Constance and her team has commenced on several different key projects, including the interiors for RSP's new Singapore Headquarters office at CapitaSky.

Constance Tew, Founder of CMD, expressed her excitement about joining RSP, stating, "Joining RSP marks an exhilarating milestone for me and my team. We are thrilled about the boundless opportunities ahead, allowing us to harness RSP's global network and expertise to continue creating unique and impactful design solutions."

ONG&ONG Vietnam signs MoU with Southern Institute for Spatial Planning

Singapore – ONG&ONG Vietnam and the Southern Institute of Spatial Planning have signed a Memorandum of Understanding (MoU) to collaborate on various fronts. The Southern Institute of Spatial Planning is an agency for the VN Ministry of Construction.

Their cooperation entails conducting research and participating in consulting services pertaining to regional planning, socio-economic master planning, and strategic planning. The partnership also aims to foster comprehensive development and exchange of expertise in the fields of spatial planning and urban development.

Photo credit: ONG&ONG

Reimagining Shenzhen's waterfront: 10 Design unveils ambitious urban renewal plan for Yantian Old Market Town

Hong Kong — International architecture practice 10 Design (part of Egis' Architecture Line) is pleased to unveil its latest winning proposal for the Yantian Old Market Town Urban Renewal Project in Shenzhen, China. Embracing Yantian Old Market Town's rich history and natural beauty, the design sets out a captivating blueprint for a world-class waterfront destination, as well as setting a new standard for sustainable coastal living.

Nestled along the tranquil inner bay of Starling Inlet, Yantian Old Market Town boasts a prime waterfront location near Shenzhen's Yantian Container Terminal. With a rich history dating back to the Qing Dynasty, the area has long been celebrated for its thriving local fisheries and reputation as a seafood lover's paradise. Yantian Old Market Town also serves as a gateway to nature, offering access to numerous hiking trails and popular urban retreats.

Driven by the need to enhance the quality of life for residents, the 96,654 square-metre master plan presents a fresh perspective on urban development. By integrating new attractions and public spaces, the plan fosters organic growth while preserving the area's rich cultural legacy and natural resources. With a commitment to serving the public interest, the development aspires to become a 'Super Anchor' for the region, capitalising on its rich history and abundant resources to create a dynamic, thriving community and a premier waterfront destination.

Strategic key attractions and interfaces are pinpointed in the masterplan, guiding the development of traffic flow and urban infrastructure for future growth. These focal points serve as anchors for a diverse range of experiences, catering to visitors with diverse interests and lifestyles. By thoughtfully curating leisure, entertainment, cultural, and culinary offerings throughout the public walkways, the design team ensures a captivating and enriching journey of discovery for all who explore this vibrant destination.

"Our vision is to foster connection between the mountains and the sea, people and nature, business and the community," shares Design Principal Peby Pratama, "by rediscovering and preserving the rich cultural and landscape resources of Old Market Town, we're opening a new window of growth in the region. The revitalised development isn't solely focused on attracting tourists; it's fundamentally designed to foster a thriving, sustainable community for residents and businesses alike."

Towering elegantly along the waterfront, an iconic architectural masterpiece, stands as a visual icon, welcoming visitors who arrive by sea. Drawing inspiration from the container terminals' portainers, four high-rise residential towers are interconnected by a skydeck at above 100 metres. This innovative design creates the illusion of a 'floating city' against the horizon. While partially serving as a private club facility for residents, the skydeck also offers public access via separate lifts, ensuring that this unique space can be enjoyed by all.

Image courtesy of 10 Design, Visualisation by FRONTOP & TIPTOP CG.

The landmark building also serves as a central hub for the entire community, seamlessly connecting to the nearby metro station via a vibrant 'Festival Street' that efficiently guides pedestrian traffic from the street-level retail spaces to the picturesque waterfront. Adjacent to a bustling seafood wholesale market, the podium mall houses a diverse array of seafood restaurants and interactive retail shops, providing visitors with a truly immersive and authentic sea-to-table dining experience that showcases the region's rich maritime heritage.

Open terraces are transformed into a series of elevated decks, extending southward to the sea. Deviating from the form of a conventional coastline, the floating decks accommodate a multitude of public amenities. The expansive waterfront area features a variety of amenities, including a public pier, a floating pool, a water theatre, and multi-level observation decks, and fishing platforms. These versatile spaces are designed to accommodate a range of public gatherings and festive events, fostering an inclusive and immersive biophilic experience that encourages interaction with the natural environment.

A series of cultural and art spaces are dotted along the promenade, further enriching the experience. The revitalization plan also encompasses the neighbouring fishing village, where aging structures will be transformed into a vibrant leisure and retail district. The area will feature exhibition and performance spaces, boutique stores, hotels, bars, and restaurants, infusing the district with energy and fostering a lively nightlife scene. In keeping with the intimate scale and charm of the existing village, the design encourages exploration along the narrow alleys and typhoon shelter, immersing visitors in the idyllic ambiance and traditional culture of coastal fishing communities.

AIR Circular Campus and Cooking Club designed by OMA / David Gianotten has opened in Singapore

Singapore – AIR Circular Campus and Cooking Club, designed by OMA / David Gianotten and Shinji Takagi, has opened on Dempsey Hill, Singapore. The design transforms an existing modernist building and the expansive green space around it into a place for novel dining experiences, inviting broader thinking and discussions about food and the environment.

AIR. Photography by Kris Provoost for OMA.

Ronald Akili, Co-founder of Potato Head: "I've always believed in the power of collective action to drive change. Working together with experts like Chefs Matt Orlando of Amass and Will Goldfarb of Room4Dessert, and OMA, we redefine how we approach dining and sustainability. AIR is more than just a place to dine, it's a platform for change. Whether through a delicious meal, cooking classes, farming or ongoing research, this food campus embodies a passion to create awareness and make an impact through the power of food."

OMA Managing Partner – Architect David Gianotten: "It has been an inspiring journey to join Ronald, Will and Matt on this platform to address the topic of sustainable hospitality from different perspectives. We are convinced that architecture and design can maximize impact through active engagement with different disciplines."

AIR's site is defined by its 40,000 square feet green space and the former CSC Dempsey Clubhouse – built in the 1970s for the civil servants in Singapore. OMA's design builds on the inherent qualities of these two elements. A key architectural intervention is the 100-metre walkway connecting AIR with a main carpark of Dempsey Hill. Organic in form, the footpath loosely defines the expansive green space into the garden and the lawn. From this path, the visitors can go directly into AIR. The visitors can also detour into the meandering paths of the garden where ingredients are grown, or stroll into the lawn where picnics and a variety of events take place.

AIR. Photography by Kris Provoost for OMA.

The front façade of AIR – a modernist double floor building – has been transformed to create more open dining spaces connected to the lawn. Open kitchens, the research space, and the cooking school offer a variety of experiences to the visitors. At the rear of the building, a cylindrical steel frame has been installed to support the staircases serving the new needs of the building.

AIR's fixtures and furniture were designed by Andreu Carulla using recycled timber and plastic bottles (HDPE) sourced from a former art installation, as well as Styrofoam.

OMA Associate Shinji Takagi: "This small project is a consequence of the intimate collaboration among a visionary entrepreneur, innovative chefs, a progressive industrial designer, and ambitious architects. I hope such 'smallness' will be conceived as an impactful and meaningful endeavor."

Chefs Matt Orlando of Amass and Will Goldfarb of Room4Dessert: "The collaboration between AIR, OMA and Andreu has been a career changing experience. Three singular angles came together under a unified thought process to produce a project that radiates a common goal. That goal is finding beauty and value in every ingredient and material as a whole."

AIR has been developed by Chefs Matthew Orlando and Will Goldfarb, and Ronald Akili. Ronald and OMA have worked in collaboration since 2013, delivering projects including the Potato Head Studios in Bali (2020), and the *N★thing is Possible* exhibition at the National Design Centre in Singapore (2022).

OMA's design team was led by David Gianotten and Associate Shinji Takagi.

Pan Pacific Hotels Group is the first Singapore Hotel Group to attain prestigious GSTC Multi-Site Certification for sustainable tourism for all eight of its properties in Singapore

Singapore – Pan Pacific Hotels Group (PPHG) has attained the Global Sustainable Tourism Council (GSTC) Industry Criteria for Hotels certification for its Singapore properties, also achieving the largest number of GSTC-certified room stock and certified properties (hotels & serviced suites) in Singapore – solidifying the Group's commitment to sustainability and reinforcing its position as a leader in environmentally-conscious hospitality.

The GSTC Criteria is the global standard for sustainable travel and tourism. The GSTC Industry Criteria for Hotels fosters sustainable tourism practices across four key areas: effective sustainability planning, maximising social and economic benefits for the local community, enhancing cultural heritage, and reducing negative impact to the environment.

In February 2024, Pan Pacific Hotels Group attained the GSTC Multi-Site certification for all eight of the Group's properties in Singapore. Additionally, seven of its properties – Pan Pacific Singapore, PARKROYAL COLLECTION Marina Bay, Singapore, PARKROYAL COLLECTION Pickering, Singapore, PARKROYAL on Beach Road, Pan Pacific Serviced Suites Orchard, Pan Pacific Serviced Suites Beach Road, and PARKROYAL Serviced Suites – have obtained ISO14001 certification, an internationally recognized standard for environmental management systems (EMS). Pan Pacific Orchard, Singapore is in the process of securing ISO14001 certification.

"Attaining the GSTC certification reaffirms PPHG's commitment to sustainability and responsible business conduct," said Mr. Choe Peng Sum, CEO of Pan Pacific Hotels Group. "At PPHG, sustainability is imperative and I am grateful for our teams' immense efforts to attain the GSTC Multi-Site certification. This achievement is aligned with Singapore's Green Plan 2030 and the Singapore Tourism Board's (STB) Hotel Sustainability Roadmap – which aims for 60 percent of hotel room stock in Singapore to attain internationally-recognised sustainability certification by 2025."

PARKROYAL COLLECTION Pickering, Singapore

Today, PPHG integrates sustainable practices across its business operations and hospitality design, with the PARKROYAL COLLECTION brand leading the Group's sustainability efforts. The focus includes green building design, local arts and cultural immersion, and community engagement, aiming to balance economic growth with social responsibility, arts preservation, and environmental stewardship. The Group seeks to continue engaging guests in eco- conscious travel experiences. This endeavour has allowed PPHG to become the first Singapore hotel group to undertake and successfully complete the GSTC multi-site certification.

"We commend Pan Pacific Hotel Group on having all their hotels in Singapore certified, a significant milestone on their sustainability journey. By being GSTC-Certified by an Accredited Certification Body, customers are assured that the hotels were certified in a credibly verified procedure in a transparent, impartial, and competent manner," says Randy Durband, CEO of GSTC.

Ms Ong Huey Hong, Assistant Chief Executive, Policy and Planning Group, and Chief Sustainability Officer, Singapore Tourism Board said: "We congratulate Pan Pacific Hotels Group for attaining the GSTC Industry Criteria for Hotels. The certification is testament to PPHG's leadership in sustainable hospitality. We are encouraged by the increasing momentum among hotels in embracing sustainable practices following the launch of the Hotel Sustainability Roadmap. We trust that PPHG's latest achievement will inspire more hotels to strive towards certification, bringing us closer towards the targets outlined in the Roadmap, with STB's continued support on their sustainability journey."

ARCHIDEX 2024 to provide more halls, more products and more opportunities

ARCHIDEX returns this year bigger and better than ever featuring 11 Halls and 700 exhibitors.

Kuala Lumpur, Malaysia – ARCHIDEX, the largest architecture exhibition in Malaysia, is poised to transform the industry with all the latest innovations and cutting-edge technology, as it returns for the 23rd consecutive year from 3-6 July at Kuala Lumpur Convention Centre.

YB Tuan Nga Kor Ming, Minister of Housing and Local Government, Malaysia.

Building on last year's overwhelming success, ARCHIDEX is back with an even bigger spread of 700 exhibitors, 1,500 booths, across 11 Halls showcasing the latest advancements in architecture and building materials, technologies, interior fittings, and sustainable solutions.

For four days, over 40,000 visitors from the architecture, interior design and building industry, professionals, and enthusiasts from more than 100 countries are expected to throng the halls of KLCC, to experience the ultimate transformative power of architectural innovation.

ARCHIDEX is held concurrently with the DATUM conferences, both much-anticipated events of the Kuala Lumpur Architecture Festival (KLAF 2024). ARCHIDEX also features a variety of panels, workshops, talks, demonstrations and carefully curated content by notable speakers, serving as a platform to enhance knowledge-sharing, networking and stimulate trade deals among market players.

Last year, ARCHIDEX facilitated more than RM1 billion in sales transactions, while this year, with the broader reach and larger number of exhibitors and visitors, it is expected to exceed this figure considerably.

ARCHIDEX offers an immersive experience that brings together the three core pillars of the exhibition – Future Architecture, Sustainability and Wellbeing, to champion people-centric built environment. It sets the stage for architects, designers, and industry leaders to keep pace with emerging trends, breakthrough solutions and technological advancements that have come into the industry, inspiring transformative solutions that will shape the future of architecture.

Beyond a trade exhibition, ARCHIDEX also plays a crucial role in catalysing conversations and regional cooperation. This year, ARCHIDEX is also in collaboration with the Malaysian Ministry of Housing and Local Government (KPKT), who will be the host for the ASEAN-China Ministerial Roundtable on Construction & Housing (ACMROCH) 2024.

This gathering will bring together Ministers from the ASEAN countries and China to engage crucial discussions aimed at deepening and strengthening the Belt and Road Initiative (BRI) and ASEAN-China cooperation in housing and development in conjunction with the 50th anniversary of diplomatic relations between Malaysia and China.

From Left: YB Tuan Nga Kor Ming, Ar. Abu Zarim bin Abu Bakar, President of Pertubuhan Akitek Malaysia (PAM), Dato' Vincent Lim, President of C.I.S.

8th from Left is Dato' Vincent Lim, President of C.I.S, YB Tuan Nga Kor Ming, Minister of Housing and Local Development, Malaysia and Ar. Abu Zarim Abu Bakar, President of Pertubuhan Akitek Malaysia (PAM) with the representatives from KPKT, C.I.S and PAM.

Over the years, ARCHIDEX's central role has been to bring together the architecture, interior design and building industry, to drive discussions on issues and challenges that the industry faces, seeking viable and working solutions.

The DATUM conferences held together with ARCHIDEX will present delegates the opportunity to enrich their knowledge, and gain insights into emerging trends in the industry. DATUM also provides a unique platform for networking, fostering collaborations, and propelling the industry towards innovation and growth. These conferences comprise DATUM:KL, DATUM+PLUS, and DATUM:GREEN, will bring to the mix a lineup of esteemed speakers from both local and international spheres.

In addition to the DATUM conferences, ARCHIDEX will also showcase the ARCHIDEX Star Award Products, PAM Awards as well as other knowledge sharing sessions – ARCHIDEX Biz Talk and Focus Forum for the architecture fraternity to keep updated with the current trends, latest products, materials and solutions.

ARCHIDEX 2024 is scheduled to take place from the 3rd to 6th July, at Kuala Lumpur Convention Centre, from 10am to 7pm. **For more information, visit https://archidex.com.my.**

GEBT 2024 to explore the advancement of smart spaces, fostering the green development of the building industry

Guangzhou, China – China's building industry is accelerating its transformation towards green and smart development. The rapid advancement of technologies such as 5G communications, artificial intelligence and the Internet of Things (IoT) is leading to a wider expansion of smart spaces. Delving into the potential of smart spaces, the 21st Guangzhou Electrical Building Technology (GEBT) aims to find out how the connection between people and spaces can be enhanced through technology, data, and equipment. It also strives to improve the experience of residents and building users, and create a more energy-efficient, low-carbon, and comfortable environment. GEBT and Guangzhou International Lighting Exhibition (GILE) will be held concurrently from 9 – 12 June 2024, at the China Import and Export Fair Complex in Guangzhou, in areas A and B across 26 halls, covering a historic high of 260,000 square metres of exhibition space in total.

The Chinese government recently reposted the blueprint for promoting energy efficiency and low carbon emissions in the building sector [1]. Alongside this, the government has identified several initiatives for the industry, such as enhancing the level of energy efficiency and carbon reduction in new buildings, promoting the renovation and upgrade of existing urban buildings, and accelerating the development and promotion of advanced technologies. This announcement will contribute to the promotion of smart spaces that can improve building operational efficiency, and the advancement of related technologies. In line with the country's green policies, smart spaces designed for both residential and commercial use will continue to help drive sustainable development while meeting the individual needs of residents and users.

Ms Lucia Wong, General Manager of Messe Frankfurt (HK) Ltd, said: "Smart spaces cover a wide range of applications, including smart homes, audio-visual spaces, smart buildings, hotels, and commercial areas. As one of the key exhibitions in the home automation and intelligent building market, GEBT is committed to establishing an efficient business exchange platform for all participants, and to explore smart, digital, and data-driven products and technologies with industry experts. Together, we aim to build smarter spaces and explore the unlimited opportunities they present."

Expanding exhibition area welcomes leading brands from different industries

The 21st edition will take place in halls 9.2, 12.2 and 13.2 in area B of the fairground, which will include three product zones. Located at hall 9.2, the "Smart Lighting and AIoT Solutions" zone will display a series of smart lighting control systems. In hall 12.2, the "Home Automation and Audio Visual" zone will cover a range of technologies from home renovation to audio-visual entertainment, showcasing home audio-visual and entertainment systems, home automation systems integration, intelligent hardware products, intelligent shading and electric curtains, home security and building intercoms, and more.

In addition, the "Home Automation and Green Building" zone in hall 13.2 will focus on the application of smart spaces and smart development, highlighting the digitalisation of hotels, integration of home automation systems, public address and conference systems, building energy efficiency, and energy management. The strong line-up at this year's exhibitors includes:

- **International and domestic industry standards organisations:** KNX, CSA, and PLC
- **Home automation and intelligent building:** HDL, GVS, Tuya, Intretech, Léwin, Noocens, BroadLink, Linptech, JINDA, Kanontec, UWIZE, Youeasy, Dadoutek, Baotai Electronic, Jin Peng, Homelan, Twelve Hours, G.R.A, Duomei, Platonic, Xinniu, TNV, Gacia, Yiteng, Kenwell, Mowa, L'MERI, Lovov, OYeah, Huatech, Haiyunlai, Allterco, Chengmao, Weidmüller, Yuanhe, Mingpin, Inliwose, AooGee, Acematic, Yunhao, Maisi, Gongzhen, Congxun Intelligent Technology, X–Signal Integrated, Xingchengtai, Kengic, Luobang, Pinpu, Bopu, Kelani, Lianhetafu, Coolkit, Songri, See-time, Bodeng, Longyang, Jialu, Moresense-tech, Guangtai, Ground-Space, Sidrepower, A'Live, Ramono, AIDimming, Shengxiang, Hongyang, Matech, Heguang, MaiLian ZhiJia, Ruixiang Mindstec, Lewin, Beile, Langzun, Hopot, Kefei, and Evolt
- **Smart hotels:** Vastwise, Pujie, A-star, Laffey, and Kopou
- **Smart solutions:** Tuya, MXCHIP, Airtouch, Kiwi Instruments, Creatrol, BDStar, and Zhongxing Beidou
- **Smart lighting solutions:** inSona, LTECH, Eastsoft, and Leaguer
- **Smart audio-visual:** ROE, Beichang, JYaudio, UnitLink, DIVAN, HOPE, Partyhouse, Panshen, AMN, Denho, Baolongxing, COMTEVISION, ZSMSCR, Peavey, New Zeyu, E-High Technology, MYMEI, Sali-audio, cn wise, Xiangmeijia, Kangle, Cinemaster, AnHeng and Mani
- **Commercial displays:** ROE, ZSMSCR, and Kangti
- **Acoustic products:** Soundbox and Acoustics
- **Smart solar shades:** Wistar, Bofu, and BINTHEN

For more information, visit https://guangzhou-electrical-building-technology.hk.messefrankfurt.com/guangzhou/en.html.

[1] The General Office of the State Council recently reposted the blueprint for promoting energy efficiency and low carbon emissions in the construction sector, which was issued by the National Development and Reform Commission and the Ministry of Housing and Urban-Rural Development", March 2024, The General Office of the State Council of China, https://qr.messefrankfurt.com/a178d (Retrieved: April 2024)

Designs for two new residential towers overlooking Dubai's Marasi Bay revealed

London, UK – Foster + Partners has designed two neighbouring residential towers for the developer, OMNIYAT, with spectacular views of Dubai's Marasi Bay and the Burj Khalifa. Deriving from the Latin words for 'sails' and 'wind,' VELA and VELA VIENTO offer ultra-luxury waterfront living with direct access to the waterfront promenade and marina. The development employs the same architectural language as The Lana, Dorchester Collection, Dubai, which is also designed by the practice for OMNIYAT and located on the waterfront nearby.

Gerard Evenden, Head of Studio, Foster + Partners, said: "VELA, VELA VIENTO and The Lana share a horizontal rhythm, an expressed structure, and voids in the massing, which makes them instantly recognisable. Together, they provide a range of generous outdoor spaces and play an integral role in the transformation of Dubai's Marasi Bay."

Residents have direct access to amenities in VELA, VELA VIENTO and The Lana.

VELA

Project name: VELA
Copyright Holder: Foster + Partners

Rising to 150 metres, VELA provides a floor area of 272,860 square feet over 30 floors. The 38 residences range in size from 4,253 square feet to 11,727 square feet (internal area) and encompass penthouses and three-and four-bedroom properties, with double-height living spaces, large private terraces and L-shaped corner pools.

Views are optimised from the first moment of arrival, with an elevated drop-off zone at the base of the tower. The Marasi Bay Marina is framed by a dramatic colonnade and water feature edge. Underneath the drop off, an amenity level with a private deck and wraparound pool overlooks Marina Bay, Burj Khalifa and Downtown Dubai, offering sun-drenched spaces for relaxation. The amenity level is bookended by a café and gym, which directly connect with the waterfront promenade.

Two central penthouses connect the north and the south parts of the tower and provide 360-degree views or the city. The penthouses are split over two levels with generous double-height spaces, private pools, and incredible bay windows that have been designed to take in the Dubai sunsets.

The tower is crowned by a Sky Palace, which is split over three levels and rises to new heights in Marasi Bay. A standalone triple-height private terrace offers unparalleled views across the city and a private lift lobby connects the drop off and basement parking to the apartment, via a grand arrival gallery.

VELA VIENTO

Project name: VELA Viento
Copyright holder: Foster + Partners

Standing at 180 metres, and spanning 41 floors, VELA VIENTO offers unparalleled views of Marasi Bay, Burj Khalifa and Downtown Dubai. Its 92 residences range in size from 2,000 square feet to 9,730 square feet (internal area), and include three unique bridge apartments, which span across the towers. The tower is topped by two double-height penthouses, each with their own expansive terraces and private pools.

VELA VIENTO is set back from the marina, on the other side of Marasi Drive. A podium elevates the tower to enhance views and features a landscaped terrace, with an indoor-outdoor pool, and areas for relaxation. The lower tower is separated into two parts and connected by glazed sky bridges, to create a framed view of the Burj Khalifa as people approach. An elevated drop-off zone is augmented with spectacular water features and artworks, providing a distinctive arrival sequence.

100 metres up the tower, a generous amenity level overlooks the marina and offers panoramic views of the city. It features a double-height gym, a lounge with sunset views, and a terrace with a large infinity pool. The sky amenity is a focal point of the tower and provides a unique experience for residents and their guests.

dormakaba recognised for exceptional sustainability performance by leading industry ratings

Rümlang, Switzerland – dormakaba has announced important acknowledgments for its progress on sustainable development. For the third time EcoVadis, the world's largest provider of corporate sustainability ratings, awarded dormakaba a gold medal. This result places dormakaba among the top five percent of more than 130,000 organisations assessed worldwide. Furthermore, dormakaba, has demonstrated its commitment to sustainability by securing top rankings from the prestigious industry ESG ratings of Institutional Shareholder Services (ISS) and Morgan Stanley Capital International (MSCI).

The EcoVadis evaluation is based on a comprehensive catalog of questions. The results of the criteria surveyed are grouped into four topic categories: environment, labour & human rights, ethics, and sustainable procurement. This year, dormakaba achieved an overall score improvement. For the first time, it has shown an advanced performance in all four assessed categories. dormakaba is one of the over 1,200 multinational companies using EcoVadis ratings to help make purchasing decisions and foster sustainable development within its supply chain. For its efforts in supplier sustainable development, dormakaba received a nomination by EcoVadis in two categories at the Sustain 2024 Achievement Awards: Outstanding Program Management and Best Mature Program.

"The achievement of EcoVadis Gold medal rating is a testament to the successful management of our Must-Have sustainability initiatives, which formed the basis for this recognition. Maintaining our Top 5 percent position in sustainability, despite increasingly stringent methodologies, speaks volumes about our commitment. This rating is a badge of honour and a crucial endorsement for customers seeking high sustainability performance. Our nomination and leading position in industry ratings are further testament to the recognition of our sustainability efforts," says Stephanie Ossenbach, Group Sustainability Officer of dormakaba.

In January 2024, dormakaba achieved Prime Status in the ESG ratings of ISS for the second time, sustaining its eligibility as a responsible investment for ISS's over 3,000 institutional investor clients.

According to ISS ESG, dormakaba's performance is outstanding compared to the assessed 198 companies in the industry in all four risk categories in focus: resource-conserving production, occupational health and safety, product safety, and environmental impact of products.

dormakaba also kept a leading position in the industry, with the second AA rating issued by MSCI in March 2024, suggesting that dormakaba is among the industry leaders in managing financially relevant ESG risks and opportunities.

Visit dormakaba's latest Sustainability Report to learn about its goals and results: https://report.dormakaba.com/2022_23/sustainability/

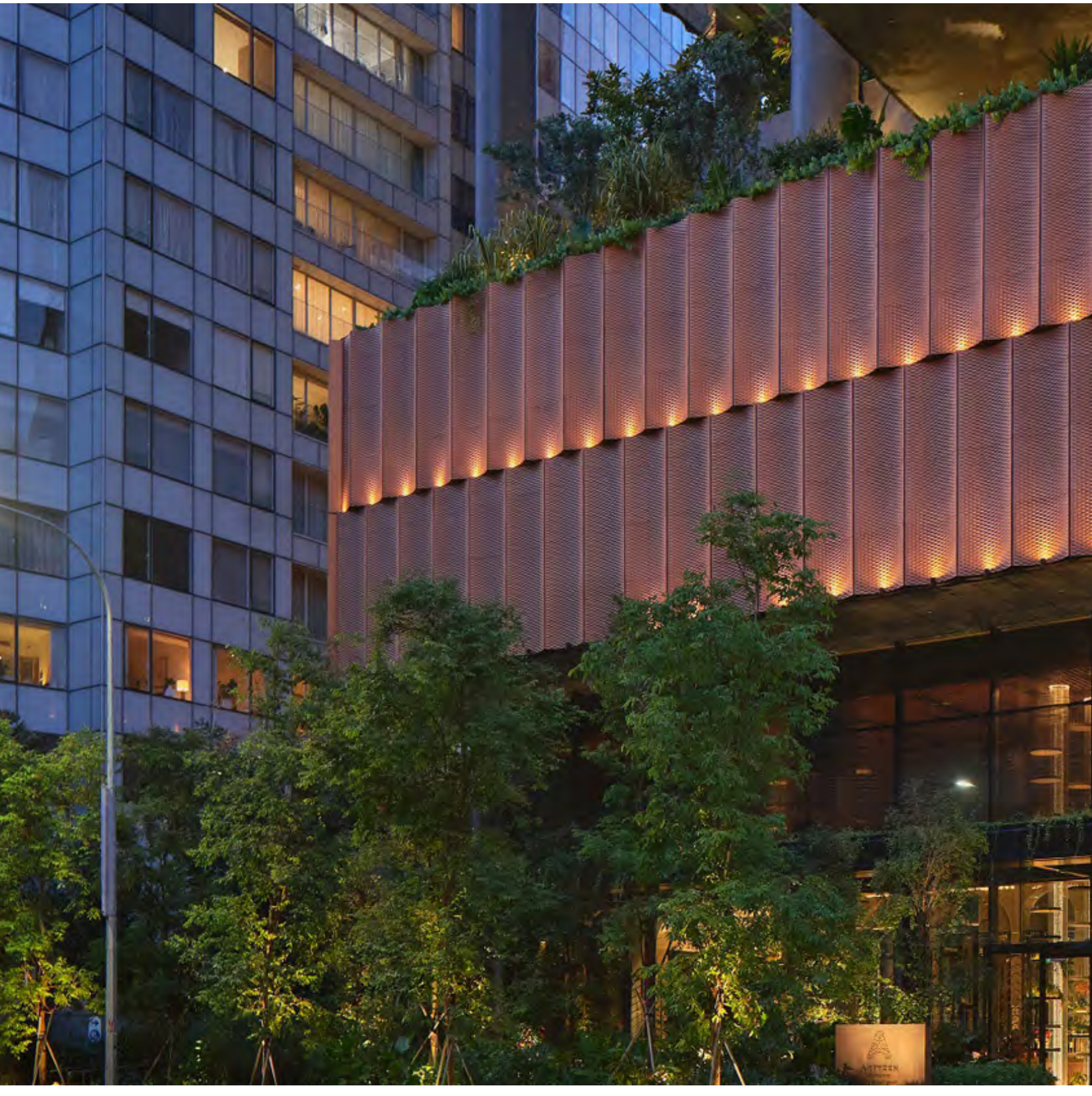
Miljan Gutovic to become new CEO of Holcim

Zug, Switzerland – Holcim's Board of Directors appoints Miljan Gutovic as Chief Executive Officer (CEO) of Holcim, effective 1 May 2024. He will succeed the current CEO Jan Jenisch, who will focus on his role as chairman and will stand for re-election at the AGM in May. Also, the Board has tasked Jan Jenisch to lead the planned US listing of Holcim›s North America business.

Miljan Gutovic, an Australian national, has been a member of the Group Executive Committee since 2018. He served as Head of the Region Middle East and Africa, followed by the Region Europe and Operational Excellence. Under his leadership, Holcim strengthened its market positions while delivering industry-leading margins and making decarbonisation a driver of profitable growth. Miljan Gutovic holds a Bachelor's degree in Civil Engineering and a PhD in Material Sciences and Engineering from the University of Technology in Sydney.

Miljan Gutovic: "I thank the Board of Directors for trusting me to lead Holcim into its next chapter of success. As a civil engineer who is passionate about the construction industry, Holcim is the best company to be part of. With decarbonisation and advanced technologies transforming how we build, there has never been a more exciting time for our sector. I look forward to working with the Holcim teams around the world to advance our leadership."

Miljan Gutovic to become new CEO of Holcim, effective 1 May 2024.



Artyzen Singapore

Artyzen Singapore is a culmination of past and present, international and local, low-rise and high-rise – where traditional wisdom in architecture is reinterpreted for a new structure.

Inspired by Singapore's culture, colours, and flavours, Artyzen Singapore is a modern lifestyle hotel for luxury travellers. Conceptualised as an oasis in the city, Artyzen Singapore offers an experience that is deeply ingrained with references to Singapore culture and architecture, its tropical climate, and its lush greenery. It is located along Cuscaden Road in the heart of the city and is just a stone's throw from the bustling Orchard Road shopping belt, major embassies,

and minutes away from Singapore Botanic Gardens, the first UNESCO Heritage Site in the city state.

This iconic heritage landmark was once a sprawling tropical garden mansion named "Villa Marie" by the great-grandson of Singapore's well-known philanthropist, the late Mr Tan Tock Seng. Built in the 1940s, it had long been vacated in its original state, while the surrounding areas developed with high-rise structures.

The contrast between Villa Marie's charming proportions and its modern surroundings could not be more apparent. The low-rise structure, intimate scale, transitional spaces between the indoor and outdoor areas, interiors complemented by elegant tall arches, the use of warm materials, and most significantly lush greenery in the courtyard, have all inspired the design of the hotel.

Embracing this unique past, the building massing is designed as villas stacked vertically, each with its garden being an extension of the landscape. Stacked vertically, these "sky villas" create a unique architecture deeply ingrained in the tropical lushness of Singapore.

Architecture elements, such as high ceilings, verandas, lush courtyard gardens, arches, and terra-cotta roof tiles, are reinterpreted in the new structure. This referencing not only connects the architecture to its unique context but also rediscovers the wisdom of climatic responses in the past which is still very relevant today.

The hotel comprises of five major parts. Sky gardens of 2-storey and 3-storey volumes are stacked at alternating floors creating an interesting play on the façade.

- 1st / 2nd storey reception and lounge,
- 3rd storey back of house office,
- 4th / 5th hotel amenities,
- 8th to 20th guest rooms and roof top amenities.

Moving into the hotel space, the verticality of space is explored. The main communal space at the 4th and 5th storey are staggered and connected spatially. This elevated space is laced with lush greenery, creating an exclusive garden space for its visitors. Coupled with high-level planters with draping softscape, one would experience the profound transition from a busy urban scape into a lush oasis. Finished with a mirrored ceiling reflecting the greenery below, one would experience a garden space that feels open to the sky.

From the 8th floor upwards, the multiple sky gardens are connected to adjacent guest rooms, allowing guests to walk out from their balconies and directly immerse themselves in a tropical garden.

On the roof terrace level, the elevated communal space captures the duality of the urbanscape in Singapore. On one side is the dynamic scene of the Orchard Road shopping belt. On the other side is the serenity of the low-rise Nassim Hill area. A lap pool is slightly cantilevered from the building mass, serving as a focal point where these contrasting urban scenes can be enjoyed.

The hotel is designed with building fenestration orientated to avoid the East and West direction, minimising heat and solar glare. The sky terraces enable porosity, allowing natural ventilation to most parts of the building. On the façade enclosure, cast aluminium panels are cladded on the East and West sides of the building structure. These slightly concave panels are designed to provide a double skin envelope, reducing solar heat gain. Across the façade, guest room balconies are lined with steel mesh screens. Reminiscent of the window screens from traditional shophouse typology, these screens serve as both shading devices and afford occupants' privacy.

Plan credit: ONG&ONG

PROJECT DETAILS

PROJECT NAME: Artyzen Singapore
PROJECT LOCATION: Cuscaden Road, Singapore
CLIENT: Shun Tak Real Estate (Singapore) Pte Ltd
ARCHITECTURE & LANDSCAPING: ONG&ONG
INTERIOR DESIGN: Nic Graham & Associate and ONG&ONG
LIGHTING: Nipek
GROSS FLOOR AREA: 11,050 square metres
SITE AREA: 2,400 square metres
COMPLETION DATE: September 2023
PHOTOGRAPHY: Fabian Ong

Mövenpick Hotel Hanoi Centre

Mövenpick Hotel Hanoi Centre recently announced its grand re-opening in early January 2024, following a remarkable renovation that has transformed the property.

Embodying the essence of the Mövenpick Hotels & Resorts brand, known for its inventive and genuine approach, Mövenpick Hotel Hanoi Centre is dedicated to providing relaxed and heart-warming experiences, ensuring every moment is truly memorable.

Conveniently situated within the vibrant French Quarter, Mövenpick Hotel Hanoi Centre is located just a few minutes away from iconic landmarks, where traditional colonial buildings co-exist harmoniously with modern buildings, amidst bustling streets teeming with scooters.

Exuding style and comfort, all 155 rooms and suites have been meticulously designed to offer unforgettable

experiences. Each room features plush, king-sized or twin beds, eco-friendly amenities, tea-and-coffee-making facilities, a smart TV, complimentary high-speed Wi-Fi, and a pillow menu.

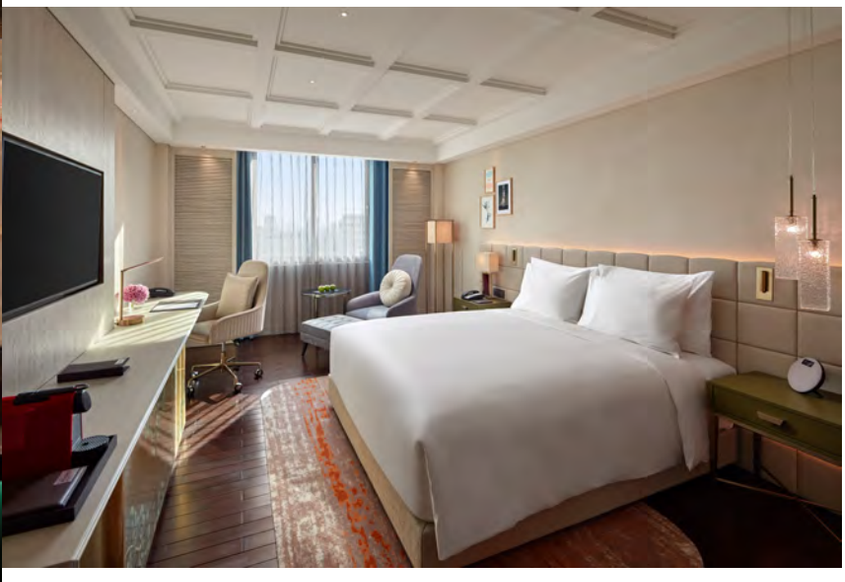
During their stay, guests can take time to rejuvenate at the Kinetic Gym & Wellness Studio, which offers a variety of cardio machines, weight training equipment, spa treatments and sauna facilities. The newly introduced Cabana Club Pool provides a Miami-inspired oasis for guests to indulge in a refreshing dip or enhance their experience with a tropical cocktail while enjoying Latin tunes.

Presenting four exquisite restaurants and bars, Mövenpick Hotel Hanoi Centre invites food enthusiasts on a global culinary journey with a foundation based on Mövenpick's illustrious culinary heritage.

Located adjacent to the lobby, Lounge 83 is a vibrant space for business and leisure gatherings, where guests can mingle with fellow travellers and the local community.

On the second floor, Mangosteen, an all-day dining restaurant, enchants guests with its elegant and cosy ambience, showcasing an innovative fusion of Vietnamese flavours and international classics.

O Macanese, located on the ground floor, immerses diners in a captivating atmosphere highlighted by dark blue and crimson shades, accentuated by



floor-to-ceiling hand-painted murals.

Taking inspiration from the vibrant South Beach, Cabana Club is a stunning bar and restaurant complex that captures the allure of Miami and the effervescence of Latin America. The evocative art deco furnishings, tropical greenery, and poolside pavilions create a captivating ambiance across two open-air levels. On the fourth floor, guests can unwind at the radiant poolside bar, relishing bespoke cocktails or taking a refreshing dip in the inviting water while basking in the sun. On the fifth-floor mezzanine, amidst a chilled lounge atmosphere, friends and family can gather to relish the flavours of Caribbean, South America and Central American show kitchen, featuring smoke & grilled delights and sharing platters. Whether enjoying a hearty meal from the wood-fire oven or sipping on characteristic mixology creations, Cabana Club promises an unforgettable experience.

Mövenpick Hotel Hanoi Centre presents a selection of inspiring venues suitable for productive meetings, innovative events and memorable weddings. Whether seeking an intimate and private space or a grand setting, the hotel can offer the right option with two fully-equipped meeting rooms and a spacious ballroom. All event spaces, conveniently located on the second floor, boast high ceilings, abundant natural daylight, state-of-the-art audio-visual technology, full-size LED screens, and complimentary Wi-Fi.

Nicolas Josi, General Manager of Mövenpick Hotel Hanoi Centre added, "This remarkable hotel encompasses everything one desires: a prime location in the heart of the city, refined décor, exceptional amenities, and, most importantly, a distinct character that sets it apart. It truly embodies the Mövenpick spirit, with outstanding leisure facilities and cutting-edge equipment for meetings and events. As a destination that caters to both leisure and business travellers, we eagerly await guests from near and far."

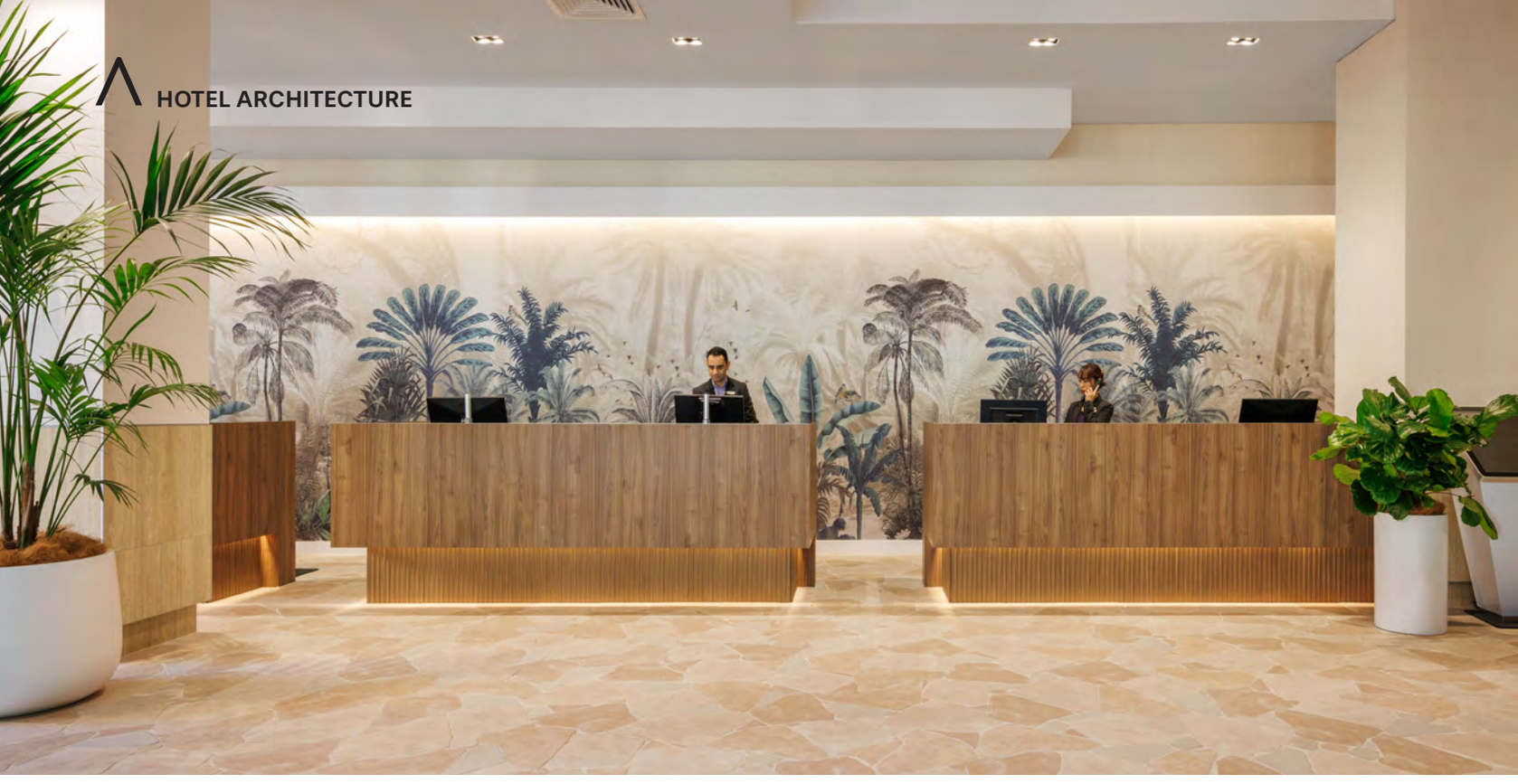
PROJECT DETAILS

PROJECT NAME: Mövenpick Hotel Hanoi Centre
PROJECT LOCATION: Hanoi, Vietnam
CLIENT: Mövenpick Hotel Hanoi Centre
ARCHITECT FIRM: Gema Architecture and Interior Design & KGM Asia
COMPLETION DATE (RENOVATION): December 2023
PHOTO CREDIT: Mövenpick Hotel Hanoi Centre

Amora Brisbane

Thai-owned Amora Group has revealed its latest acquisition Amora Brisbane, transformed into a five-star leisure and business hotel after a AU$30 million (USD20 million) remodelling. The CBD hotel joins the group's expanding portfolio of six owned and operated hotels and resorts under the Amora brand in Australia and Thailand.

Previously the Novotel Brisbane, Amora purchased the property from CDL Hospitality Trusts in 2020. Amora Brisbane's transformation follows hot on the heels of Amora Beach Resort Phuket's THB500 million (US$14 million) comprehensive refurbishment, which was completed in December 2023.



Located in the prime CBD area, Amora Brisbane is a short stroll from Central Railway Station, The Queen St Mall, Treasury Casino and Suncorp Stadium; and a five-minute ride from the entertainment precincts of Howard Smith Wharves and Fortitude Valley. For business travellers, a quick 15-minute ride takes them to the Brisbane Convention and Exhibition Centre.

With Amora Brisbane, Amora Group is positioned to gain momentum from the MICE and events sectors, boosted by Brisbane's up and coming status as a key sports destination of Australia. Its sterling line-up of international sports events and the 2032 Brisbane Olympics will place the city under the global spotlight.

The city continues to make the right headlines in the business arena, supported by the dedicated efforts of key agencies such as Brisbane Economic Development Agency, Tourism and Events Queensland, and the Brisbane Convention & Exhibition Centre, in winning significant bids for international exhibitions, conferences and incentives. In addition, Brisbane is funded by an AU$25 billion (US$16 billion) pipeline of city-transformation projects that will enhance the city experience for visitors and delegates alike, making it an attractive destination

for leisure and business.

"As a company, we are looking to cement our footprint as a five-star hospitality group in Australia and Thailand, and we will achieve that by expanding in key cities in Asia Pacific and in developing Southeast Asian destinations. Our goal is to have 12 hotels in the region within the next five years.

"Amora Brisbane is certainly a feather in our cap and we couldn't be happier about the full potential of the property in the years to come," says Owner and Director Earp Siriphatrawan, the second-generation heir of Amora Group.

The 296-key Amora Brisbane features 11 refurbished conference and events spaces spanning 1,148 square metres; an elevated outdoor pool and deck, a fitness studio and a sauna. For dining, Dapl Restaurant offers modern Australian cuisine using the best of locally sourced produce and ingredients, complemented by The Lobby Bar and Two Donkeys Café. Accommodation types range in size from the Amora King and Amora Double Rooms to Premier Rooms and Executive Suites, with certain rooms offering private balconies overlooking the Brisbane cityscape.

PROJECT DETAILS

PROJECT NAME: Amora Brisbane
PROJECT LOCATION: Brisbane, Australia
CLIENT: Amora Hotels & Resorts
ARCHITECT FIRM: Cottee Parker
TOTAL GROSS FLOOR AREA: 22,891 square metres with 14 Floors
SITE AREA: 6,235 square metres
COMPLETION DATE (REFURBISHMENT): December 2023
PHOTO CREDIT: Mauro Risch

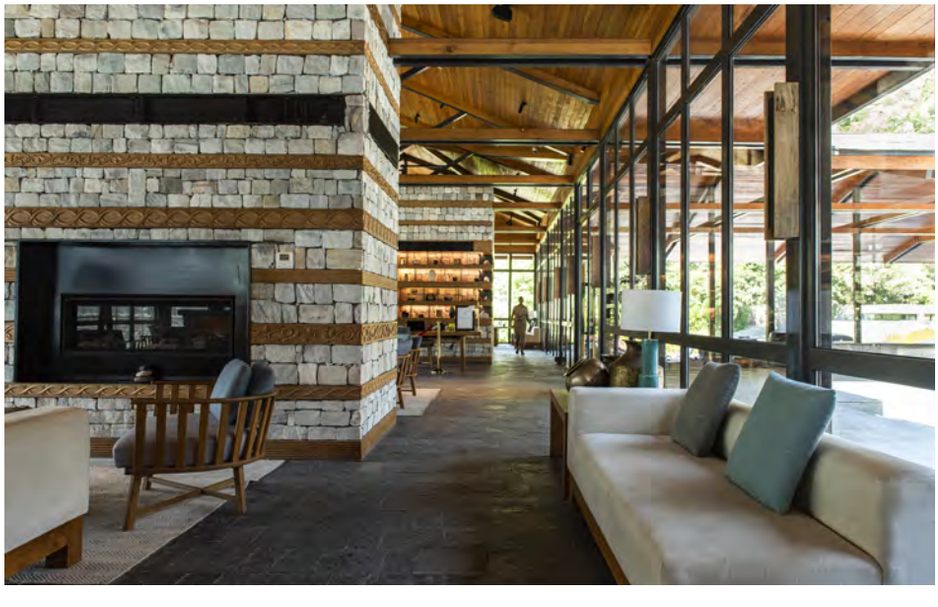
Taj Rishikesh Resort & Spa

Taj Resort and Spa is the morphology of the traditional Himalayan village with a structure that negotiates and creates a dialogue with the contours. The relationship of the design with the rivers and rivulets in the valleys, the materiality, local construction knowledge and memorable collaborations are all crucial determinants of the architectural concept.

Arjun Mehra (Managing Director at Darrameks Hotels & Developers Pvt. Ltd) had emotional ties with the site, which, through the design journey of the project, became even more personal. Arjun's brief was for an architecture that shows respect to the environment and the surroundings while underlining the brand's commitment to the superior quality of design and workmanship. The client engaged YH2 to develop the master plan and propose an architectural concept for the resort. At Edifice, they translated that vision into reality through

through a deep understanding of the regional building practices and domestic know-how.

Location of Taj at the foothills of the Himalayas and the serendipitous presence of the holy river Ganges marked the advent of its design language. Formerly, used for stepped farming, the natural terrain of the site invited Edifice to place the built structures on the flat terraces, thereby allowing the untouched parts of the landscape to remain natural and pristine!



The design merges with the neighbourhood and magnifies the rustic settings of nature. The site planning mimics the traditional Himalayan villages, anchored around a Darbargadh, the traditional residence of local rajas or lords which further translates into the design. The walled courtyard of traditional Darbargadhs or the fortress-palace-temples, offer at their heart protection to the villagers in times of war or served as socializing space promoting community life in harmonious times. The main block of the hotel that overlooks the valley creates the image of a traditional Darbargadh. It provides a central location for gathering all the primary services of the resort: the reception, restaurant, bar, boutique, library, and more.

The Central Courtyard plays a vital role and binds all the functional spaces together. The local materials like the stone for cladding the structure along with hardwood battens in ceilings, raw carved wood as bands along with the stone cladding and organic colour palate merge with the green oasis outside. The naturally lit open corridors

allow functional spaces a properly ventilated outdoor environment for the guest to experience the stunning views and unique glimpses of the lush green backdrop of nature.

The main entrance opens on either side that free flows into different functional spaces. The most extensive flat land transformed into the Welcome House comprises of the main building which houses the reception, Dining area, Bar, Banquets and Guest Rooms. The basement has services and parking with services marked at the highest point of the site. The lowest part of the site, which has a steep drop, houses the swimming pool with an infinity edge overlooking the river Ganges – like the natural extension of the sacred water body. The visitors at the Restaurant placed at the highest point on the site carves out unmatched panoramic views of the river turning – like a place of relaxation and repose suspended in mid-air with signature soulful sounds of the river rapids.

Arjun's ideas of sustainability, respect for local architecture, and the desire for a space to relax and repose find a voice in our materiality and detailing - local stone cladding, wooden finishes and the slate roof brings out the vernacular familiarity in the buildings. The interior spaces are the design extension of the exteriors. The social spaces designed to enjoy the verdant views of the river and the greenery makes Taj an exclusive getaway for the explorers.

The level difference of minus 100 metres recorded on-site and the inspiration from the terraced agriculture present around decodes into the planning of villas, providing a 270-degree view of river Ganges to the visitors. Each of the brightly daylit rooms has a picture of the river flowing in the valley below. The sound of the flowing river and aromatic local flora is as much a part of the architecture as are the building materials and spaces. The infinity pool at the base with a perforated natural screen provides an immersive experience with stunning landscapes and riverscapes. The cascading infinity pools blur the lines between natural and human-made, making it the most photogenic swimming post with extraordinary panoramas. The pounding waves and verdant green of mountains seem to collide over the horizon, creating a dramatic spatial experience!

The Back of House areas, critical in the functionality of any resort, is designed meticulously by Edifice. The right proportion of natural stone and timber is used in the exterior to simulate a realistic feel and become one with nature. The metal columns make the structure look thin and merge with the trees in the backdrop.

At the start of the project, Edifice was engaged in significant research on techniques to clad a concrete wall with large & heavy 200 mm thick stones. The solution lies in devising an ingenious technique to hold the traditional stone wall in place using modern drywall cladding techniques. This process entailed using a single continuous metal strand weaving through the whole surface of stones for that particular façade – a construction format specially developed for the project. The 200mm thick lightweight walls and 200mm thick stones ensure that there is a temperature difference between the exteriors and interiors. The whole of the roof covered with 6mm thick black slate has been fixed to the metal framing below. The external wooden panelling all over the structure is from Canada and is weathered and well-seasoned.

Installed solar (panels) technology generates hot water, which is then added back to the system. Whereas, construction of the villas along the contours resulted in less excavation and filling. The open corridors allow for the air to flow through the building and keep the space fresh and natural. An STP system placed at the lower level provides the water required for the landscape, and no water is discharged away from the site. This also maintains the water table and ecosystem of the site.

This project has multiple aspects of sustainability. First, there is an aspect of social sustainability: a responsible attitude towards understanding the region's built environment and faithfully complementing the typology and spatial structure in a contemporary designer environment. Second, sustainability is addressed in the use of materials. For the most part, materials used in this project are sourced regionally and have been treated to reflect their true character, texture, colour, and nature.

One of the biggest design challenges in translating the material idiosyncrasies from the typically small traditional village home into a large resort was scaling. Edifice had to devise a strategy to ensure that the vernacular's faithful aesthetic quality translates to the resort in a structurally safe and visually striking manner. Therefore, rather than the building outstanding the surroundings, Taj connects with the neighbourhood.

PROJECT DETAILS

PROJECT NAME: Taj Rishikesh Resort & Spa
PROJECT LOCATION: Rishikesh, Uttarakand, India
CLIENT: Darramecks Hotels Pvt. Ltd
ARCHITECT: Edifice Consultants Pvt. Ltd.
SITE AREA: 22 acres
BUILT-UP AREA: 1,10,000 square feet
START DATE: April 2011
COMPLETION DATE: September 2019
PHOTOGRAPHER: Bharath Ramamrutham

Mapei Products and Systems for the Hospitality Industry

Dusit Thani Guam Resort (Tumon, USA)

The hospitality industry is highly promising in many countries. In Europe, the general trend in the hospitality sector seems to be favouring 4/5-star hotel facilities. And according to forecasts made by Duff&Phelps Reag, over the next 10 years European four-star facilities will provide an extra 200,000 beds compared to the present, as lower quality facilities begin to struggle as they are forced to compete with Bed&Breakfasts and privately-owned facilities offering short-term accommodation.

Design work for the hotels sector is characterised by a precise commitment: finding the best way to combine aesthetics with functionality and elegance with practicality. Choosing just the right colours and materials is fundamental in defining the quality of the end result and its durability over the years. To truly enhance the personality of spaces and surroundings one must employ, first and foremost, proper installation systems.

Mapei is the only company in the sector to have such a comprehensive and articulated range of solutions available, the result of its extensive experience which is constantly updated with the addition of new, innovative products.

From lobbies to kitchens, from floor and wall coatings in bedrooms, bathrooms and communal spaces to the architectural design of fitness centres, spas and wellness facilities, from structural strengthening projects guaranteeing the highest possible standard of anti-seismic safety to the soundproofing of rooms, eating places, bars and meeting/conference rooms, Mapei has certainly no lack of fast and efficient products and systems allowing these facilities to be accessible very quickly. All this without forgetting the needs of facilities alternative to conventional hotels ranging from modernized country homes to eco-friendly locations.

Azorìs Angra Garden Plaza Hotel

Angra do Heroísmo (Portugal)

The Azorìs Angra Garden Plaza Hotel stands in the main piazza of the old town centre of Angra do Heroísmo, a UNESCO World Heritage Site, and was the first hotel to be opened in this town on the island of Terceira, in the Azores.

The structure recently underwent significant redevelopment work to modernize the interior of the hotel, starting from its 120 rooms, while maintaining its original architectural lines.

The designer and main contractor decided to use Mapei products for the new floors situated in the communal areas (reception, restaurant and bar).

TOPCEM PRONTO special hydraulic binder for normal setting, fast drying (four days) and controlled shrinkage screeds was used to make the substrates, which were bonded to the floor slab with a bonding slurry made from PLANICRETE latex.

The floors, which are subject to medium-heavy loads and constant foot traffic, also had to be aesthetically pleasing: for this reason, it was recommended to use light grey MAPEFLOOR I 320 SL CONCEPT self-levelling epoxy coating after applying two coats of PRIMER SN broadcast with QUARTZ 0.5.

PROJECT DATA

PROJECT NAME: Azorìs Angra Garden Plaza Hotel
PROJECT LOCATION: Angra do Heroísmo (Azorre, Portugal)
PERIOD OF RENOVATION: 2017-2018
YEAR OF THE MAPEI INTERVENTION: 2018
ARCHITECT: Box Arquitetos
CLIENT: Azorís Hotels & Leisure
WORKS DIRECTION: João Veloso (Azoris Hotels & Leisure)
MAIN CONTRACTOR: Tecnovia Açores
INSTALLATION COMPANY: Spitex II
MAPEI DISTRIBUTOR: Spitex II
MAPEI COORDINATOR: Miguel Duarte, Lusomapei (Portugal)
MAPEI PRODUCTS: Topcem Pronto, Planicrete, Primer SN + Quartz 0.5, Mapefloor I 320 SL Concept
PHOTOS: Provided by Mapei

Una Hotel Versilia

Lido di Camaiore (Italy)

The UNA Hotel Versilia in Lido di Camaiore (Central Italy) is an exclusive residence-hotel built at the beginning of the century. It encloses an open-air 25-metres swimming pool that was completely renovate this year.

Preliminary operations included concrete repair with MAPEPROOF SWELL and MAPEGROUT 430. TOPCEM PRONTO admixed with PLANICRETE was employed to level off the substrates of the pool and the kerb around the pool while the vertical surfaces were levelled off with PLANITOP FAST 330.

The corners between the horizontal surfaces, the vertical surfaces and the changes in slope in the pool were waterproofed with MAPEBAND EASY rubber tape, which was applied over a layer of MAPELASTIC FOUNDATION waterproofing membrane. The surfaces of the pool were then waterproofed with MAPELASTIC FOUNDATION.

ADESILEX P10 admixed with ISOLASTIC was used to install a glass mosaic on the inside of the pool and the joints were grouted with KERAPOXY DESIGN MAPESIL AC was used to seal the expansion joints and the corners between the horizontal and vertical surfaces.

PROJECT DATA

PROJECT NAME: Swimming pool at Una Hotel Versilia
PROJECT LOCATION: Lido di Camaiore (Italy)
YEAR OF CONSTRUCTION: Early 21st century
YEAR OF THE MAPEI INTERVENTION: 2018
CLIENT: Unipol Gruppo SpA
WORKS DIRECTION: Andrea Gervasi
CONTRACTOR: Gervasi SpA
MAPEI DISTRIBUTORS: Bigazzi Edilizia Srl, Centredile Srl
MAPEI COORDINATORS: Federico Regoli, Roberto Aiazzi, Simone Tognetti, and Massimo Lombardi, Mapei SpA (Italy)
MAPEI PRODUCTS: Planitop Fast 330, Topcem Pronto, Planicrete, Mapeproof Swell, Eporip, Mapegrout 430, Mapelastic Foundation, Mapeband Easy, Adesilex P10+ Isolastic, Kerapoxy Design, Mapesil AC
PHOTOS: Provided by Mapei

Contessina Suites & SPA

ZaKynthos (Greece)

Located in the small village of Tsilivi, the hotel is a five-star luxurious complex with 64 suites. Mapei products were used in all construction phases. The super-plasticisizer MAPEPLAST G22 (manufactured and distributed in Greece by Mapei Hellas) together with the crystallizing admixture IDROCRETE KR1000 were used for the concrete foundations. The osmotic cementitious mortar PLANISEAL 88 was used both in exteriors and interiors for the protection and waterproofing all basement walls. MAPEPLAN B15 membrane by Polyglass (Mapei Group) was used for waterproofing the roof of

the main entrance.

The substrates in all the swimming pools were waterproofed with MAPELASTIC SMART membrane, MAPENET 150 mesh, and MAPEBAND tape. The corners in all the swimming pools were filled with MAPESIL AC sealant combined with PRIMER FD. In all external areas (including the swimming pools) porcelain tiles were installed with KERAFLEX MAXI S1. All the tile joints were grouted with KERAPOXY CQ.

Some walls in the lobby, restaurant and service areas were decorated using the ULTRATOP LOFT cementitious system and finished with MAPEFLOOR FINISH 58W.

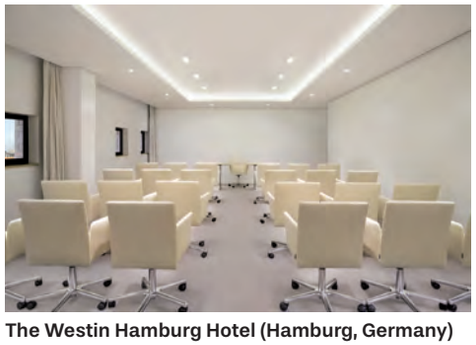
PROJECT DATA

PROJECT NAME: Contessina Suites & Spa
PROJECT LOCATION: Zakynthos (Greece)
YEAR OF CONSTRUCTION: 2017
YEAR OF THE MAPEI INTERVENTION: 2018
CLIENT: Moraitis family
DESIGN: Block 722 | Architects +
MAPEI DISTRIBUTOR: Moraitis Lefteris
MAPEI COORDINATORS: Ioannis Koropoulis and Evangelos Chouliaras, Mapei Hellas (Greece)
MAPEI PRODUCTS: Mapeplast G22, Idrocrete KR 1000, Planiseal 88, Mapelastic Smart, Mapenet 150, Mapeband, Keraflex Maxi S1, Kerapoxy CQ, Mapesil AC, Ultratop Loft F, Ultratop Loft W, Mapefloor Finish 630, Mapefloor Finish 58 W, Ultratop Color Paste, Mapeplan B15 by Polyglass
PHOTOS: Provided by Mapei

Alise San Francisco Hotel (San Francisco, USA)

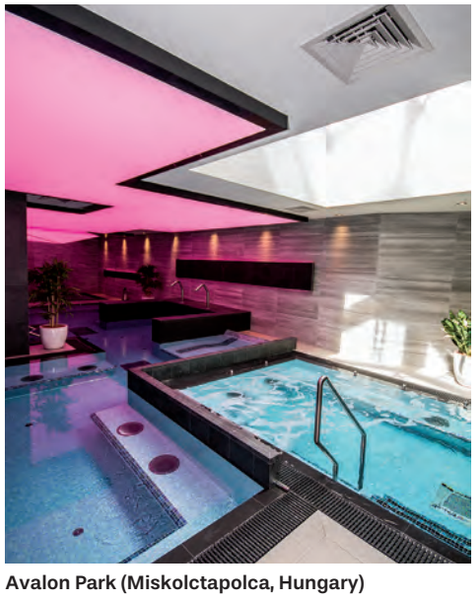

Chelsea Creek (London, UK)


Stella Island Resort (Chersonisos, Greece)


The Westin Hamburg Hotel (Hamburg, Germany)


Da Vinci Grand Hotel (Cesenatico, Italy)


Life Palace Hotel (Sibenik, Croatia)


Avalon Park (Miskolctapolca, Hungary)


Le Capase Resort (Santa Cesarea Terme, Italy)


NSR Resort (Ponte Delgada, Portugal)

Some products mentioned in this article are available in the Singapore market. Please contact the customer service representative at Mapei Far East for more details or visit the website for more information: https://www.mapei.com/sg/en/home-page

Article source: Realtà Mapei International 71/2018

Innovations in Materials

The growth in innovative construction materials in recent years has changed the way we build. Research and development has given rise to a new group of materials, which are innovative and sustainable at the same time. Architects have also started using such materials to improve the overall result and performance of the project. While there are many new materials on the market, we chose a few innovations that have been used in projects already.

Asia Projects

H&M Flagship Store, Singapore

Innovative & Sustainable Material: High-tech, non-woven mesh textile

H&M's flagship store welcomed the launch of H&M Home and unveiled an all-new elevated retail experience on 24 August 2023. It features a first-of-its-kind store facade in Southeast Asia made with i-Mesh, a high-tech, non-woven mesh textile.

H&M fully reopened the doors of its flagship store at Orchard Building after a five-month long revamp to transform and upgrade the shopping experience for customers.

Aside from the interior, the revamped flagship store also brings sustainability to the forefront, first through the Veil, a new tensile fabric facade, made entirely from i-Mesh textile, the first-of-its-kind in Southeast Asia.

Sustainable façade

Conceptualised and designed by RSP Architects Planners & Engineers (Pte) Ltd, The Veil incorporates sustainability

into H&M's fashion story and ethos with the sustainable and customisable textile that is made of high-performance fibers.

It is a multi-axial and multifunctional non-woven mesh made of high-tech mineral and man-made yarns stabilised by a resin system. It is made of everlasting, high-performance fibers that can be applied both outdoors and indoors. The textile brings about elegance and performance.

Unlike conventional fabrics, which generate substantial amounts of waste during the process of converting fabric into a panel, the non-woven mesh textile creates zero waste as it is produced exactly in the shape and pattern desired. Any minimal scraps from the production are used in arts and design products.

As it is made of only fiber and resin, the latter which has a thermoplastic origin, the non-woven mesh textiles textiles can be easily separated and reused at the end of their life.

This new design also goes beyond being a simple facade, to acting as a dynamic interface that constantly changes, through which H&M will curate and present its unique brand experience to the world. While the Veil looks like a deceptively simply white canvas when viewed at a distance during the day, it takes on a more translucent look when viewed up close, and reveals the H&M experience hidden behind. At night, the Veil becomes a dynamic membrane where vibrant colours and customisable lighting effects come together to create a different look and experience each time. It is an evolving fashion statement that not only embodies H&M's sustainability goals, but also expresses its relationship with textiles.

PROJECT DETAILS

PROJECT NAME: H&M Flagship Store
PROJECT LOCATION: Singapore
CLIENT: H&M
ARCHITECT: RSP Architects Planners & Engineers (Pte) Ltd
PROGRAM: Renovation of retail store
TOTAL SITE AREA: 2,181 square metres
TOTAL GROSS FLOOR AREA: 13,888.71 square metres
NON-WOVEN MESH TEXTILE MANUFACTURER: i-MESH
COMPLETION: August 2023
PHOTO CREDIT: RSP Architects Planners & Engineers (Pte) Ltd

Woodtek Headquarters Taichung City

Innovative & Sustainable Material: Cross Laminated Timber

The building with a view of the Farze Crook River situated along the route of a high-speed train housing WoodTek headquarters represents the first KLH building in Taiwan. KLH Massivholz GmbH is a pioneer in the production of cross laminated timber. The company is committed to acting responsibly in terms of the environment, both internally and externally. Not only through its appearance was this construction of Woodtek headquarters supposed to mark a milestone. It was also supposed to serve as a symbol for the development of green architecture in Asia.

Challenges

Designing a KLH building in Taiwan involves all kinds of challenges. First of all, there is the factor of durability under hot and humid climatic conditions. The structure's shell includes a facade system with pressure equalization to prevent winds from blowing moisture into the construction's components. The ground floor rises above ground level and rests on concrete foundations to hold off soil moisture and to prevent an infestation by soil-inhabiting termites.

PROJECT DETAILS

PROJECT NAME: WoodTek Headquarters
LOCATION: Taichung City, Taiwan
CLIENT: WoodTek CO LTD
ARCHITECTURE / PLANNING: Origin Architects & Planners
STRUCTURE ENGINEER: Equilibrium Consulting Inc.
CROSS LAMINATED TIMBER MANUFACTURER: KLH
COMPLETION YEAR: 2014
PHOTOGRAPHER: Figure x Lee Kuo-Min Studio

The Red Story, Manesar, Gurugram

Innovative and Sustainable Material: Wire-cut bricks

Drawing its name from the exterior hues, Red Story by Logic Design + Build, is located in Sector 8 in the industrial hub at Manesar, near Gurugram, Haryana. Designed for Pacific, an organisation that provides engineering products and solutions, the project scope entails facade improvements for an existing structural shell planned for their office headquarters and warehouse. Envisioned to be a landmark building reflecting the organisation's persona, the facade reflects timeless values of honesty and hard work fused with resilience and consistency.

The façade – developed in response to the sun's movement – filters the harsh southern light and welcomes a varying inflow of diffused natural light across its sections, eventually acting as a filter between light and space. In the front, the brick facia is devised in layers to create a comfortable environment while lending it an aesthetic quality. The adjacent south facade is less permeable and has a dense, high-volume character to protect the indoors from the harsh, direct southern light. In contrast, a series of sandstone fins with glass windows welcome the consistent soft lights of the north and northeast throughout the day.

Above the entrance lobby, a pronounced red-brick fascia hovers over the visitor. A closer look reveals a meticulous brick pattern, with gaps allowing light and wind to enter while retaining privacy. Armed on either side with a composition of random small openings, the entrance is flanked by two 'bastions' in a natural cement finish, creating an awe of imposing strength and identity. Juxtaposed with the softer impressions of brick, the entrance displays a distinct visual style of architectural elements.

In the north – envisaging a change of expression – the structural members of the building hold together a screen of sandstone slates that appear across the facade at every level. The structured

Before & After

Before & After

composition of squares subverts attention from the dimensions of the structure, as we only perceive the lines and variations in the thickness of slates. Through the light vertical lines, one is privy to the interior, as we witness the composition come alive even with the absence of solid shadows from the north.

Over 65,000 wire-cut bricks are used to create patterns on the central brick wall. The dynamic wall intentionally hides the play of proportions and an eye for the line motifs of joints on the surface. In three layers, the viewer can experience the pattern's logic and visual illusions, thereby witnessing a textile-like quality playing out in the entry.

To keep the building and the construction intrinsically sustainable, the brick and sandstone have been procured from within a 15 km radius of the site. Rigorous sampling and materials testing were required to help the design come alive across the different elements in the construction details. In keeping with time demands, an efficient cutting, laying and installation process ensured the execution was carried out with minimal wastage.

The facade transitions easily from a three-layered brick lattice to a slim stone screen in a display of skill and finesse. Borrowing the innate qualities of each material, the project registers emotions of timelessness with an ethereal quality, essaying a material equivalent to the brief. It reminds us of the ability of architecture to hold a metaphor to successfully convey the beliefs of an organisation with the appropriate tone and tenor for its stature.

PROJECT DETAILS

PROJECT NAME: The Red Story
PROJECT LOCATION: Sector 8, IMT Manesar, Gurugram, India
CLIENT: Pankaj Pahuja / Pacific Techno Products
ARCHITECT: Logic Design + Build
SITE AREA: 21,500 square feet
BUILT-UP AREA: 58,000 square feet
START DATE: 2019
COMPLETION DATE: 2022
PHOTOGRAPHER: Siddharth Chanana

Komatsu Seiren Head Office, Ishikawa

Innovative & Sustainable Material: Carbon Fiber Strand

This is a renovation of an office building in rigid-frame RC structure to strengthen its quake resistance using carbon fiber, and transform the interior into a museum called Fab Labo, a space to display the technology of Komatsu Seiren, the client company.

Drawing from a technique of braiding ropes in this region, it became possible to add further flexibility to the carbon fiber. The fiber rod is said to be seven times stronger than iron, and this is the very first time that this material was used as a means of reinforcement against earthquakes.

The potential of this light and soft fiber is explored inside the building as well. There is a lighting duct in fiber and on the rooftop, an experimental greening is being conducted using porous ceramic panels (called Greenbiz), which was generated from the process of producing fiber.

PROJECT DETAILS

PROJECT NAME: Komatsu Seiren Head Office
PROJECT LOCATION: Ishikawa, Japan
CLIENT: Komatsu Seiren
ARCHITECT: Kengo Kuma
PROGRAM: Renovation of office building
CONSTRUCTION STARTED & FINISHED IN: 2015
SITE AREA: 67.713 square metres
TOTAL GROSS FLOOR AREA: 2873 square metres
CARBON FIBER MANUFACTURER: Komatsu Seiren
FIBER ROD MANUFACTURER: Komatsu Seiren
PHOTO CREDIT: Takumi Ota

International Project

House in red concrete, Lillehammer

Innovative & Sustainable Materials: The outer walls are made of a load bearing layer of cellcrete, which is concrete with a high amount of eps inside, so it has the half wight and CO2 emission as regular concrete. On the outside of this load bearing layer there is 5cm of regular concrete with iron oxide which gives it the red colour. On the inside of the load bearing concrete there is 5cm of insulation and then Norwegian knot free pine paneling.

The red house is designed by Sanden+Hodnekvam Architects as a repetitive building kit of insulated concrete elements. The load bearing elements are arranged independent of the inner walls, providing the clients with a generous house that can be adapted to changing needs. The rational construction made it possible for the clients to do large parts of the construction themselves.

Housing prices in Norway are high and there are few alternatives to the standardised housing market. Sanden+Hodnekvam Architects wish to contribute to different forms of living; co-operative housing, self-built housing, intergenerational housing and other home sharing arrangements.

In Lillehammer, Sanden+Hodnekvam Architects have a built project intended for a three-generation family. Due to a relatively large programme and a limited budget, economy became an important factor. Sanden+Hodnekvam Architects needed to find solutions that were affordable and that would suit the intended use.

The topography at the site is steep, with a height difference of about 10 metres (32 feet) within a 650 square

metres site. A large part of the house is dug into the hillside in order to fit the programme to the compact site, and at the same time follow height regulations and maximise the view. The house is angled diagonally to the fall of the terrain in order to generate outdoor spaces of high quality on all sides and to access the view from all three floors.

Based on the limited budget and with two facades partly underground, Sanden+Hodnekvam Architects chose prefabricated concrete elements as the exterior building material. All facades, both over- and underground are made of insulated concrete (Cellcrete) with a 50mm outer layer in pigmented concrete. Iron oxide is added to the concrete mix to create the distinct red colour. The slabs are exposed in the ceiling to make the structure readable.

The rational building system makes construction easier, permits simple detailing and in turn a lower building cost. The visible joints between the prefabricated elements and the lines between the boards in the casting blend, generates a characteristic pattern in the facades. Concrete elements are repeated in order to reuse the formwork for several elements. The repetitive system of separate elements enables a potential reuse of the building materials in the future.

The inner walls are independent of the load bearing system, which means that the plan can be reconfigured. The house can easily be adapted to future residents or changing needs. The interior is clad in knot-free pine and exposed concrete elements. Furniture in pine plywood are built on site.

The combination of a rational and repetitive building system and the substantial effort from the clients resulted in a very low building cost. Through their own efforts in the building period, the owners of the house have gained substantial knowledge about their own house and they feel a strong ownership to both the process and the end result.

PROJECT DETAILS

PROJECT NAME: Red House
PROJECT LOCATION: Lillehammer, Norway
CLIENT: Private
ARCHITECT: Sanden+Hodnekvam Architects
PROGRAM: Single House
CONSTRUCTION: 2018–2020
SITE AREA: 653 square metres
TOTAL GROSS FLOOR AREA: 360 square metres
CONCRETE WORK: Luster Betong
WOODWORK: Client
FURNITURE: Anders Haram
PHOTOGRAPHER: Sanden+Hodnekvam Architects

Study

3D printed nanocellulose upscaled for green architectural applications

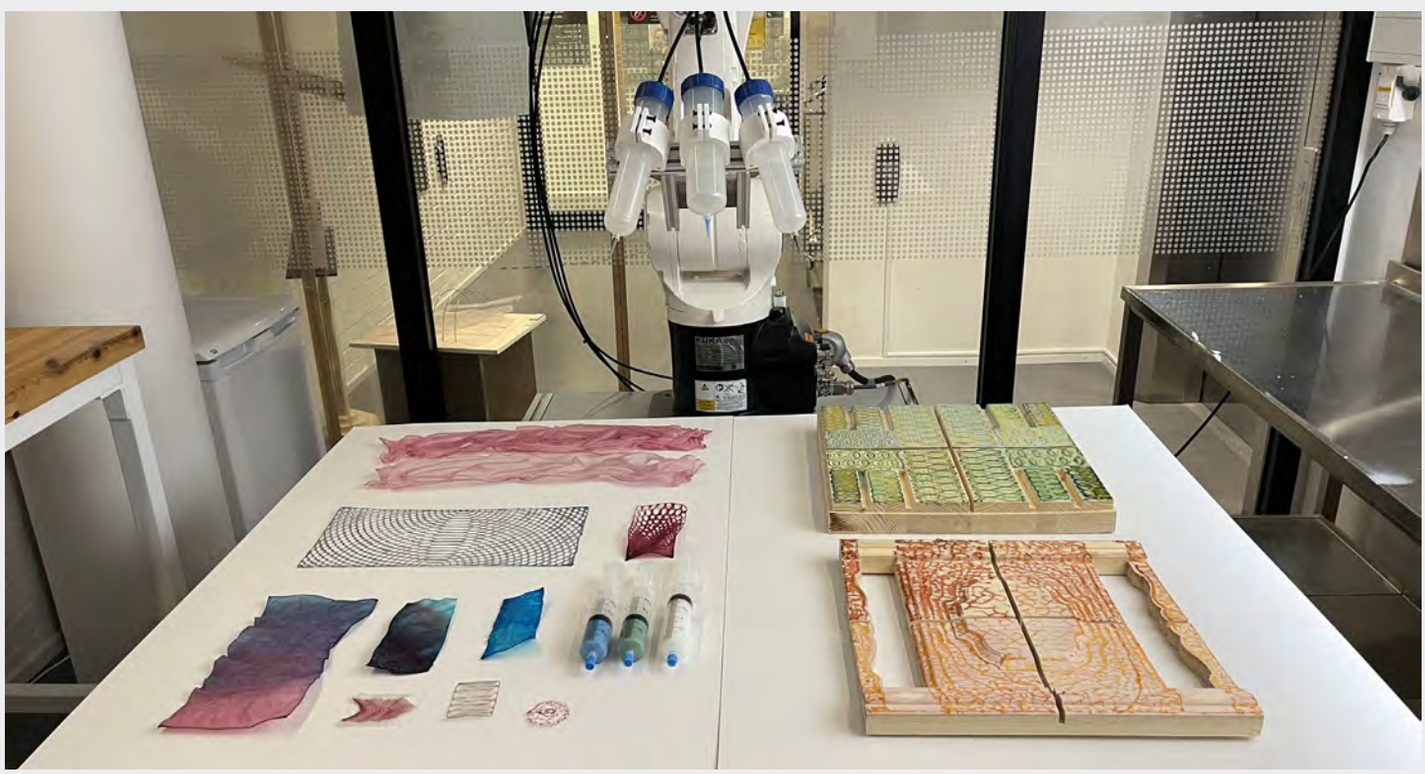


Image credit: Chalmers University of Technology | Emma Fry

For the first time, a hydrogel material made of nanocellulose and algae has been tested as an alternative, greener architectural material. The study, from Chalmers University of Technology in Sweden and the Wallenberg Wood Science Center, shows how the abundant sustainable material can be 3D printed into a wide array of architectural components, using much less energy than conventional construction methods.

The construction industry today consumes 50 percent of the world's fossil resources, generates 40 percent of global waste and causes 39 percent of global carbon dioxide emissions. There is a growing line of research into biomaterials and their applications, in order to transition to a greener future in line with, for example, the European Green Deal.

Nanocellulose is not a new biomaterial, and its properties as a hydrogel are known within the field of biomedicine, where it can be 3D printed into scaffolds for tissue and cell growth, due to its biocompatibility and wetness. But it has never been dried and used as an architectural material before.

"For the first time we have explored an architectural application of nanocellulose hydrogel. Specifically, we provided the so far missing knowledge on its design-related features, and showcased, with the help of our samples and prototypes, the tuneability of these features through custom digital design and robotic 3D printing," says Malgorzata Zboinska, lead author of the study from Chalmers University of Technology.

The team used nanocellulose fibres and water, with the addition of an algae-based material called alginate. The alginate allowed the researchers to produce a 3D printable material, since the alginate added an extra flexibility to the material when it dried.

Cellulose is coined as the most abundant eco-friendly alternative to plastic, as it is one of the byproducts of the world's largest industries. "The nanocellulose used in this study can be acquired from forestry, agriculture, paper mills and straw residues from agriculture. It is a very abundant material in that sense," says Malgorzata Zboinska.

Malgorzata Zboinska. Image credit: Chalmers University of Technology | Krystian Tadaj

3D printing and nanocellulose / A resource efficient technique

The architectural industry is today surrounded by access to digital technologies which allows for a wider range of new techniques to be used, but there is a gap in the knowledge of how these techniques can be applied. According to the European Green Deal, as of 2030, buildings in Europe must be more resource-efficient, and this can be achieved through elevated reuse and recycling of materials, such as with nanocellulose, an upcycled, byproduct from industry. At the same time as buildings are to become more circular, cutting-edge digital techniques are highlighted as important leverages for achieving these goals.

"3D printing is a very resource efficient technique. It allows us to make products without other things such as dies and casting forms, so there is less waste material. It is also very energy efficient. The robotic 3D printing system we employ does not use heat, just air pressure. This saves a lot of energy as we are only working at room temperature," says Malgorzata Zboinska.

The energy efficient process relies on the shear thinning properties of the nanocellulose hydrogel. When you apply pressure it liquifies allowing it to be 3D printed, but when you take away the pressure it maintains its shape. This allows the researchers to work without the energy intensive processes that are commonplace in the construction industry.

Malgorzata Zboinska and her team designed many different toolpaths to be used in the robotic 3D printing process to see how the nanocellulose hydrogel would behave when it dried in different shapes and patterns. These dried shapes could then be applied as a basis to design a wide array of architectural standalone components, such as lightweight room dividers, blinds, and wall panel systems. They could also form the basis for coatings of existing building components, such as tiles to clad walls, acoustic elements for damping sound, and combined with other materials to clad skeleton walls.

The future of greener building materials

"Traditional building materials are designed to last for hundreds of years. Usually, they have predictable behaviours and homogenous properties. We have concrete, glass and all kinds of hard materials that endure and we know how they will age over time. Contrary to this, biobased materials contain organic matter, that is from the outset designed to biodegrade and cycle back into nature. We, therefore, need to acquire completely new knowledge on how we could apply them in architecture, and how we could embrace their shorter life cycle loops and heterogenous behaviour patterns, resembling more those found in nature rather than in an artificial and fully controlled environment. Design researchers and architects are now intensely searching for ways of designing products made from these materials, both for function and for aesthetics," says Malgorzata Zboinska.

This study provides the first steps to demonstrate the upscaling potentials of ambient-dried, 3D-printed nanocellulose membrane constructs, as well as a new understanding of the relationship between the design of the material's deposition pathways via 3D printing, and the dimensional, textural, and geometric effects in the final constructs. This knowledge is a necessary stepping stone that will allow Malgorzata Zboinska and her team to develop, through further

Image credit: Chalmers University of Technology | Emma Fry

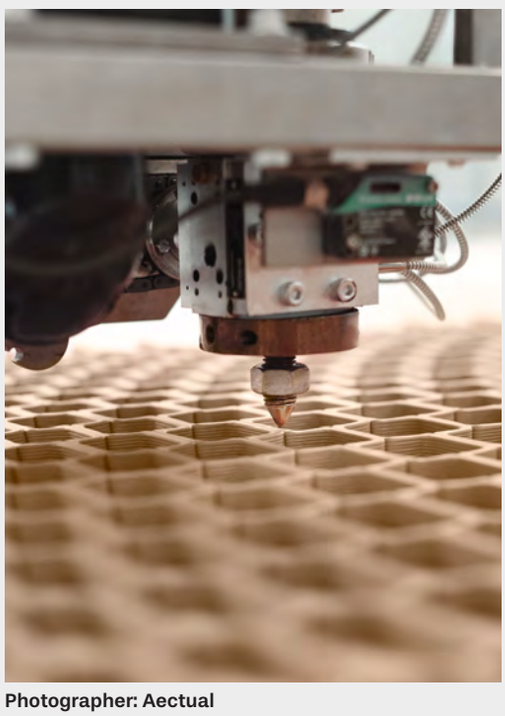
research, applications of nanocellulose in architectural products that need to meet specific functional and aesthetic user requirements.

"The yet not fully known properties of novel biobased materials prompt architectural researchers to establish alternative approaches to designing these new products, not only in terms of the functional qualities, but also the acceptance from the users. The aesthetics of biobased materials are an important part of this. If we are to propose these biobased materials to society and people, we need to work with the design as well. This becomes a very strong element for the acceptance of these materials. If people do not accept them, we will not reach the goals of a circular economy and sustainable built environment".

Products

Aectual launches 3D printed wood

Photographer: Aectual



Photographer: Aectual

Aectual's Wood Series kicks off with customizable partition screens and window coverings, marking the release of a growing 3D Printed Wood collection. The innovative material perfectly aligns with Aectuals Circular mission, because it stores CO2, is fully biodegradable, and can be re-printed after use.

Aectual, the world's leading furniture and finishes manufacturing platform that creates products in a circular loop via XL 3D printing of recycled waste materials, has launched 3D Printed Wood. Derived from wood-waste residue, the material blends natural ingredients including lignin and cellulose, mirroring the composition, colour, and scent of wood. Its mechanical and physical properties make it ideal for high-quality 3D printing.

The Wood Series kicks off with Aectual's most beloved screen designs, the Curve, Nazka, and Mesh systems. Each system has its own unique customization features, enabling designers to create a totally bespoke look. The collection also debuts the innovative 'Stripe Ava' screen design system, drawing inspiration from mid century brise soleil patterns. This system offers designers freedom to compose their unique pattern, playing with horizontal, vertical, and diagonal lines.

Versatility is key with these wooden screens, which can serve as wall paneling, room dividers, or window blinds. Their adaptability makes them perfect for office spaces, providing privacy screens or elegant dividers for open-plan layouts. Digitally tailored to exact specifications, they boast a maximum dimension of 1 x 2 metres. Connect them with nearly invisible seams to create larger areas, maintaining uninterrupted graphic design continuity across the entire surface.

The Wood Series seamlessly aligns with biophilic design principles. Its core attribute lies in its sustainability, as it stores CO2 within its material and is fully biodegradable. Derived from wood residue, the lignin- and cellulose-based material is reinforced with vegetable fibers such as flax or hemp for enhanced durability. Post-use, the products are reclaimed, shredded, and reprinted, ensuring a fully circular lifecycle.

All products come in three colours, Birch, Ash, and Oak. The specific nature of the wooden material combined with the visible 3D printed lines give the screens an extra level of depth and tactility.

With the expansion of its material portfolio with 3D Printed Wood, Aectual will introduce a growing selection of its diverse product range in this innovative material.

Redwood Tribe Shared Restaurant

Aerial view of the project and its surroundings.

Project Name:
Redwood Tribe Shared Restaurant

Project Location:
Hongqiyang Village, Puyuan Town, Tongxiang City, Jiaxing City, Zhejiang Province

Developer:
Tongxiang Puyuan New Rural Construction and Development Co., Ltd.

EPC:
Xband Group

Design Firm:
y.ad studio

Design Collaboration:
Shanghai Times Architecture Design Co., Ltd.

Gross Floor Area:
1,318.38 square metres

Main Materials:
Laminated bamboo panel, wood veneer, textured paint, AL-Mg-Mn alloy panel, aluminum plate, gray brick

Design Period:
December 2021-July 2022

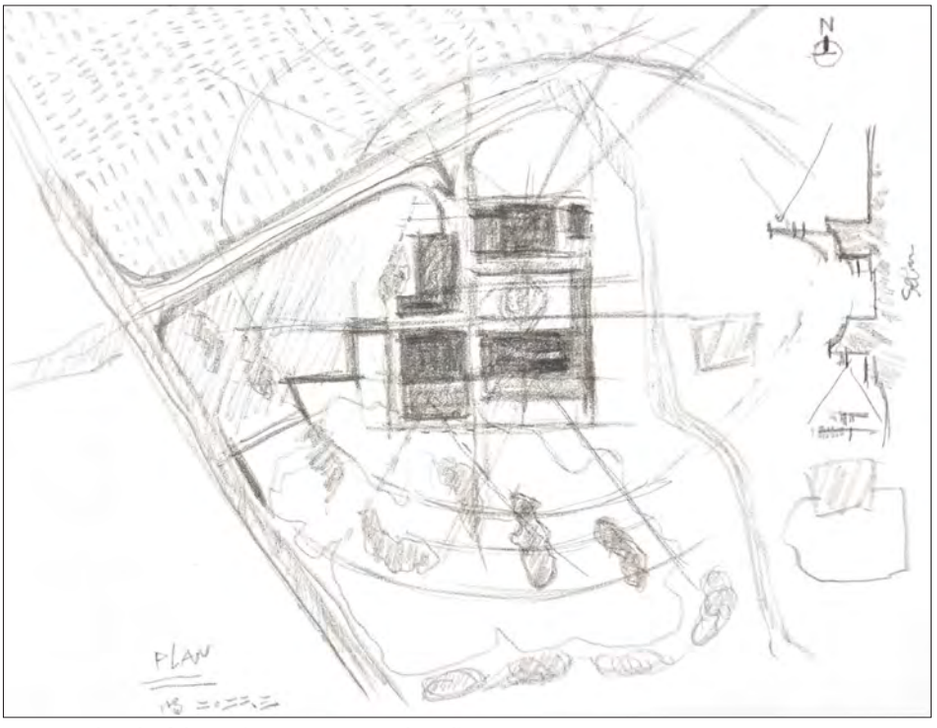
Construction Period:
July 2022-August 2023

Photography:
Su Shengliang

Nestled in the serene Hongqiyang Village, Tongxiang City, Zhejiang Province, the project site once was a local folk house. To its north lies a vast expanse of lush rice fields, while to its south, a tranquil pond cultivates a majestic forest of dawn redwoods. Boasting a breathtaking panorama of the forest, the site attracts crowds to admire the red leaves in autumn. During the architects' inaugural site visit, though the leaves had already fallen, a different allure captivated their senses. The team envisioned harnessing the existing ecological conditions to its fullest potential. The harmonious fusion of the building with its natural surroundings emerged as a pivotal consideration and guiding principle in the design process.

The project is intended to serve as a restaurant that integrates the functions of a public station and an observation tower. Following the organization of the main entrance and logistical circulation, the architect strategically dispersed these functions into four distinct blocks around a central courtyard, weaving a tapestry of parallel and three-dimensional spaces through interconnecting

Daylight penetrates through the roof ridge.



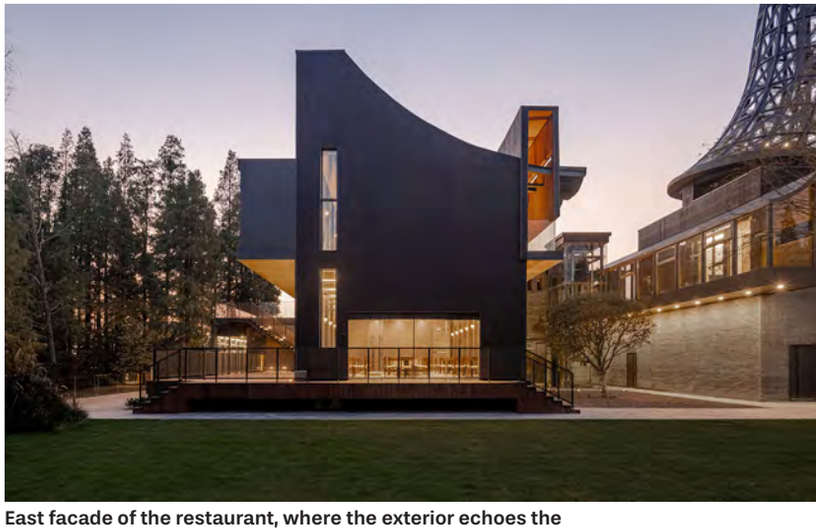
Concept sketch of the project. Image: © y.ad studio

corridors and vertical stairs among the blocks. The dining area was positioned adjacent to the pond and the dawn redwood grove. Through elevated terraces and a stacking approach, the dining space offers better landscape views and creates an immersive, water-centric ambiance. Outside the building, there are porches, scenic pathways, tourist deck promenades, and recreational lawns. These meticulously planned roads and tourist pathways enable a harmonious interplay of the site, structures, visitors, ponds, and metasequoia forests, fostering a dynamic interactive environment. The scenery viewed from inside the building, the curated interplay of light and shadow, and the purposeful spatial experiences converge to forge a profound connection between individuals and nature, seamlessly connecting people with the outside world.

A pitched roof was adopted to adapt to the abundant rainfall in this region while paying homage to traditional Jiangnan architectural style. The observation tower, resembling a tall tree, seamlessly integrates with the towering dawn redwood forest canopy, echoing the graceful arc of the roofline. Innovatively departing from the conventional single-slope structure, the building's roof features dual dynamic twists and curves, breaking free from monotony. By incorporating openings at the roof ridge where these curved surfaces converge, natural light penetrates inside, casting interplays of light and shadow along the undulating surfaces. This design not only creates a unique spatial ambiance but also imbues the indoor space with evolving moods that shift with the weather and daylight.

Laminated bamboo panels are used as the primary facade material, with a darker hue that elegantly complements the natural surroundings and vegetation, merging with the context harmoniously and unobtrusively and fostering a profound sense of tranquility and an intimate connection with nature. Visitors are embraced by a woodland-like atmosphere, enhancing their immersion in the natural setting. The landscape tower, adorned in black, further enhances the immersive experience. From its vantage point, visitors can gaze out over the fields and woodlands below, as if being perched atop the tree canopy, fostering a deeper connection between people and nature.

The interpenetration of the waterfront terrace, pond and metasequoia forest.



East facade of the restaurant, where the exterior echoes the observation tower.

Positive Signs Boost Confidence in Vietnam Real Estate Market

Ronald Tay. Photo credit: CapitaLand Development

CapitaLand Development (CLD), the development arm of CapitaLand Group (CapitaLand), aims to grow its residential portfolio in Vietnam to 27,000 units by 2028. This was recently announced at the groundbreaking ceremonies for CLD's latest residential projects 'Sycamore' in Binh Duong province and 'Lumi Hanoi' in Hanoi, which took place on 28 February 2024 and 1 March 2024 respectively. In this interview, **Ronald Tay,** CEO of CapitaLand Development (Vietnam), tells us the opportunities and challenges in Vietnam's residential sector.

Q: Today, CLD's portfolio in Vietnam comprises one retail mall, one SOHO development, two integrated developments, and about 16,000 quality homes across 17 residential developments in Hanoi, Ho Chi Minh City and Binh Duong province. Why is CLD making such huge investments in Vietnam?

A: The Vietnamese government began to actively welcome foreign investments from the 1990s, and CapitaLand entered Vietnam in 1994. This allowed us to witness up close the country's remarkable transformation from its traditional agrarian roots to a more industrialised and market-driven economy. This transition has led to considerable economic advancement, propelling Vietnam to become one of the fastest-growing economies in the region and the world.

Vietnam is one of three core markets for CLD, primarily due to its young and dynamic population, rising middle class and rapid urbanisation. These factors collectively spur the demand for high-quality housing. Vietnam's economic evolution is reflected in its real estate sector, which has undergone notable expansion in recent years. Urban centres like Hanoi and Ho Chi Minh City have experienced a surge in high-rise residential developments, commercial properties and retail establishments.

CapitaLand's operations in Vietnam started with serviced residence and commercial projects. We then embarked on residential developments in 2007 with The Vista in Ho Chi Minh City. Through three decades of efforts, we are heartened to have built strong brand recognition for CapitaLand as a trusted developer of choice in Vietnam, known for our quality residential offerings. The strong foundation we have laid has given us the confidence to continue investing into the country and we are committed to being a long-term partner that contributes towards Vietnam's economic development.

In addition to Vietnam's residential sector, we see the potential to tap real estate opportunities in its burgeoning commercial, industrial and logistics sectors in tandem with the country's ascent as a global manufacturing hub.

Q: Sycamore and Lumi Hanoi are CLD's largest residential projects in Vietnam to date with about 7,500 units in total and a combined gross development value of over S$2 billion (VND 36 trillion). Could you tell us more about these projects?

A: Sycamore marks our first entry beyond Ho Chi Minh City and Hanoi, demonstrating our strategic expansion into the greater Ho Chi Minh City and Hanoi, including the high-potential province of Binh Duong due to its strategic position, conducive business climate, and high-quality infrastructure.

Sycamore is located in Binh Duong New City within Binh Duong province, a fast-growing key economic zone beyond Hanoi and Ho Chi Minh City. Slated to launch in 2Q 2024, Sycamore has a projected total gross development value of over S$1 billion (VND 18 trillion). With about 3,500 freehold units across a mix of low-, mid- and high-rise residential developments, Sycamore provides homes for an estimated 13,000 residents on a site measuring 18.9 hectares. The design of Sycamore incorporates lush greenery, providing an estimated 80 percent shade coverage for the communal areas to mitigate urban heat island effect while enhancing wellness for residents. Its other sustainability and wellness features include rainwater harvesting, bicycle lots, pedestrian-friendly pavements and abundant community spaces. The first phase is scheduled to be completed in 2024, and the rest of the project is targeting completion by 2027.

> "We are bringing the sustainability capabilities we have built over the years to our projects in Vietnam." — **Ronald Tay**

Lumi Hanoi is a high-end residential project on a prime site in the West of Hanoi

Sycamore. Photo credit: CapitaLand Development

with a projected gross development value of over S$1 billion (VND 18 trillion). Covering a total land area of about 5.6 hectares, the project comprises about 4,000 units across nine 29- to 35-storey towers to be developed over phases. The development offers more than 80 facilities for residents of all ages, including 15 sports courts and various pools to promote an active lifestyle. Slated for launch in 2Q 2024 as well, Lumi Hanoi won three awards at PropertyGuru Vietnam Property Awards (VPA) 2023 in the design and development categories for its distinctive design, lush greenery, and comprehensive facilities that cater to the needs and aspirations of discerning homebuyers.

To bring these mega developments to fruition, CLD has strategic tie-ups with reputable and like-minded local and foreign partners, namely United Overseas Australia (UOA) Group on Sycamore, and a joint venture with Mitsubishi Estate and Far East Organization on Lumi Hanoi.

Q: Vietnam is a good example of rapid urbanisation growth in Southeast Asia. However the urbanisation process comes with some challenges. In your experience, what difficulties has CLD faced and how did it overcome them?

A: Typical challenges faced by countries undergoing rapid urbanisation include pressure on infrastructure and environmental concerns. In Vietnam's case, much of the focus now is on ensuring that the urbanisation process is economically, environmentally and socially sustainable in the long-term. While there are challenges, the future looks promising with support from government policies and a genuine market demand.

On CLD's end, we are taking on challenges head on by turning them into opportunities. To help spread the benefits of urbanisation, we are looking at diversifying our investments beyond the high-growth urban centres like Ho Chi Minh City and Hanoi to their surrounding key cities and provinces as well.

A case in point is Sycamore, our 3,500-unit mega project in Binh Duong New City, Binh Duong province, which is

Lumi Hanoi. Photo credit: CapitaLand Development

about 30 kilometres from Ho Chi Minh City. Our development of Sycamore will complement the local authorities' plan to transform Binh Duong New City to a modern city by catering to the demand for quality homes from professionals, young families and expatriates working in the surrounding industrial hubs and business parks.

In addition, we are bringing the sustainability capabilities we have built over the years to our projects in Vietnam. To illustrate, Sycamore is designed to set a new benchmark for residential living in Binh Duong province by incorporating biophilic and sustainable features to meet the aspirations of eco-conscious homeowners and encourage more to lead sustainable lifestyles.

Sycamore is slated to introduce Binh Duong New City's first electric vehicle (EV)-ready development and its sustainable transport infrastructure also includes bicycle lanes and pedestrian-friendly pavements.

Sycamore also features lush greeneries to mitigate urban heat island effect while enhancing wellness for residents. Harnessing the large surface area as a rainwater harvesting area, Sycamore is projected to save 7 million litres of water for landscape irrigation annually.

Q: CLD aims to grow its residential portfolio in Vietnam to 27,000 units by 2028. How close is the company to achieving this target?

A: CLD is steadfast in its journey to become the developer of choice in Vietnam, a vision supported by the nation's robust economic fundamentals, favourable demographics and increasing urbanisation. To achieve CLD's target of adding another 11,000 residential units in the next five years, we will step up our capital deployment in Vietnam and expand our development pipeline through strategic tie-ups with reputable and like-minded local and foreign partners. We will focus on well-located large-scale projects in key cities – including Hanoi, Ho Chi Minh City, and up-and-coming provinces nearby such as Binh Duong province – to capitalise on CLD's unique end-to-end expertise across the real estate value chain in multiple asset classes as well as our competitive advantages in master planning and sustainability. Moreover, our dedication extends to uplifting communities where work, life, and leisure converge seamlessly, enhancing the quality of life for residents and setting new standards for living spaces in Vietnam.

Q: In recent years, there has been a surge in green building certifications in Vietnam. And CLD is a huge advocate of sustainable practices. How do the company's investments in Vietnam align with the company's sustainability commitment?

A: As Vietnam increasingly emphasises sustainable development, new opportunities that play to CLD's strengths in sustainability have emerged. As a responsible real estate company, CLD creates quality spaces for work, live and play through sustainable and innovative solutions and contributes to the environmental and social well-being of the communities.

Over the years, we have been consistently implementing environmentally conscious designs, using low-impact construction materials, and installing energy- and waste-efficient systems for its developments. For example, both Sycamore and Lumi Hanoi are designed to achieve EDGE (Excellence in Design for Greater Efficiencies) certification issued by the International Finance Corporation (IFC). We are proud to have earned the distinction of Best Sustainable Developer twice at the PropertyGuru VPA.

CLD also uplifts communities through the Group's philanthropic arm, CapitaLand Hope Foundation, by supporting education, health and well-being initiatives for children, youth and seniors. Most recently, we pledged US$30,000 for children's education in the "Together We Step: Step For Kindness" campaign in Binh Duong Province. This campaign, organised in collaboration with the Binh Duong Provincial Red Cross Society, focuses on enhancing the nutritional well-being of young learners by refurbishing the kitchen facilities at Thanh Tuyen Kindergarten. Our contribution underscores our dedication to fostering healthier and more conducive learning environments for the students.

At a glance: CLD's projects and activities in Vietnam

- **20 February 2023:** CapitaLand Development partners Toong to set up first coworking space in a small office/home office development in Vietnam at SOHO @ Heritage West Lake
- **20 March 2023:** SOHO @ Heritage West Lake is 100 percent booked at the exclusive launch
- **1 June 2023:** CapitaLand Development distributes school essentials to 1,400 students across four schools in Vietnam under the CapitaLand Hope School Programme
- **13 October 2023:** CapitaLand Development presents keys to homeowners of De La Sol's high-end apartments
- **6 November 2023:** CapitaLand Development introduces Lumi Hanoi, a 4,000-unit high-end residential project in the West of Hanoi with a projected gross development value of S$1 billion
- **13 November 2023:** CapitaLand Development sweeps seven awards at PropertyGuru Vietnam Property Awards 2023
- **19 January 2024:** CapitaLand Development presents keys to homeowners of DEFINE luxury residential project in Thu Duc City
- **23 February 2024:** CapitaLand Development pledges US$30,000 for children's education in Binh Duong Province with "Together We Step: Step For Kindness" campaign"
- **4 March 2024:** CapitaLand Development aims to grow its residential portfolio in Vietnam to 27,000 units by 2028
- **1 April 2024:** Over 100 million steps logged in CapitaLand's "Together We Step: Step For Kindness Campaign

KONE recognized with 'A' score for performance on climate change

Finland, Helsinki — KONE Corporation, a global leader in the elevator and escalator industry, has been recognized for leadership in corporate transparency and performance on climate change, by the global environmental non-profit CDP, securing a place on its annual 'A List'.

Based on data reported through CDP's 2023 Climate Change questionnaire, KONE is one of a small number of companies to achieve an 'A' out of over 21,000 companies scored. KONE has disclosed through CDP since 2009 and this is the 11th consecutive year for KONE to receive a leadership score of A or A-.

"We are honoured by our latest CDP A score. Being a leader in sustainability has long been a strategic target for KONE and receiving a leadership score for the 11th consecutive year underlines our commitment and actions towards our climate pledge. Our environmental approach supports the ongoing green and digital transformation of the built environment into smart eco-cities, low-carbon communities, and net zero energy buildings," says Hanna Uusitalo, Vice President, Environment & Sustainability at KONE.

KONE has set ambitious long-term targets to reduce emissions according to the latest climate science. KONE targets a 40 percent reduction in the greenhouse gas emissions relative to orders received, related to the materials and lifetime energy use of own products and is committed to a 50 percent cut in the GHG emissions from own operations by 2030. KONE pledges to have carbon-neutral operations by 2030.

"Our dedication to our commitments is showcased by some of our recent achievements. Last summer, KONE became the first company in the industry to achieve carbon neutral manufacturing units globally, 18 months ahead of schedule. With our best-in-class energy efficient solutions, we have also reached a reduction in product and value chain related GHG emissions," Uusitalo continues. "At the same time, we know there is still a long way to go. Urgent actions are needed, and together with our customers and partners, we continue to innovate solutions to enable low-carbon cities of the future."

Fully TCFD (Task Force on Climate-related Financial Disclosures) aligned, CDP holds the largest environmental database in the world, and CDP scores are widely used to drive investment and procurement decisions towards a zero carbon, sustainable and resilient economy. In 2023, a record-breaking number of companies disclosed data on environmental impacts, risks and opportunities through CDP's platform.

A detailed and independent methodology is used by CDP to assess these companies, allocating a score of A to D- based on the comprehensiveness of disclosure, awareness and management of environmental risks and demonstration of best practices associated with environmental leadership, such as setting ambitious and meaningful targets.

Oatey acquires Durgo, expanding footprint in European and Asian plumbing markets

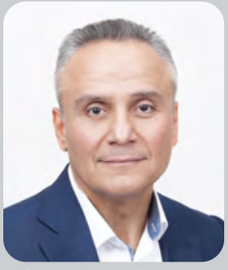
Cleveland, Ohio, USA — Oatey Co. (Oatey), a leader in the plumbing industry since 1916, has announced that its affiliate has acquired Aktibolaget Durgo (Durgo), a specialty developer and manufacturer of air admittance valves (AAVs) and other pressure regulating valves based in Stockholm, Sweden.

For more than 100 years, Durgo has been a leading manufacturer and highly respected brand in the plumbing industry throughout Europe and Asia. With a strong commitment to its Swedish craftsmanship tradition, the company has also embraced state-of-the-art technology to continue to achieve high standards of quality and safety.

"We are extremely pleased to add Durgo, its outstanding associates and its manufacturing capabilities to our organization as we continue to expand our global footprint," said Neal Restivo, Chief Executive Officer at Oatey.

"Since our founding in 1921, Durgo has been committed to development and manufacturing with precision and care to deliver high quality products for our customers," said Hans Widell, Managing Director of Durgo. "We are looking forward to continuing our tradition of craftsmanship as a part of Oatey, a company that shares our commitment to quality and excellence."

District cooling is becoming a sustainable approach to combating climate change and building a greener future. It involves using a central chiller plant to cool water, which is then circulated to multiple buildings to provide cooling. To tell us more about its benefits and its impact on cities, we invited **Ahmet Canpolat, Global Business Development Director** for Commercial Building from **Danfoss** to share his knowledge with us.



Ahmet Canpolat.
Photo credit: Danfoss

Q: Can you provide an overview of the demand for cooling in Singapore and Southeast Asia region?
A: Singapore and other Southeast Asia countries are located at the equator with tropical climate all year round. According to "The Future of Cooling in Southeast Asia" by IEA published in 2019, the increasing temperatures and higher incomes in the Southeast Asian region is set to lead to a skyrocketing of air-conditioner sales. The overall number of air-conditioner units in 2040 could rise from 40 million units in 2017 to 300 million units in 2040. The rising electricity demand from cooling alone is projected to require around 200 GW of additional generation capacity in 2040 and cooling could be responsible for as much as 30 percent share in the region's peak electricity demand.

Growing population, urbanization and economic growth are the main drivers of increasing demand for residential and commercial cooling in the Southeast Asia cities. By investing in district cooling system, cities can become much more energy efficient, and indirectly reducing CO_2 emissions.

Source:
1. https://www.iea.org/reports/the-future-of-cooling-in-southeast-asia

Q: Can you discuss the specific benefits of district cooling, especially in the context of Singapore and Southeast Asia region?
A: District cooling is a centralized solution for providing cost efficient and environment friendly cooling to buildings. It is also recognized as a climate-resilient, resource-efficient, low-carbon and affordable solution to improving energy efficiency of a building and mitigating climate changes in a wider perspective.

Q: How does district cooling work?
A: District cooling delivers chilled water to offices, shopping malls, apartments and other kinds of buildings that need indoor cooling. Through the district cooling network, the cooling plant pumps chilled supply water to buildings. The chilled water is fed into the individual buildings' own cooling systems through a heat exchanger.

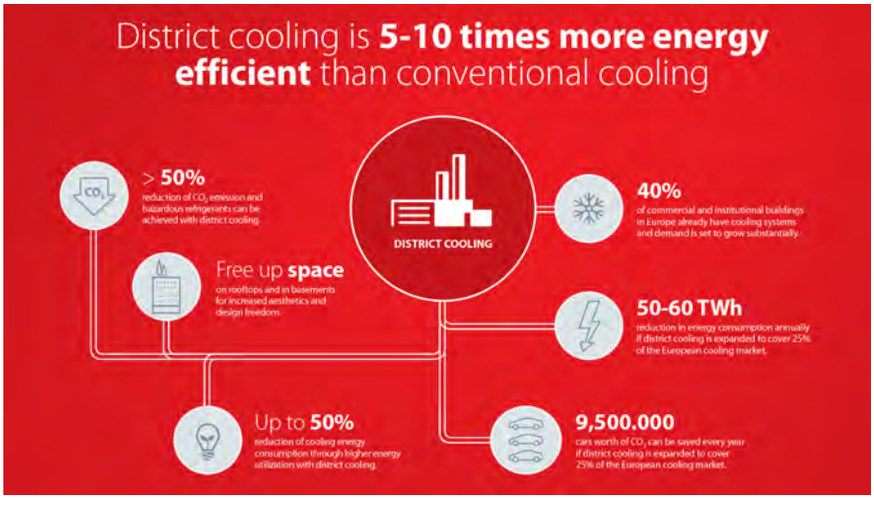
When the water has cooled the building, it returns to the cooling plant at a higher temperature where it is chilled again and redistributed in a closed loop.

The cold water used in district cooling normally comes from electric chillers but could also come from absorption chillers when there is a high temperature source available. District cooling also enables the so-called "free cooling" using water pumped from cold and local sources such as deep-sea water, rivers, or lakes.

A district cooling system can lead to 50 percent reduction of cooling energy consumption through higher energy efficiency. It can drastically reduce electricity use during peak demand periods too. A network with electric chillers for cold storage helps reduce peak electricity demand for cooling in a building by shifting production to periods of the day or night when there is less run on the electrical network.

Besides that, district cooling also helps to free up valuable spaces in a building compared to stand-alone cooling system. For instance, engine room of a basement can be replaced with Energy Transfer Stations (ETS) and used as a carpark or storage; rooftop chillers can be replaced with rooftop recreational facilities; large piping building network and chimney can be replaced with smaller pipework, freeing up more spaces for building primary use and contributing to a higher building value.

District cooling substations are relatively simple and well proven technology, hence resulting in lower maintenance costs compared to building level cooling units. The system also has architectural advantages, i.e. no need to consider cooling fans, chillers, and other auxiliary systems. Furthermore, it has less demand for technical staff on building level (building owners / operators).



Solutions for District Cooling. Photo credit: Danfoss

Q: What is Danfoss' approach to providing an integrated or one-stop district cooling solutions?

A: At Danfoss, we develop and produce all major components for our substations and flat stations in-house. Because we manufacture the key components ourselves, for instance Pressure Independent Control Valves (PICV), heat exchangers, variable speed drives (VSD), digital actuators, energy meters and many more, our customers will benefit from the optimized heat transfer and system control performance. Pressure, differential pressure, temperature and flow are integrated and automatically controlled on nearly all Danfoss substations.

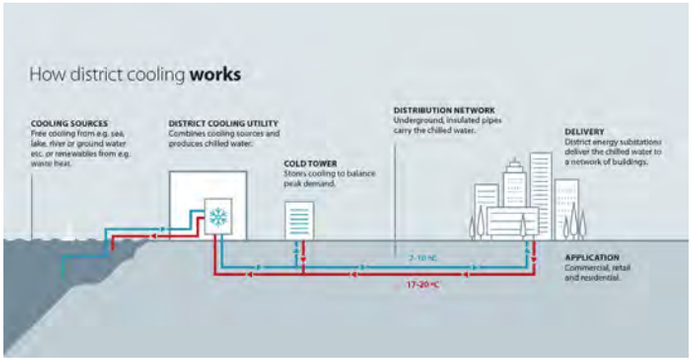
Digital solutions will play a key role in connecting district cooling in the wider energy system and managing complex networks by collecting data, predicting consumption patterns, and adjusting heat or cold supply accordingly – making the whole energy system smarter, more efficient and more reliable. Our intelligent VSDs or inverters which are applied on the chilled water pumps help to perform hydronic analysis to ensure proper pumps are selected. VSD are also installed at the condenser water pumps and cooling tower fans to optimize the performance of pumps and fans. The condition-based monitoring feature enables AC Drives to function as a sensor to detect motor winding damage, vibration from a motor and whenever a load curve moves above or under the baseline, enabling early detection of fault and preventing downtime.

We have setup a district cooling system mock-up in our Sustainability Technology Center (STC) in Singapore. Our STC not only aims to showcase the technology, but also functions as a hub for competence development and skills enhancement for the region. As the saying goes, seeing is believing. Our ambition is to bring different stakeholders together to understand the technology and co-develop district cooling solutions for our customers, speeding up the adoption rate of district cooling system in the Singapore and Southeast Asia.

Q: One of the major benefits of district cooling is the substantial energy savings. Does Danfoss have any case studies to show how its district cooling solutions resulted in lower energy consumption and reduced operational costs for the building?

A: Dubai mall was facing a very high cost of electricity especially for its cooling energy, which is about USD 45,000 a day. Also, they also received a big penalty due to low Delta T. By replacing approximately 2,300 conventional valves with Pressure Independent Control Valves (PICV's) and smart digital actuators with temperature sensors, a better hydronic balance was achieved and 20 percent reduction in cooling load with active Delta T management.

Another famous case story is the TRIIIPLE project in Vienna. It consists of three building towers, housing 500 apartments and 670 micro-apartments for students and young



How District Cooling Works. Photo credit: Danfoss

professionals. The buildings are cooled in a resource-saving manner using innovative technology. The river water from the nearby Danube Canal serves as an energy source. Danfoss VLT® AutomationDrive FC302 and VACON® 100 Flow are used in the hydroelectric power plant to ensure a reliable operation of the heat pumps and control the cooling and heating water pumps, while specially adapted Flat Stations are designed to fit the needs of the project and to ensure both, optimal feel-good climate as well as energy efficiency are achieved.

Q: What are some barriers in enabling and implementing district cooling?

A: There are a few common challenges when running district cooling systems, below are some of the most commonly discussed.

1. Finding space for the district cooling facilities such as technical components (in a building), thermal storage, pipe tracing (large dimensions) can pose challenges, especially in city center areas.
2. Low temperature and flow difference between the supply and return of chilled water, which is also commonly known as low Delta T syndrome.
3. Large upfront investments when only a few cooling costumer agreements are made or only a few cooling customers are connected.

To fulfil the growing cooling demand, more and more countries are realizing that district cooling delivers a simple, easy and cost-efficient way to provide cooling with high quality and consistent comfort using renewable energy sources. High focus needs to be put on planning, designing, building and operating the district cooling systems to avoid running into a situation that can greatly impact the cost efficiency of the whole system. We are confident that district cooling system can be adapted in the Southeast Asia countries. We have also seen a common nominator for district cooling system in Stockholm and Helsinki, that once it is started in a project, the need for district cooling will continue to grow until the market is fully saturated. Danfoss is here to tailor solutions and support the acceleration of district cooling adaptation.

Find out more about District Cooling at https://www.danfoss.com/en/markets/district-energy/dhs/district-cooling/#tab-overview

ebm-papst SEA announces change in Country Manager for Indonesia Sales Office

Singapore / Jakarta – ebm-papst, a leading manufacturer of fans and motors headquartered in Mulfingen, Germany is pleased to announce a change in leadership for its Indonesia Sales Office. After a rigorous selection process, the company is thrilled to welcome Harmain Said as the newly appointed Country Manager for its Indonesia operations.

Harmain brings a wealth of experience and a proven track record in the HVAC industry. An experienced aftermarket HVAC service operation and sales leader in reputable HVAC companies such as Johnson Controls (YORK), Daikin, and Carrier for the past 10 years, he brings extensive expertise in HVAC energy performance solutions and maintenance. His advocacy for holistic innovations, combining skill-based experience, domain knowledge, and smart tools, positions Harmain as a transformative leader. Armed with a Diploma in Engineering (Electrical) from Medan State Polytechnic and a Bachelor's Degree in Engineering (Electrical) from the University of Mercubuana Jakarta, Harmain is well-equipped to steer the company's team and propel growth in the dynamic Indonesian market.

As Torang Panjaitan steps down from the role, the company expresses its sincere appreciation for his 15 years of dedicated service and valuable contributions during his tenure with ebm-papst SEA. Torang played a pivotal role in establishing, and growing the Indonesia Sales Office, contributing significantly to building the ebm-papst brand in Indonesia since he joined ebm-papst SEA 15 years ago.

Mr. Harmain Said, Country Manager ebm-papst SEA Pte. Ltd. (Rep Office – Indonesia)

"We thank Torang for his long and strong support as part of the ebm-Papst family and especially for his strong customer focus that we look forward to continuing. It was a pleasure for us that he had been with us and we wish him all the best for his well-deserved retirement," said Thomas Schwab, Managing Director, ebm-papst SEA.

In Harmain Said, ebm-papst has found a leader who shares the company's commitment to making sustainable and intelligent solutions for a better climate. He will play a pivotal role in advancing the company's strategic initiatives and fostering strong relationships with its clients and partners in Indonesia.

Grundfos marks 40 years of pioneering innovative water solutions in Singapore

Singapore – Grundfos, a global leader in advanced pump solutions and water technologies, recently celebrated 40 years of operations in Singapore. Led by a steadfast commitment to drive sustainability through innovation, Grundfos remains resolute in fostering the green transition of Singapore and beyond by investing in research and development, strategic partnerships, and talent.

Established in 1984, Grundfos Singapore has grown to becomea key driver in the organisation's global organisations. With advanced and

Grundfos celebrates its 40th anniversary in Singapore. Photo credit: Grundfos

integrated manufacturing, assembly, testing capabilities, Grundfos Singapore also plays an integral role as the global headquarters of the Commercial Building Services (CBS) division.

Poul Due Jensen, Group President & CEO, Grundfos, said, "As Grundfos commemorates four decades of success in Singapore, we are grateful for the opportunity to celebrate this milestone alongside our talented team, dedicated partners, and valued customers who have trusted us every step of the way. Sustainability, innovation, and collaboration have been the cornerstones of our journey in Singapore, and they will continue to guide us as we leverage our experience and expertise to solve global water and climate challenges."

Eric Lai, Regional Managing Director, Industry – APAC & Country Director for Singapore, Grundfos, said, "Singapore's journey to sustainability has been a remarkable one, and we are honoured to have been a part of it for the past 40 years. This shared vision has pushed us to constantly innovate and develop solutions that make a difference, and we are proud to grow our talent pool by more than 6 percent in the past year and launch our new Sustainability Lab within our iSOLUTIONS Digital Lab in Singapore as part of our commitment. We look forward to continuing working alongside our partners and customers to accelerate innovation in water and energy efficiency, shaping a greener future for all."

FJ SafeSpace revolutionises indoor air purification

Singapore – FJ SafeSpace, a trailblazer in air purification solutions, claims to be revolutionising the industry with its usage of BioZone Advanced Photoplasma™ technology, a key component in their existing line-up of state-of-the-art air purification products and uHoo's advanced indoor air quality monitoring system.

In some instances, indoor air may be worse than outdoor air. A host of health symptoms experienced by many at work or at home are caused by indoor air pollution, chemicals, bacteria, viruses, mould, and even uncomfortable odours. Hence, FJ SafeSpace advocates the importance of keeping the air inside industrial, commercial and residential spaces clean and safe to protect the health of employees and loved ones.

BioZone's patented technology transforms atmospheric air into Cold Oxygen Plasma, also known as Photoplasma™ using a UV-Plasma lamp. Photoplasma™, a highly reactive oxygen species, actively seeks and annihilates airborne contaminants, mirroring the potent purification processes found in nature and serves as an eco-friendly, chemical-free and safe method for breaking down harmful pollutants, and ensuring cleaner air for all.

The advanced Photoplasma™ technology's uniqueness lies in its ability to quickly and actively tear apart both airborne & surface borne impurities and being able to cover non-airtight spaces and reach even non-UV accessible areas, making it an ideal solution for combatting a wide range of chemical and organic contaminants including yeast, mould, bacteria, fungi, odours and viruses. Through this process, FJ SafeSpace offers a versatile solution for diverse indoor environments and is improving the quality of people's life in variety of spaces, including homes, offices, malls, hospitals, gyms, hotels, airports and most recently, a leading Swiss private bank in Singapore.

BioZone PhotoPlasma™ air purification systems have also gained recognition from international authoritative organisations including HACCP Australia, SGS Fimko, Underwriters Laboratories, NSF, RoHS and are certified as Reach Compliant, attaining the ISO 14001 certification. Additionally, the Biozone Photoplasma™ technology has also been independently tested by CNRS, The National Scientific Research Center of France, proving its efficacy against the H5 Avian flu virus, by eliminating 99.9998 percent of the virus in less than 0.44 seconds.

PuriZone™ Series. Photo credits: FJ SafeSpace

AirCare Series. Photo credits: FJ SafeSpace

Mahindra Group and Johnson Controls launch net zero buildings initiative to decarbonize buildings in India

New Delhi, India – As India ramps up efforts to decarbonize its rapidly growing infrastructure of buildings, the Mahindra Group, one of India's leading industrial enterprises, and Johnson Controls (JCI), the global leader in smart, healthy and sustainable buildings, have announced a first of its kind Net Zero Buildings Initiative to decarbonize India's commercial, urban residential and public buildings. The joint initiative will simplify access to key information and resources to help organizations start their net zero buildings journeys.

"At Mahindra, we strongly believe in operating as a 'Planet Positive' organization. The group has undertaken multiple initiatives to decarbonize our operational infrastructure – leading to both financially and environmentally value accretive outcomes. We also understand the critical role of collaboration in accelerating a sustainable future, and hence join hands with Johnson Controls, leaders in net zero building solutions, to share our learnings and best practices with everyone" said Abanti Sankaranarayanan, Chief Group Public Affairs Officer and Group Executive Board Member.

According to the International Energy Agency, three-quarters of India's anticipated 2040 buildings have yet to be built. With the sector accounting for 20 percent of emissions and more than 30 percent of energy consumption in the country[1], the transition to smart and sustainable buildings is becoming an environmental and economic imperative.

"With India on the cusp of a building revolution, now is the time to actualize the benefits of smart and green buildings for India's economy and society," said George Oliver, Chairman and CEO of Johnson Controls. "The joining together of our two companies to develop this unique initiative is a natural fit – leveraging Johnson Controls' leadership in smart building technology and Mahindra's renowned multi-industry expertise and reach. We believe it will help guide and inspire a movement toward a more sustainable built environment, both in India and beyond."

The Net Zero Buildings Initiative – comprising a cost-free, all-in-one toolkit and training – will help building and facility owners learn about best practices of sustainable buildings, implement tools to assess building parameters, identify and implement conservation measures, and understand building regulations in India, available incentives, technology, financing models, and more.

Mahindra Group and Johnson Controls Leadership launches Net Zero Buildings Initiative. Photo source: Mahindra Group

Across Mahindra Group, Mahindra Holidays has increased energy efficiency by more than 50 percent across resorts, Mahindra Auto & Farm sector has increased energy productivity by more than 90 percent across factories, and Mahindra Lifespaces launched Mahindra Eden, India's first Net Zero Energy Residential building, that is expected to save over 1.8M kWh electricity annually. Similarly, Mahindra Logistics is investing to build energy efficient warehouses.

As part of the initiative, Mahindra and Johnson Controls will work closely with Indian national and state governments, think-tanks and industry associations, providing greater visibility on building data to aid in climate progress reporting and formulating strategies and frameworks.

[1] According to the Rocky Mountain Institute (https://rmi.org/indias-buildings-sector-moonshot-corporate-climate-commitments-can-forge-the-path/)

Suntec City Office Towers selects UnaBiz to enhance indoor air quality for tenant comfort

Singapore – Suntec City Office Towers, an iconic integrated commercial development located in the Marina Bay Precinct within Singapore's Central Business District, has embarked on a comprehensive refurbishment project with UnaBiz, Massive IoT service provider and integrator. The large-scale project includes the replacement of existing key equipment to enhance the reliability of the Air-Conditioning and Mechanical Ventilation (ACMV) system, and the installation of an indoor air quality (IAQ) monitoring solution to improve air quality standards and enhance the comfort of tenants in the office environment.

Suntec City is a landmark development which comprises five Grade A office

Image credit: APM Property Management

towers, a world-class convention and exhibition centre, and one of Singapore's largest shopping malls, all of which are interlinked by street-level plazas and underground walkways.

Over the next six months, UnaBiz will work together with ACMV expert, D-Team Engineering, to

1. Replace the Air Handling Unit (AHU) at the plant room located adjacent to the service corridor.
2. Replace the Variable Volume Air (VAV) Controller sets located within the office areas.
3. Deploy close to 800 wireless IAQ monitoring sensors and 50 LoRaWAN gateways to monitor the IAQ levels of all five Suntec City Office Towers to ensure consistent IAQ standards and monitor the performance of the new ACMV systems.

"Suntec City is dedicated to enhancing workspace comfort and upholding a commitment to environmental sustainability through the use of more energy-efficient equipment," said Steven Kong, Senior Manager of Operations of APM Property Management. "The main purpose of the rejuvenation plan is to help maintain comfort and a stable temperature in all five office towers. A data-driven ACMV system ensures good air quality for shoppers and tenants, while a high energy-efficiency system helps optimise energy consumption and reduce carbon emissions."

The Suntec office towers comprise five buildings named Towers One through Five with four containing 45 stories and one 18 stories. The latter has 28,000 square feet of net lettable floor area on each floor while the 45-storey towers consist of floor plates ranging from 10,000 to 14,000 square feet. UnaBiz will be installing Milesight IAQ sensors and gateways, with Actility ThingPark Enterprise on-premises IoT platform on a LoRaWAN network for this project. The deployment will be carried out in phases starting with Tower 4, followed by Tower 2, Tower 3, Tower, 1 and Tower 5. In total, there are about 2.3 million square feet of office space. Tower One to Four is 45-storey representing the 4 fingers and Tower 5 is 18-storey representing the thumb.

The IAQ sensor utilised by UnaBiz is a comprehensive 9-in-1 solution that integrates nine types of sensors to measure various ambience conditions including CO2 concentration, temperature, humidity, light, TVOC, barometric pressure, PM2.5, PM10, formaldehyde and motion. This energy-efficient sensor is designed for real-time monitoring and collecting reliable IAQ data 24/7.

Mr Jonathan Tan, Managing Director of UnaBiz Singapore said, "As an IoT service provider and integrator, we are pleased to work with D-Team Engineering, Actility and Milesight to help bring this project to life. The COVID-19 pandemic has demonstrated to us the importance of IAQ monitoring as the majority of us spend our time indoors. By integrating indoor IAQ monitoring with the new ACMV system, Suntec City can prioritise tenant well-being, and optimise airflow and energy consumption through data-driven ventilation. This integrated solution can help Suntec City achieve both their Social and Environmental goals."

"Actility is thrilled to provide its QoS-based LoRaWAN IoT mediation solution that will ensure reliable wireless communication towards the whole Suntec complex. Helping to solve real problems with improved air quality and reduced carbon emission is the goal of our communication solutions and part of Actility Core values. We are proud to partner with UnaBiz on such a large-scale project." said Alban Médici, APAC Managing Director of Actility.

"Milesight is dedicated to promoting greener buildings and enhancing the comfort of its tenants. Utilising our advanced 9-in-1 IAQ sensors and LoRaWAN gateways, building managers can enable optimised, data-driven air quality and streamlined operations for Suntec City Office Towers, effectively elevating its air quality standards and enhancing its tenant's comfort and well-being," said Leon Jiang, Vice President of Milesight.

The phased refurbishment works are expected to be completed by 2024 and will continue to strengthen the value propositions of the office towers.

Geo Connect Asia 2024 attracts 2,785 attendees, establishing itself as a must-attend event for the geospatial, remote sensing, digital construction and UAV industries

The fourth edition of Geo Connect Asia (GCA), the region's flagship trade event and conference for the geospatial, positioning and remote sensing industries, attracted 2,785 visitors, delegates and speakers from 52 countries and territories, says its organiser.

The show took place on 6 and 7 March 2024 at Sands Expo and Convention Centre in Singapore. It was co-located alongside Drones & Uncrewed Asia, Digital Construction Asia and the inaugural Marine & Hydro Asia.

With the theme "Geospatial Driven Impacts: Underground, Land and Sea to Sky," GCA 2024 attracted experts from Singapore-based and international companies, institutions, start-ups, and government agencies. Tech Talks spanning the entire geospatial spectrum, as well as presentations and panel discussions with 102 speakers, enabled pivotal discussions on the economic and societal impact of geospatial technologies.

Rupert Owen, Co-founder of Geo Connect Asia, said, "The mainstreaming of geospatial technologies has been a major theme of the 2024 event and is one that will accelerate as industry and governments successfully apply proven solutions. The growing international positioning of Geo Connect Asia assists in exchanging experiences across regions. The additional focus on digital construction, marine & hydro and the UAV marketplaces also drives focus on the value of data acquisition and sharing to enhance accuracy and the on-time scheduling and delivery of key projects."

At the GCA 2024 opening ceremony, attendees witnessed the signing of two landmark memoranda of understanding (MOUs). The first MOU was signed by the Singapore Land Authority (SLA) and the Ministry of Health's Office for Healthcare Transformation (MOHT) to enhance Singapore's Digital Local Connect initiative – a precinct-based digital resource guide designed to help residents access and navigate health and social services. The other MOU was between SLA and SingHealth Community Hospitals to co-develop a living asset map of community assets and activities. In his opening speech, Guest of Honour Minister Edwin Tong, Minister for Culture, Community and Youth and Second Minister for Law, said: "These platforms [such as Geo Connect Asia] provide opportunities for deep knowledge-sharing, experience building as well as community-building, which are all crucial to foster more fruitful collaborations. It goes without saying that today, countries are actively exchanging knowledge, sharing best practices, and really wanting to level up and gain knowledge from one another. I look forward to a lot more collaborations sparked off by Geo Connect Asia."

Supporting Organisations, the Geo Marketplace & Conferences

GCA 2024 received the support of Trimble as Platinum Sponsor, AECOM, and the Singapore Land Authority as

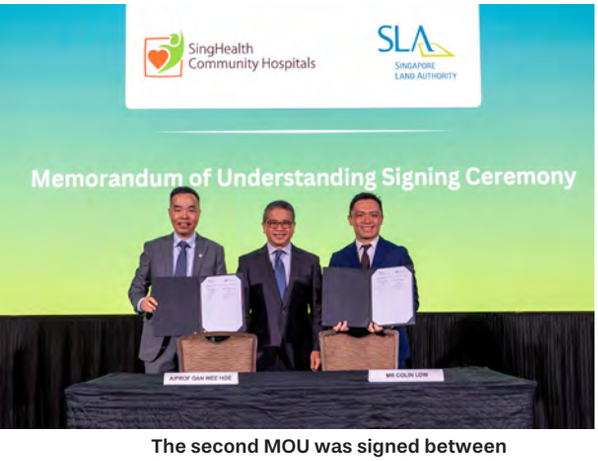
Rupert Owen, Co-Founder, Geo Connect Asia. Photo credit: Montgomery Asia

Yeoh Oon Jin, Chairman, Singapore Land Authority. Photo credit: Montgomery Asia

Guest of Honour Minister Edwin Tong, Minister for Culture, Community and Youth and Second Minister for Law. Photo credit: Montgomery Asia

The first MOU was signed by the Singapore Land Authority (SLA) and the Ministry of Health's Office for Healthcare Transformation (MOHT) to enhance Singapore's Digital Local Connect initiative – a precinct-based digital resource guide designed to help residents access and navigate health and social services. Photo credit: Montgomery Asia

Minister Edwin Tong was given a tour of the exhibition. Photo credit: Montgomery Asia



The second MOU was signed between Singapore Land Authority (SLA) and SingHealth Community Hospitals to co-develop a living asset map of community assets and activities. Photo credit: Montgomery Asia

Strategic Partners, among others.

At the combined co-located shows, visitors were able to interact with different products and prototypes, including drones, remote sensing-based laser scanners, mapping systems, and ground-penetrating radars, and the technologies that make the development of these tools possible. A wide variety of spatial analysis, UAV traffic management and visualisation software, and satellite communications services were also exhibited.

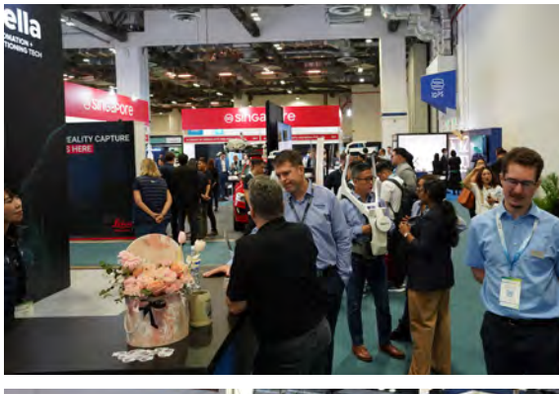
The Tech Talks, UAV Innovation Theatre and Digital Underground Connect featured a line-up of fireside chats and keynote speeches, where industry professionals had robust conversations on topics such as how geospatial technology can be harnessed to improve life quality, the use of AI in construction technology; geospatial drivers in speeding up the decarbonisation agenda; and mainstreaming geospatial technology for healthcare, community and sustainable development.

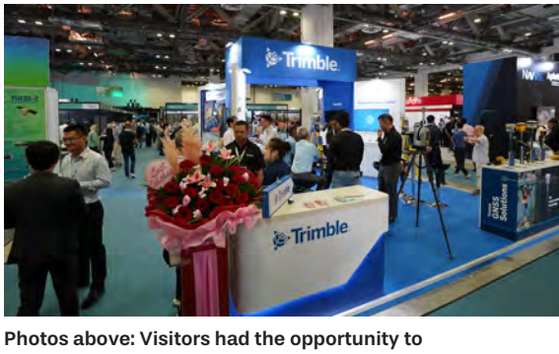
Business matching was a key driver of success at GCA 2024, with exhibitors, speakers and attendees given abundant opportunities to connect, network and explore potential synergies. This allowed attendees to identify complementary strengths and lay the groundwork for future business collaborations.

Scott Simmons, Chief Standards Officer of Open Geospatial Consortium, said, "We are witnessing the exponential growth and transformative impact of geospatial technology across economies, infrastructure and everyday lives. Geo Connect Asia serves as an excellent platform for industry leaders and stakeholders to build cross-border networks, explore innovative solutions, and propel the geospatial industry forward for a more sustainable and connected future."

GCA will return on April 9th and 10th, 2025, with numerous industry partners expressing strong and continued support.

For the latest updates and announcements, visit www.GeoConnectAsia.com.





Photos above: Visitors had the opportunity to see a wide range of geospatial solutions on display as well as attend the Tech Talks. Photo credits: Montgomery Asia

Alphaswift offers ready-made drone and custom drone solutions

Alphaswift Industries is a top-notch drone manufacturing company in Malaysia. The company provides customised drones (UAV) and robotics design and development for industrial clients.

Based on clients' requirements, Alphaswift can provide the best combination of drones, robots, ground control stations, and specialised payloads to maximise efficiency.

Commenting on the company's services, Edward Lim, Chief Marketing Officer, Alphaswift Industries said: "We offer customisable drones for all types of industries. If there is demand from the construction industry, we can look into that too."

The company showcased some of its drones at GeoConnect Asia 2024 show.

For more information, visit www.alphaswift.com.

Edward Lim at the Alphaswift booth.

Breaking boundaries: BIMAGE AI showcases AI mastery at Geo Connect Asia 2024

BIMAGE AI, a trailblazer in construction technology, also exhibited in Geo Connect Asia 2024. The company unveiled its expertise in AI Mastery and Analytics.

BIMAGE Consulting booth.

For more information, visit www.bimageconsulting.com.

Unlocking the potential of AI in construction

At Geo Connect Asia 2024, BIMAGE AI brought a revolutionary approach to construction leadership, integrating advanced AI solutions to redefine industry standards.

With a focus on harnessing the power of AI for enhanced geospatial intelligence, BIMAGE AI showcased its transformative capabilities in optimising site selection, project planning, and logistics.

Visitors to the company's booth had the opportunity to engage with its experts, explore live demonstrations and gain valuable insights into the future of construction technology.

"At BIMAGE AI, we believe that AI mastery is the key to unlocking new possibilities in construction. We are excited to showcase our expertise at Geo Connect Asia 2024 and demonstrate how data analytics can drive innovation and success in the industry," said a spokesperson from BIMAGE Consulting Pte Ltd.

BIMAGE Consulting showcased four products at the show: Autodesk AI, Openspace AI, Invigilio AI and Fuzor.

Leica Geosystems presents BLK ARC autonomous laser scanning module for robots

At Geo Connect Asia 2024, Leica Geosystems, part of Hexagon AB, presented an autonomous laser scanning module for robots called 'Leica BLK ARC'.

Leica BLK ARC is designed to be integrated with robotic carriers to enable autonomous mobile laser scanning with minimal or no human intervention. Users can simply plan a scan path and set BLK ARC off on its own to scan autonomously.

"The BLK ARC robot has many innovative features which can be used at construction sites. We hope to generate more interest for the product through its launch at Geo Connect Asia show," said Ahmad Nashriq Ferdaus, Regional Technical Support Engineer–Asia, Leica Geosystems Part of Hexagon AB.

Leica's first robotic carrier is the Boston Dynamics Spot robot. BLK ARC combined with Spot creates a fast, simple, safe and autonomous reality capture workflow. Together, they deliver fully autonomous and repeatable scan missions to capture 3D point clouds and panoramic imagery while Spot carries BLK ARC through an environment.

With BLK ARC UI, an easy-to-use browser-based user interface, users can plan scan paths remotely using existing drawings or BIM models of your building, including large and complex spaces. This enables the user to save time and allow BLK ARC to scan complex or hazardous environments while remaining in a safe location.

Addressing the need for efficiency and safety in repetitive and hazardous tasks, Leica BLK ARC brings innovative solutions to common industry challenges:

Photos courtesy of Leica Geosystems.

Construction Progress Checks: The BLK ARC system revolutionizes construction progress monitoring by enabling frequent and efficient checks. This automation greatly reduces the need for manual labour, making the process quicker and more accurate. By deploying BLK ARC, construction projects can ensure that progress is documented precisely and consistently, allowing for better project management and resource allocation.

Hazardous Material or Site Inspection: In environments that pose risks due to hazardous materials or conditions, such as utilities, recycling facilities, defense facilities, and caverns, the BLK ARC system offers a safer alternative to manual inspections. Its ability to autonomously navigate and scan these areas without direct human oversight minimizes the risk to personnel and ensures comprehensive data collection, even in challenging conditions.

Automation and Reduction of Labour Footprint: By incorporating the BLK ARC into their operations, industries can significantly reduce their labour footprint. This technology not only streamlines processes by automating tasks that traditionally required manual effort but also enhances workplace safety. The BLK ARC's autonomous capabilities allow it to undertake complex scanning tasks independently, demonstrating a significant advance in operational efficiency and safety standards.

For more information, visit www.leica-geosystems.com.

SatLab showcases full range of geospatial solutions at GCA

SatLab (Geosolution i Göteborg AB) is a Swedish based global satellite positioning solutions company with offices strategically located around the world.

At Geo Connect Asia 2024, SatLab demonstrated its full range of geospatial solutions, including:

- **Eyr GNSS RTK System:** A dual-camera GNSS RTK with advanced image positioning technology.
- **SLT12 Android Total Station:** An Android total station with real-time visual guidance for effortless field operations.
- **HydroBoat 1200 Unmanned Surface Vehicle:** A versatile and powerful USV for various hydrographic applications.
- **HydroFlow Acoustic Doppler Current Profiler:** A precise direct-reading ADCP for measuring water velocity and direction.
- **HydroBeam M4 Multi-Beam Echo Sounder:** A compact portable multi-beam bathymetric system for high-resolution underwater mapping.
- **Lixel X1 Handheld SLAM Scanner:** A portable and easy-to-use SLAM scanner for creating 3D models of indoor and outdoor environments.
- **APUS UAV LiDAR:** A light compact UAV LiDAR system for collect detailed 3D point cloud and rich image information.

The Lixel X1 real scene 3D reconstruction scanner – a compact, powerful, and precise LiDAR scanner for capturing real-world scenes and generating detailed 3D models instantly without post-processing. Powered by advanced SLAM technology, this lightweight and integrated device offers real-time data capture and immediate data preview. Applications include: Topographic Mapping; Agriculture & Forestry Survey; Engineering Survey; Emergency Mapping; Volume Calculation: and Underground Space Mapping.

SatLab Asia Pacific Team at GCA. Photo credit: SatLab

"We were very pleased with the turnout at Geo Connect Asia 2024," said Jerry, the deputy general manager of SatLab, "We had the opportunity to meet with potential customers and partners from all over Asia, and the event provided a valuable platform to showcase our latest innovations and connect with potential customers and partners from across the region. We are committed to providing cutting-edge solutions that empower our customers to achieve greater efficiency, productivity, and sustainability in their operations," added Jerry.

For more information, visit www.satlab.com.se.

Spatialworks showcases one-stop solution geospatial and hydrospatial capabilities

Spatialworks Sdn Bhd, a Geospatial and Hydrospatial consultancy company, also exhibited in GeoConnect Asia 2024 show. The company specialises in providing a complete spectrum of one-stop solutions and services from data acquisition to data analytics and visualization to both domestic and international, public and private sector clients.

"Our scope of services includes 3D (Mobile, Aerial, Terrestrial) mapping survey; Marine and Environment Survey; and Application Development and System Integration. We hope more people will get to know us and our services through this show," said M Faisal Abdul Rafar, Director, Corporate Strategy & Commercial Development, Spatialworks Sdn Bhd.

Spatialworks was established since 2000 and it is based in Putrajaya, Malaysia. The company has a highly focused, dedicated staff which comprise of geospatialist, hydrographer, geologist, environmentalist, system/data analysts, artificial intelligence experts, GIS experts and IT personnel.

For more information, visit www.spatialworks.com.my.

Faishal (centre) and his colleagues at the Spatialworks booth.

ATIS.cloud – A 3D point cloud visualization platform

ATIS.cloud is a collaborative SaaS web platform that lets you easily process, measure, visualize and share your point clouds.

ATIS.cloud claims to be the only platform compatible with all scanners for any type of point cloud. Companies include Faro, Viametris, Leica Geosystems, Trimble, Navvis, Matterport, Riegl and GeoSlam, among others...

"We are exhibiting at Geo Connect Asia for the first time and our aim is to promote our solution in Asia. You can host all your 3D data on our platform," said Alexis Ivanoff, Customer Success Manager, at ATIS.cloud.

ATIS.cloud is an easy to use web platform with an interface adapted for both insiders and outsiders. You can import models, create orthoimages, collaborate with all stakeholders and much more, all in one place.

For more information, visit www.atis.cloud.

Alexis at the ATIS.cloud booth.

GreenValley International offers technology for intelligent 3D mapping and surveying

Louise Yang at the GreenValley International booth.

GreenValley International (GVI) is a cutting-edge technology company based in Berkeley, California. The company specialises in intelligent 3D mapping and surveying. GVI offers a comprehensive range of aerial, terrestial and mobile LiDAR scanning systems, supported by state-of-the-art software and service solutions.

GVI exhibited in Geo Connect Asia 2024 for the first time to showcase its range of solutions. "We have products that deliver accurate, high-resolution data to our partners," said Louise Yang, Product Management Engineer, GreenValley International.

To accomplish this, GVI collaborates with leading innovators in the field, including Reigl, Velodyne, HESAI, and DJI. Through these partnerships, GVI continually expands its product offerings and integrates the latest advancements in remote sensing technology.

For more information, visit www.greenvalleyintl.com.

YMX Inc exhibits XR-based metaverse platform

At Geo Connect Asia 2024, YMX Inc showcased its XR-based metaverse platform called MXspace.

MXspace provides services necessary for the digital transformation of various industrial sites such as manufacturing, EPC, national defense and education. YMX also offers support for building customised services for each industry, from collaboration spaces to digital twins.

Charlotte Jang at the YMX booth.

The company's solutions include:
- Advanced 3D Data Visualisation
- Seamless Remote Work Collaboration
- Real-Time Communication in Virtual Space
- BIM-Based AR Quality Inspection
- Interactive Digital Training Simulator
- XR-Based Facility Inspection
- Innovative AR Data Integration

"It is a great opportunity to showcase our solutions and meet everyone at this show," said Charlotte Jang, Research Engineer, Strategy Team, YMX Inc.

For more information, visit www.ymx.co.kr.

Aptella presents the NavVis VLX mobile mapping system

There was a live demonstration of the NavVis VLX mobile mapping system at the NavVis and Aptella shared booth. Photo credit: Aptella

At Geo Connect Asia 2024, Aptella presented NavVis VLX– a mobile mapping system designed for laser scanning and AEC professionals. It offers many benefits for construction professionals.

Dynamic scanning

Versatility when you need it most. Up to 10 times faster than a terrestrial laser scanner, NavVis VLX can tackle anything from complex indoor spaces with poor lighting conditions to outdoor environments and construction sites.

Superb accuracy

For accuracy that exceeds industry standards, NavVis VLX is powered by precision SLAM technology that's entirely in a class of its own.

All-in-one reality capture

Capture 3D measurements with two multi-layer LiDAR sensors in combination with industry-leading SLAM software to deliver survey-grade point cloud quality. Four cameras positioned on top of the device take high resolution images in every direction for complete 360° capture – all without the operator appearing in the field of view.

Live mapping feedback

Monitor your scanning progress in real time with a built-in touchscreen interface, to ensure complete coverage as you move.

Precision meets ergonomics

A first-of-its-kind wearable device which enables operators to comfortably scan at the speed of walking. The forward-facing design allows for targeted scanning, together with a built-in screen for optimal viewing.

Vivian Pan (NavVis Team) (on the right) and Kelsey Hughes (NavVis Team) (on the left) at the NavVis and Aptella shared booth.

Georegistration

NavVis VLX is fully compatible with standard tools in the field and can capture control points in a local site coordinate system measured by a Total Station and also supports national and global coordinates for precise georegistration and alignment of datasets.

Folding design

The unique hinged design folds up and fits into a protective case, so that a single operator can easily transport and set up.

"Our mobile mapping system enables high-quality reality capture of complex buildings and construction sites and we have a live demo at the exhibition to show how it works," said Mae Hernandez, Business Development & Marketing Officer, Aptella.

For more information, please visit www.aptella.com/asia. Aptella is the authorized distributor of the NavVis VLX in Singapore, Malaysia, Indonesia, Australia and New Zealand.

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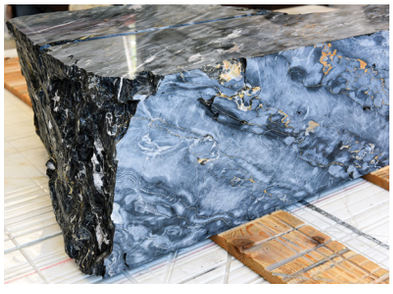

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PHILBEX Davao 2024	9–12 May 2024	Davao	Philippines	https://philbexdavao.com	67
Jakarta Surface Show 2024	6–8 June 2024	Jakarta	Indonesia	www.jakartasurfaceshow.com	66
Guangzhou Electrical Building Technology (GEBT) 2024	9–12 June 2024	Guangzhou	China	https://guangzhou-electrical-building-technology.hk.messefrankfurt.com/guangzhou/en.html	65
ARCHIDEX 2024	3–6 July 2024	Kuala Lumpur	Malaysia	https://archidex.com.my	IBC
PHILBEX Iloilo 2024	11–14 July 2024	Iloilo City	Philippines	https://philbex.ph/iloilo	67
CBA Expo 2024	22–24 Aug 2024	Bangkok	Thailand	www.consbuildasia.com	64
Shanghai Intelligent Building Technology (SIBT) 2024	3–5 Sept 2024	Shanghai	China	https://shanghai-intelligent-building-technology.hk.messefrankfurt.com/shanghai/en.html	68
BEX Asia 2024	4–6 Sept 2024	Singapore	Singapore	www.bex-asia.com	IFC
PHILBEX Cebu 2024	12–15 Sept 2024	Cebu	Philippines	https://philbex.ph/cebu	67
Thailand International Woodworking & Furniture Exhibition 2024	18–20 Sept 2024	Bangkok	Thailand	https://thailandwoodworking.com	69
Data Centre World Asia	9–10 Oct 2024	Singapore	Singapore	https://www.datacentreworldasia.com/	7

Legend: **IFC** (Inside Front Cover), **IBC** (Inside Back Cover), **OBC** (Outside Back Cover)

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