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SOUTHEAST ASIA BUILDING

November / December 2020

Courtyard in The Rajasthan School

Ras Village, Rajasthan, India

PROJECTS Educational Buildings

TRENDS Windows, Doors & Building Profiles

ARCHITECT'S CORNER Interviews on Workplace Design Post Covid-19

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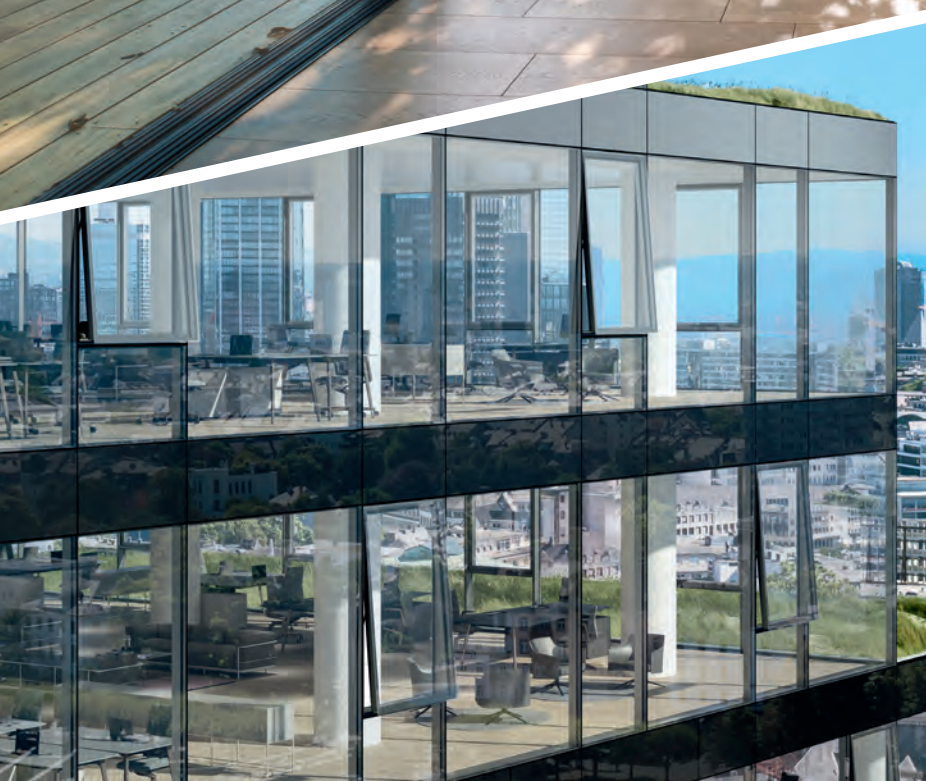
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On the Cover: The Rajasthan School in Ras Village, Rajasthan, India. Photo credit: Dinesh Mehta

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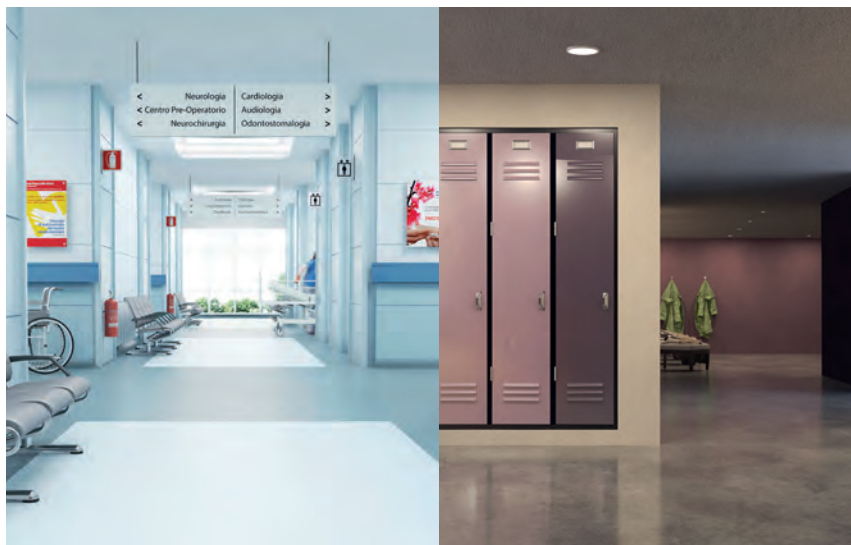


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Dear readers, hope all of you are keeping safe. The pandemic is not over yet, but many countries are easing their coronavirus lockdown restrictions.

Bars, restaurants, cinemas and businesses are slowly reopening after months with precautions and social distancing measures in place.

Employees are also coming back to their offices and expect that their companies have a safe working environment for them. In this issue, architects and interior designers tell us how workplace designs will change post Covid-19 and what changes they can expect now.

In the Projects section, we feature a wide range of educational buildings, which aim to showcase that design can be functional as well as aesthetics. Architects discuss how design can have an impact on the way students learn and play. Some of the new designs include open spaces, greenery, natural/recycled building materials and sustainable strategies.

We hope you enjoy reading the last issue of 2020. Next year, we will be back with more trending topics in the industry. Take care and see you again soon.

Amita Natverlal

NEXT ISSUE THEMES

- Projects – Conservation and Restoration
- Trends – Digital Architecture
- M.E.P. Systems (Refer to Media Kit)
- Products – Paints & Coatings (Advertorial)



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Bidadari Alkaff Crescent gets nature-themed playground based on cloud, mountain, sea and wetland elements

Singapore – Playpoint (Singapore) Pte Ltd has completed a new nature-themed playground for Bidadari Estate based on four natural elements: cloud, mountain, sea and wetland.

Within Singapore's diverse population, one of the key institutions that bind people together, is communal living in HDB communities. A major aspect of that includes shared spaces within these housing enclaves, like void decks and playgrounds, where residents of all ages converge.

The Bidadari Estate is a fairly new development and is rising in popularity among young families. Playpoint figured it would only be fitting to build new playgrounds in the estate, which would strengthen communities ties, give the estate its own identity, and give children an exciting play experience.

This playground project spans across three levels of a large development, and creating a unique identity for the site while giving each playground a distinct and unique theme is challenging. Being an ambitious company, Playpoint wanted a design that is woven between Nature and Bidadari geographical location. This design draws on the embodiment of different realms of nature with elements that are unique to each level as well as each space. Distilling down the latitudes in nature, Playpoint reinvented environments of water, mountains, clouds into play spaces.

Let's reinterpret and appreciate Nature

Inspired by what was once the old Alkaff Lake Gardens, on the lowest level is a water-themed playground. In line with the water theme, this playground features a gigantic wave structure that captures your attention the moment your gaze lands in that direction. This playground includes wave-like mounds that children can run atop, jump on, and slide down, almost like they are playing in water. There is also a hammock forest for resting and a big trampoline that can make children feel like they are floating. The bright blue hues of this playground, gives the surrounding areas a calming, yet inviting, view, and will complement

the new Alkaff Lake which is currently underway.

Similar to the sea-themed playground, the wetland playground draws inspiration from the rich nature surrounding the Bidadari estate. The wetland-themed playground sits at the middle level, and has a water lily flower structure forming the main visual piece. The striking water lily flower also forms a maze-like structure that children can run around. This playground includes multiple 'lily' platforms for children to run around, a trampoline, balance ropes, a spinning disk, and a toddler slide. The vivid green of the water lilies and contrasting hot pink of the flower offer a stunning visual sight, even to passers-by and adults supervising children.

Located at the top level are the mountain- and cloud-themed playgrounds, which correspond to the different layers of nature, and provide a different play experience from the two playgrounds at the lower levels. The mountain-themed play area provides a hilly terrain for children to climb and run around. It includes climbing ropes, a mountain slide, a crawling tube maze, spinning disks and a big trampoline. Children can role-play as hikers and mountaineers on this playground as they traverse the hills. While the other playgrounds have more vibrant, outstanding colours, the earthy colour scheme of the mountain-themed playground blends it in and seamlessly integrates it into its natural surroundings.

The last play area is a cloud-themed playground with a huge cloud centrepiece that will definitely not miss your eye. The lighter colour scheme and round arches transform this play area into a bright and visually soothing sky. Inside this gigantic structure, you will also find little bowls for lounging and spinning, a tube slide, and climbing ridges. To layered in more excitement, monkey bars and swings are added for the Drop!

These different play areas offer a variety of play options to children, which is sure to make every play session fun and different. Due to the differentiated spaces, this overall playground plan also



Wetland theme. Photo: © Playpoint



Cloud theme. Photo: © Playpoint



Mountain theme. Photo: © Playpoint



Sea theme. Photo: © Playpoint

minimises congestion at any one play area, and there is more than enough space for children to run around and share facilities. The overarching theme of the playgrounds is a reflection of the abundant nature of the Bidadari Estate, and a nod to the up and coming Alkaff Lake and Bidadari Park.

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Singapore's Town Councils take on Eco-Office Plus Challenge

Singapore – Tampines Town Council (TTC) is currently spearheading initiatives to engage residents as part of its push toward being an Eco-Town. As one of the initiatives, TTC has already taken the lead to get its office certified under Eco-Office Plus, an eco-certification administered by the Singapore Environment Council (SEC) that assesses green practices at the workplace.

Led by Dr Teo Ho Pin, former Coordinating Chairman of PAP Town Councils, TTC is the first town council to lead this Eco-Town initiative. As part of this initiative, TTC has already attained the Elite Tier, the highest of four categories under the Eco-Office Plus certification. It will also be leading a drive to get other town councils certified under Eco-Office Plus.

The Eco-Office Plus certification benefits town councils by providing clear guidance in increasing eco-consciousness amongst staff, the key foundation of any long-term green initiative. The certification features a tier system introduced in December 2018 that helps organisations improve over time, and to recognise their efforts and achievements. Ms. Cheng Li Hui, Chairman of Tampines Town Council said, "The Eco-Office Plus certification has helped empower us to take the lead in promoting environmental habits through the smallest of behavioural changes in our daily habits."

Ms. Jen Teo, Executive Director, Singapore Environment Council said, "Employee mindset and everyday practices hold the key as people lie at the heart of this shift towards a more sustainable workplace and future. This reflects our overall GreenDNA philosophy at SEC that every small change we do can have a great impact on action against climate change."

Getting the Eco-Office Plus certification and leading the push for the other town councils to getting certified is just one of the many initiatives that TTC has put into place. TTC has already been engaging its residents and grassroots with sustainability initiatives prior to their announcement as an Eco-Town during the Committee of Supply 2020.

Some of these initiatives include the composting of food waste to encourage residents to plant some food crops of their own, as well as reverse vending machines to facilitate recycling. These initiatives have seen high levels of residential engagement. TTC has also been actively going on trips to learn about sustainability initiatives at places such as Hort Park and Jurong Lake Park. TTC is also in talks with the Ministry of Sustainability and Environment (formerly the Ministry of the Environment and Water Resources) – in partnership with Singapore Power and Temasek – for the installation of smart electricity meters and "Eco-Boards" at HDB blocks. These new facilities enable residents to track



Artist's impression of vertical gardening.
Photo: © Tampines Town Council

usage of utilities such as electricity and water in the block, as well as organise block-wide competitions to conserve resources.

Dr Teo, former Coordinating Chairman of PAP Town Councils, said, "These efforts are small building blocks in transforming Singapore into a green society. We are excited to roll out these initiatives around Tampines as well as the rest of Singapore to encourage residents to work together and build a society for future generations of Singaporeans to live, work, and play in."



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Nippon Koei and Surbana Jurong partner to design sustainable and resilient urban development in Asia

Singapore – Nippon Koei, an international engineering consultant and Surbana Jurong, a global multidisciplinary urban and infrastructure design consultancy, have signed a Memorandum of Understanding (MOU), committing to deliver sustainable and resilient solutions to urban and infrastructure development projects worldwide. This is part of the firms' joint action on climate change mitigation and resiliency.

Under the MOU, Nippon Koei and Surbana Jurong will harness their combined knowledge and experience in climate change adaptation, resilience enhancement and smart technologies to deliver these solutions.

Each partner will bring complementary expertise to this collaboration. Nippon Koei has proven capabilities in disaster preparedness in Japan and government-funded projects in other countries including Official Development Assistance for world-class engineering design projects. Surbana Jurong, on the other hand, has a track record in delivering innovative and smart solutions for sustainability and resiliency



New Clark City in the Philippines. Photo: © AECOM

in master planning, urban, residential and industrial development, coastal protection and reclamation around the world.

Both consulting firms have been collaborating on sustainability and resiliency since 2018. A notable project is the 9,460-hectare New Clark City in the Philippines. Slated for completion in 2065, it will be the country's first smart,

green and disaster-resilient metropolis. Building on strong ties, Nippon Koei and Surbana Jurong will identify sustainable project opportunities globally, especially in Asia where public-private partnerships can encourage the adoption of smart technologies to scale up urban initiatives and solutions. This approach will contribute towards the shared vision of building sustainable and liveable cities.

Ken Wai, Aedas Global Design Principal, elected as RIBA Council member – Asia and Australasia

Hong Kong – The Royal Institute of British Architects (RIBA) has announced the results of its 2020 RIBA Council campaign on 11 August 2020. Honorary Chair of RIBA China Chapter and Aedas Global Design Principal Ken Wai has been elected as RIBA Council member – Asia and Australasia. His term starts on 1 September 2020.

Composed of 49 members, 4 seats are allocated to International representatives. Each representative is responsible for collecting insight from the architects' profession and to guide the strategic direction of the organisation.

"RIBA is undergoing a massive transformation with a new governance structure. This development provides members in Asia & Australasia a once in a century opportunity to embrace this change and vote for a new frontier. What the pandemic has taught us is to connect on a global level, collaborating, and not exist in silos. It is not about one country but everyone from New Zealand to ASEAN to South Asia to North Asia. Connecting Universities and students, bringing all, together to celebrate architecture and design excellence. Showcase in learning, thought leadership, global professional standards, and ethics of the RIBA through a collective voice," said Ken Wai.



Ken Wai. Photo: © Aedas



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100 businesses, organisations and governments from across the globe commit to net zero carbon buildings

London, UK – The World Green Building Council (WorldGBC) announced that five world-leading companies joined the Net Zero Carbon Buildings Commitment (the Commitment). These new additions bring the total number of signatories to 100, which is a doubling of participation in the programme in just over one year.

Since inception, businesses and organisations signed up to the Commitment now cover nearly 6,000 assets, over 32 million square metres total floor area and \$100 billion USD in annual turnover. By 2030, this means that the operational portfolio emissions of these Commitment signatories will be at net zero, affecting approximately 3.4 million tonnes of CO₂ (tCO₂e).

With the rapid growth and willingness to advance the net zero movement from private sector, WorldGBC calls for governments to #ActOnClimate as part of the 11th annual World Green Building Week event, happening 21 to 25 September 2020.

This steep rise signals a shift in momentum, ambition and leadership towards decarbonising the built environment as a way to combat the climate crisis.

These signatories range from small and medium enterprises to large, multi-national corporations, and span engineering, design and consultancy services to real estate owners and manufacturing. Their participation in the Commitment demonstrates that leadership towards net zero carbon buildings can be taken by any type of organisation across the world.

"Achieving this milestone, in less than two years since the launch, demonstrates the growing importance of net zero carbon buildings to governments, businesses and mayors," said Cristina Gamboa, CEO, World Green Building Council. "As countries look to recover from the economic impacts of COVID-19, there is an opportunity for net zero buildings to provide benefits for people, the planet and economies. By positioning net zero carbon buildings at the core of these recovery efforts, governments and policymakers can harness



Cristina Gamboa. Photo: © World Green Building Council

the incredible potential of net zero buildings to build back better and enable a green recovery," she added.

The new companies and organisations are committed to ensuring that all assets they own, occupy and/or develop under their direct control will operate at net zero carbon by 2030, or earlier.

The Commitment is unique in positioning energy efficiency as a central component to achieving decarbonisation across global portfolios, in addition to generating and procuring renewable energy to meet reduced energy demand. This represents the most cost-effective, best-practice approach to ensuring buildings are fit for purpose, future-proofed against climate impacts, and able to provide healthy and comfortable environments.

The new corporate signatories to the Commitment are: Mott MacDonald, QIC Global Real Estate (QIC), United Metal Coating LLC, Bioconstrucción y Energía Alternativa, and Tritax Big Box.

World Architecture Festival goes virtual in December, returning as live event in June 2021

London, UK – WAFVirtual will be launched from 30 November – 4 December 2020, where the worldwide architectural community can engage in a week of live content, special prizes, talks, panel discussions and networking opportunities with peers and our WAF partners. Registration will be free for

architects and design professionals.

Headline speakers will include Sir Peter Cook, Jeanne Gang of Studio Gang and Ben van Berkel of UNStudio. A series of talks will discuss pressing international topics including living with pandemics and winning new business in a post-Covid world, as well as looking

at the very latest developments in product design, technical innovation, and emerging architects.

There will also be coverage of special prizes including the WAF/ PechaKucha 'Isolation Transformed' competition, The Architecture Drawing Prize, and the GROHE Water Research Prize, entry

details below.

In addition, the first edition of WAF China will take place at the end of November, including online awards judging, talks, and a live ceremony in Chengdu. More details soon to be announced.

Due to the global impact of the Coronavirus pandemic, World Architecture Festival and INSIDE World Festival of Interiors will now take place from 23 to 25 June 2021, remaining at the FIL exhibition centre in Lisbon. The festival will continue to include live judging, keynote talks, fringe events, exhibitions, and award presentations.

The WAF awards entry deadline will be extended to 8 January 2021; all completed buildings up to that date may

be entered, as well as future projects, interiors, and landscape designs.

Commenting on the updated programme, WAF and INSIDE Programme Director Paul Finch commented: "We have been closely monitoring the ongoing pandemic situation, and, with safety being our number one priority, have concluded that postponement of the physical festival from the original December date is the best course of action for all concerned. We are turning the challenge of postponement into opportunities to provide additional online content and to expand the WAF brand in China. We look forward to being able to meet in happier and safer circumstances next June, and thank our partners, supporters, award entrants,



Logo: © World Architecture Festival

speakers and judges for their ongoing support."

For more details on World Architecture Festival 2021 or to register free for WAF Virtual in December 2020, visit www.worldarchitecturefestival.com.

ZAS unveils design for University of Toronto's new Learning Landscape

Toronto, Ontario, Canada – ZAS Architects, in collaboration with Denmark-based CEBRA Architecture, has unveiled the design for a new student-centred learning and support hub at the University of Toronto Scarborough Campus (UTSC). The new facility – Instructional Centre Phase 2 (IC-2) – is a dynamic learning landscape that promotes agile and asynchronous education through a complex arrangement of rooms and open public spaces spanning multiple floors.

"We envisioned a truly flexible environment that broke down traditional pedagogies and instead, encouraged a fluid learning experience unconfined by the walls of the classroom," said Paul Stevens, Founder, and Senior Principal at ZAS Architects. "Peer-to-peer learning is emulated in all aspects of the design."

Artificially-created terrain spills from the outside in, creating a hybrid of social and study areas that stimulate and support vibrant campus life. Students have access to a multitude of flexible, technology-enabled spaces, including 21 classrooms of various sizes and configurations ranging from a 500-seat



UTSC exterior back side night view. Rendering: © ZAS in collaboration with CEBRA.

auditorium to smaller 24-seat active learning environments.

The framed grid that forms the building's facade creates a design that combines various volumes, scales, surfaces and spatial qualities. Inspired by

the form of Printer's Tray predominantly used during the 19th Century, the building's four distinct facades mirror the tray's compartments and represent the diversity of spaces and educational environments within.

NEXT architects combines Chinese and Dutch cultures and creativity to create unique art village

Amsterdam, The Netherlands – China has undergone an unprecedented urbanisation process, from being a predominant rural society to having an estimated one billion Chinese living in cities in 2050. In this transformation so far, urban migration has left hundreds of thousands of villages abandoned. Many of these have dozens of generations of social, cultural and monumental value but are currently lacking major future significance.

To address this challenge, NEXT architects, together with IVEI (Dutch Institute for heritage and marketing), Smartland (landscape design), Total Design (graphic design) and numerous artists were asked by the Government of Jinxi, Jiangxi Province to develop a strategy for one of its 102 abandoned villages, Dafang. NEXT architects was responsible for the masterplan, architecture and interior.

"Rural revitalization is one of China's key future developments. We believe this asks for the design of balance between old and new, living and visiting, history and future," said John van de Water, partner NEXT architects Beijing.



Photo: © NEXT architects

Interventions are designed on three levels. Firstly, urban space, architecture and landscape are restored where possible, with new materials, creating a dialogue between old and new elements. For example: glass roof tiles are used to restore the roofs of the old houses and the ancient irrigation system has been restored adding elements such as a natural helophyte filter to clean the water.

Secondly, a watchtower and public hall have been added: new building structures that take cues from on-site precedents. In the centre of the village, a new public hall is realised. The hall is built on the former site of a courtyard building that was destroyed during the cultural revolution.

Thirdly, there is the programming of the spaces through art and activity. A new village museum, a library and artist studios are amongst the new functions that bring new life and creativity to the village. Artists are allowed to react on the village structures: to add, change, and transform its context. The floor of the public hall has for example been painted in a Mondrian-like pattern by a Chinese artist. Dutch artist Herman Lamers has installed an airplane in an old house, called 'The Dream'.

SOM and Fender Katsalidis to bring new, transformative public space and high-tech towers to Sydney, Australia

Chicago, Illinois, USA

– SOM and Fender Katsalidis have won an international design competition for Central Place Sydney, a \$2.5 billion commercial development that will contribute to Tech Central in Sydney's Central Business District.



Central Place Sydney. Image: © SOM and Fender Katsalidis

The design by SOM and Fender Katsalidis is set to transform the western edge of Central Station. New commercial buildings and public realm improvements will enhance this southern gateway to the CBD, revitalising and reconnecting the precinct to the city, and complementing the City of Sydney's plan to create a third new major civic square. The project is a partnership between developers Dexu and Frasers Property Australia.

The design for Central Place Sydney features two 37- and 39-storey commercial towers, woven together by a low-rise building anchoring the development and enlivening the precinct at street level. Landscaped public spaces surround the buildings, enhancing connections between neighbouring communities and the city's most prominent commercial axis.

Located at the southern edge of Henry Deane Plaza, the central building is a dynamic urban form that shapes the precinct's identity. It ascends in a series of tiers, which are staggered to open up garden terraces and views at each level. The curved sandstone forms respond to the scale and materiality of the precinct's existing character. The ground floor is highly permeable, accommodating a retail experience that flows into the plaza, while the upper commercial levels will be linked to the new towers to create campus-style floorplates.

"The building anchors the southern edge of the Plaza and combines creative workplaces, collaborative and community spaces, and active ground level retail along an internal pedestrian laneway. We aimed to create a place that's engaging both at street level and in its broader urban context," said Scott Duncan, Design Partner at SOM.

A core element of the Tech Central precinct, the project will encompass approximately 150,000 square metres of office and retail space. It will be one of the most sustainable commercial developments in Australia, with workplace environments that integrate nature and a range of amenities.



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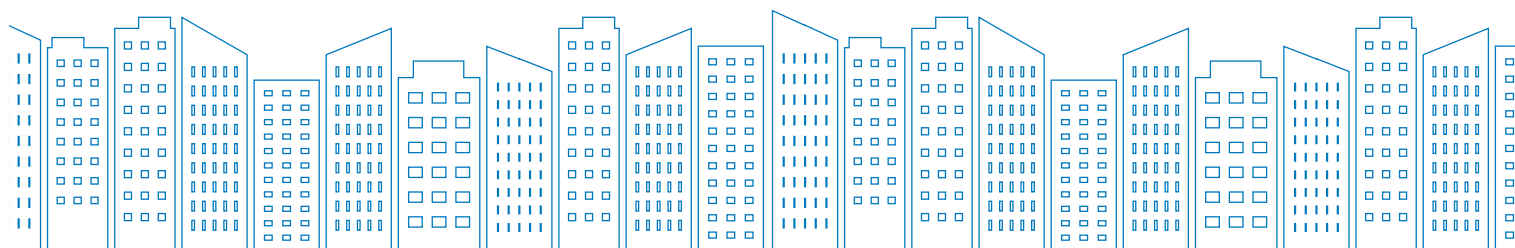
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Southeast Asia Building (SEAB), published bi-monthly since 1974, is a Singapore-based trade magazine devoted to Architecture, Interior Design, Landscaping and M&E Engineering available in print and on digital formats. SEAB is a free building trade journal circulated to more than 120,000 building professionals across Asia Pacific region.

Through our website, social media and messaging platforms, and mobile app, we aim to deliver concise, well-balanced reports which include industry news, project reports, product / technological updates, to our readers.

Green building 10-year achievement by HKGBC



Hong Kong – In the first half-year of 2020, though there has been turbulent time, we embrace the opportunities of green recovery ahead. Launched in 2010 by Hong Kong Green Building Council (HKGBC) and BEAM Society Limited (BSL), BEAM Plus is Hong Kong's leading initiative to offer independent assessments of building sustainability performance over the 10 years. It provides building users with a single performance label that demonstrates the overall quality of the new and existing buildings, regardless of whether it is new, refurbished or in use.

Since the launch of the BEAM Plus, up to 2 July 2020, the number of registered projects has reached 1,575, accounting for Gross Floor Area (GFA) of more than 50,000,000 square metres. Among

these BEAM Plus projects, 677 have been certified with Bronze rating or above. The total estimated carbon emissions saved each year reached 625,400 Tons of CO₂e, equivalent to 27.2 million trees planted. The Hong Kong's green building development figures and outstanding achievement of BEAM Plus in the past years could be found in the latest publication by HKGBC "Hong Kong: Green Building in Action 2019 Edition".

HKGBC keeps driving Hong Kong to transform into a sustainable built city through BEAM Plus. In recent years, green building designs have emphasised the enhancement of users' well-being as a healthy living and working environment has become more crucial than ever, especially in regard to the current global pandemic situation.

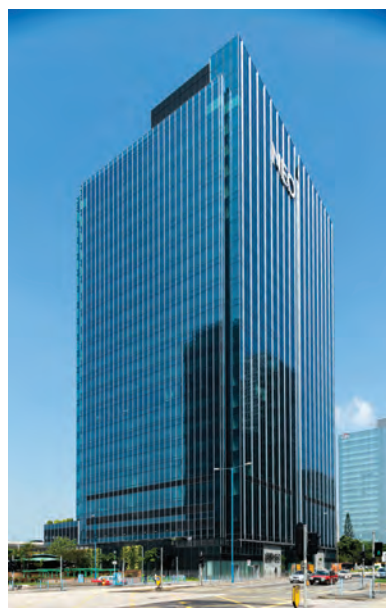
For commercial buildings, achieving Final Platinum rating under BEAM Plus New Buildings, One Taikoo Place helps creating a wind corridor of the city by setting back the building from the streets, resulting in better natural ventilation and surroundings. The building also achieved a total of 34 percent reduction in annual energy consumption obtained. As for other BEAM Plus Platinum-rated commercial buildings such as 8 Bay East / NEO, efforts have been made in reducing indoor air pollutants for better indoor air quality. Thus, a healthier indoor environment

can be maintained.

Besides, Hysan Place demonstrates its exemplary sustainability performance throughout its building life cycle, from design to construction, then operation and maintenance. The building has achieved Final Platinum rating under both BEAM Plus New Buildings in 2013 and BEAM Plus Existing Buildings in 2018. It goes beyond its site boundary and aims to benefit the environment of the entire district by adding urban windows at lower floors that improve the microclimate in the neighbourhood, as well as maximise sunlight penetration at different floors.

Apart from commercial buildings, there are more and more types of projects such as revitalised heritage and infrastructure to go green and achieved the highest grade under different BEAM Plus assessment tools.

Recently, a Grade II historic building in Hong Kong – Wah Ha Estate has been converted and transformed into green buildings, achieving Final Platinum rating under BEAM Plus New Buildings. Formerly known as Chai Wan Factory Estate, the last H-shaped factory building in Hong Kong, Wah Ha Estate now provides 187 public rental housing flats for single people and small families. Not only 70 percent of the building structure is preserved, eco-wells are also added to enhance natural



Two BEAM Plus certified commercial buildings with Final Platinum rating – One Taikoo Place and 8 Bay East / NEO help to maintain better ventilation as well as indoor air quality through different green designs. Photos: © Hong Kong Green Building Council



Hysan Place achieved the Final Platinum rating under BEAM Plus New Buildings in 2013 and BEAM Plus Existing Buildings in 2018. Photo: © Hong Kong Green Building Council



From industrial use to residential use, Wah Ha Estate is also a showcase of converting a heritage building into a green building for residents' sustainable living. Photo: © Hong Kong Green Building Council



The upgraded Shek Wu Hui Effluent Polishing Plant has attained Platinum rating under BEAM Plus Neighbourhood by turning the traditionally obnoxious facility into an integral asset of the local neighbourhood. Photo: © Hong Kong Green Building Council



Desilting Compounds which are located along Kai Tak Nullah has achieved Final Platinum rating under BEAM Plus New Buildings. Photo: © Hong Kong Green Building Council

ventilation and introduce daylight into the residential flats, creating a more liveable environment for residents.

For the Shek Wu Hui Effluent Polishing Plant which helps treating the sewage for the public, its building facilities have achieved Platinum rating under BEAM Plus Neighbourhood and Provisional Platinum rating under BEAM Plus New Buildings. One of the features of the project is that the community has been extensively engaged on the design and development of the Polishing Plant, particularly on the

public co-use amenities. By setting up educational tours and providing public open spaces, the general public can learn about sustainable living concepts in the future.

Another excellent case is located at the newly developed community – Kai Tak. Green buildings could be found more easily! Apart from the residential buildings and infrastructure which are covered previously, the Desilting Compounds No. 1 and 2 which are part of the reconstruction and upgrading

works of Kai Tak Nullah has attained Final Platinum rating under BEAM Plus New Buildings. The building is well integrated with the surrounding environment with extensive greenery. It can help to reduce the ground and indoor temperature, as well as beautify the community in Kai Tak.

Green buildings are growing everywhere in Hong Kong. **You can get more information from BEAM Plus Online Exhibition at <http://greenbuilding.hkgbc.org.hk>.**

Society of Interior Designers Singapore launches T-shirt fundraising campaign with local designers in collaboration with the Ministry of Manpower

Singapore – COVID-19 has brought great disruptions to our lifestyle and the livelihood of many on an unprecedented level. This is particularly hard-hitting on our migrant workers who have been one of the key contributors to our economy. Many of them have been affected by COVID-19. During this time of hardship faced by our migrant workers, the Society of Interior Designers Singapore (SIDS) stands in solidarity with them and would like to design t-shirts that can spark unity among the migrant workers as well as our fellow Singaporeans.

The message is clear. "We will get through COVID-19 Together". While the overall message of overcoming COVID-19 will be highlighted in every design, every local business and community participating in this campaign will be listed on the back of the shirt. SIDS has the ability to connect with prominent designers from various disciplines in design, namely – Andrew Loh and Kenny Lim, Damian Tang, Jackson Tan, Janice Wong, Keat Ong, Kelley Cheng, Kenny Hong, Khairudin Saharom, Look Boon Gee, and Peter Tay – to come up with various T-shirt designs that would be stylish for Singaporeans to wear and to show support and solidarity for a common cause.

With the contribution from likeminded industry partners such as Admira, ATEC Design and Construction, Bathworld, Idee Etcetera, The Floor Gallery, Hitachi, ISH Interior Design, Keisuke, Luxx Newhouse, and MM Galleri on the needed funds for the printing of the t-shirts – SIDS together with the kind sponsors are pleased to make this campaign possible together with the support from MOM.

This is more than a T-shirt. This is about coming together as a community to show compassion and support to the migrant workers who have been instrumental in our country's economic growth. We hope that the general population can be generous and support this good cause.

"I am glad that the Society of Interior Designers Singapore has initiated this T-shirt fundraising campaign 'Operation



Main campaign poster. Image: © SIDS

De-COVID 19' to support our migrant workers. The proceeds, along with donations from the public, will go to the Migrant Workers' Assistance Fund, the humanitarian charity of the Migrant Workers' Centre. While we may face many challenges ahead, what we have built as a nation bears testament to how we can and will similarly emerge stronger," said Zaqy Mohamad, Senior Minister of State for Manpower.

The Migrant Workers' Centre (MWC) is

a non-governmental organisation that champions fair employment practices and the well-being of migrant workers. The MWAFF was set up in 2012 to fund all humanitarian and emergency assistance to MWC's case clients. The MWAFF allows the MWC to cover and protect vulnerable workers up till their outstanding matters are resolved and concluded, and it is a key resource for MWC in providing proper and adequate help to migrant workers in Singapore.

The Dallara Academy



An external view of the Dallara Academy.

The Dallara Academy Complex in Varano de' Melegari in Italy, encloses an exhibition area and an educational and training centre to help convey the knowledge and passion for engineering in racing cars. Mapei was proud to be involved in this project.

Inaugurated in the autumn of 2018, the Dallara Academy is right next to the historic headquarters of Dallara Automobili in Varano de' Melegari (central Italy), which has been building racing cars since 1972. The structure has an audacious design, just the sort of look the founder and President of the company, Gian Paolo Dallara, had been aiming for: a research centre and a design centre, as well as a place for enjoyment and exhibitions. And it was thanks to the innovative nature of its design that led to the Dallara Academy winning the 2017 "Best Future Building of the Year – Under Construction" at the ABB Leaf Awards in London, a competition that acknowledges the designs chosen as a point of reference in architecture.

A multi-functional structure

The actual building of the Dallara Academy extends over two levels, connected together by a curvilinear ramp providing access for visitors to walk in. On the ground floor you can find

reception spaces for visitors and laboratories for local schools, while the first floor is the home of an area dedicated to graduate training courses and the auditorium. From a volumetric point of view, the structure is a collection of intertwined, primary geometric figures made up of cones, trapezoids and parallelepipeds, where the different volumes create connection points or develop into open spaces dedicated to the general public. A great deal of importance was also given to the various materials used to identify the different areas, from local natural stone to brass trims, finishing with a three-dimensional ceramic covering for the three cones.

Display ramp. The display ramp, which is open to visitors, features the cars that have played such an important part in the history of Dallara Automobili. You pass from the Miura to the X1/9, from the Sport models built in collaboration with Lancia to the IndyCars that race in the United States, from prototypes for Le Mans right up to cars designed for the Formula 3 and Formula E championships, to arrive at the latest model, the "Dallara Stradale".

Teaching laboratories. An area on the ground floor is dedicated entirely to the Training Workshops, designed for students from local middle and secondary schools, where they can experiment for themselves the laws of physics applied to the design and development of cars. Based on a philosophy of "edutainment", or learning while having fun, the aim of the laboratories is to directly involve youngsters in activities inspired by the three main activities of the Dallara company: the design and production of composite materials, aerodynamics and vehicle dynamics.

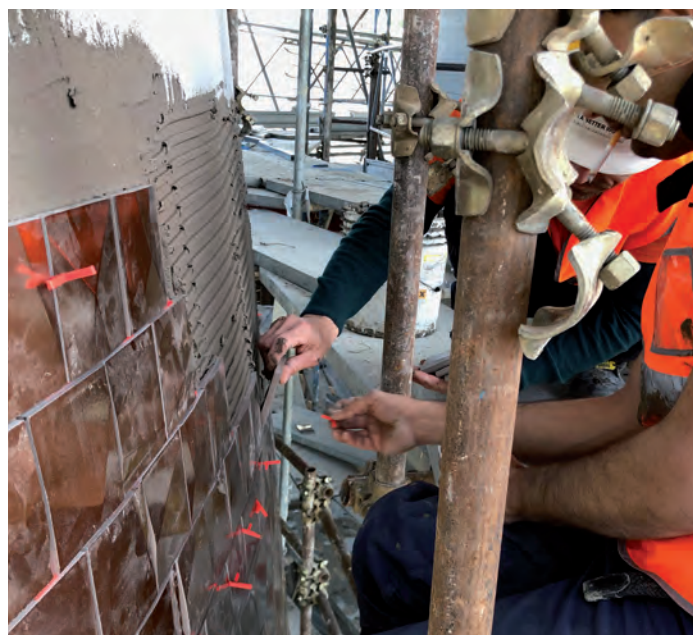
University area. On the upper floor, the Academy has reserved an area dedicated to graduate level studies. This is where they hold the second year of the MUNER (Motorvehicle University of Emilia-Romagna) degree course in "Racing Car Design", a partnership so strongly desired by the Emilia-Romagna Regional Council between local universities and the ten historic engine manufacturers from what is known as "Motor Valley": HPE, Dallara, Ferrari, Lamborghini, Pagani, Magneti Marelli, Haas, Toro Rosso, Maserati and Ducati.



The display area in the ramp.



A close-up view of the cones.



The three-dimensional ceramic tiles were bonded to the external façade with KERABOND mixed with ISOLASTIC.

Auditorium. Inside the Dallara Academy there is also a 350-seat space designed to host conferences, meetings, presentations and team-building activities. The structure also has a bookshop and a cafeteria for its guests.

High Technology Intervention

Mapei Technical Services took part in the site work, initially by carrying out a series of surveys, and then by working alongside the contractors to help them choose the suitable products.

Installation of ceramic coverings on the sloping roof. To waterproof the roofs of the three structures, PURTOP 1000 two component, pure polyurea-based membrane was applied by spray with a bi-mixer pump. Before applying it, the surface was treated with PRIMER SN epoxy primer, which was then broadcast while still wet with QUARTZ 0.5 quartz sand. Special three-dimensional tiles (10x10 centimetres) were used to cover the roof, which were bonded in place with ULTRABOND ECO PU 2K two-component, solvent-free, high-performance, slip resistant polyurethane adhesive with very low emission of volatile organic compounds (VOC). The joints were then filled with ULTRACOLOR PLUS grouts. Expansion joints were created in the covering at a pitch of 3x3 metres and sealed with MAPESIL LM neutral mould-resistant silicone sealant.



The substrates of the cones were waterproofed with PURTOP 1000. The 3D ceramic tiles were installed with ULTRABOND ECO PU 2K and the joints were grouted with ULTRACOLOR PLUS.

Installation of ceramic covering on the facades. To install the three-dimensional tiles on the facades, Mapei Technical Services proposed a high-performance adhesive system made up of KERABOND powdered cementitious adhesive mixed with ISOLASTIC latex instead of water to improve its elasticity and characteristics. The joints were then grouted with ULTRACOLOR PLUS mortar and the expansion joints were sealed with MAPESIL LM.

Internal floorings. Mapei systems were also used to prepare 2,000 square metres of concrete floors inside the Academy and the mix used included DYNAMON FLOOR 10, an acrylic-based, super-plasticising admixture. The surface was then consolidated with MAPECOAT I 600 W, two-component, transparent epoxy primer in water dispersion.

PROJECT DATA

Project Name: Dallara Academy
Location: Varano de' Melegari, Italy
Period of Construction: 2017-2018
Year of the Mapei Intervention: 2018
Intervention by Mapei: Supplying products for bonding ceramic tiles in exteriors, admixtures for concrete, waterproofing compounds, systems for resin floors
Design: Atelier (S) Alfonso Femia AF517
Client: Varanobox Srl
Contractor: Mario Neri SpA
Resin Flooring Contractor: Resinsystem Italia
Ceramic Installation Company: Technoriunite
Mapei Coordinators: Carlo Alberto Rossi, Francesco Di Chiara, Andrea Bettini, Mapei SpA (Italy)
Photos: Provided by Mapei

For the floors in the bathrooms, the MAPEFLOOR SYSTEM 51 was chosen (average thickness 3 millimetres), a multi-layered epoxy system used to form water vapour-permeable floors which are moderately resistant to chemical products, frequent cleaning operations and wear and impermeable to oil and aggressive substances. Floorings made using MAPEFLOOR SYSTEM 51 also have an attractive finish. Before applying the coating, the substrate was mechanically prepared to ensure a perfect bond with the coating. After applying, by scratching, MAPEFLOOR I 500 W epoxy formulate, the surface was fully broadcast with QUARTZ 0.5 while still wet. The following day, the surface was lightly sanded in order to eliminate the quartz sand that was not perfectly bonded. The work was completed by applying another scratch coat of MAPEFLOOR I 500 W.

For the stairs, on the other hand, the preferred solution was MAPEFLOOR SYSTEM 32, a multi-layered epoxy system used to make 3.0-3.5 millimetres thick coatings on floors that are highly resistant to chemical products, frequent cleaning operations and aggressive substances. After the mechanical preparation of the surface, it was treated with PRIMER SN, two-component, pre-fillerized epoxy primer, prepared by adding about 20 percent by weight of QUARTZ 0.5. While the surface was still wet, it was fully broadcast with QUARTZ 0.5.

After the removal of the excess quartz by vacuum cleaner followed by a light sanding of the surface and a subsequent removal of the produced dust, MAPEFLOOR I 300 SL, two component, neutral-coloured, multi-purpose formulate, was applied with a straight steel trowel. The product was coloured on site by using MAPECOLOR PASTE. While the surface was still wet, it was fully broadcast with QUARTZ 0.5. The following day, the excess quartz sand was removed with a vacuum cleaner, the surface was sanded again and all traces of dust were again removed. A final coat of MAPEFLOOR I 300 SL was applied, again using a straight steel trowel on site by using MAPECOLOR PASTE. While the surface was still wet, it was fully broadcast with QUARTZ 0.5. The following day, the excess quartz sand was removed with a vacuum cleaner, the surface was sanded again and all traces of dust were again removed. A final coat of MAPEFLOOR I 300 SL was applied, again using a straight steel trowel.

Mapei Products

Installing ceramic tiles:

Kerabond, Isolastic, Ultrabond Eco PU 2K

Grouting and sealing joints:

Ultracolor Plus, Mapesil LM

Preparing and waterproofing substrates:

Primer SN, Purtop 1000, Quartz 0.5

Laying resin floors:

Mapecoat I 600 W, Mapefloor System 32, Mapefloor System 51, Dynamon Floor 10



PURTOP 1000

Article source: Realtà Mapei International no. 74/2019

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

The Rajasthan School



Courtyard in The Rajasthan School.

The Rajasthan School, designed by Sanjay Puri Architects, features a central courtyard covered in trapezoidal frames to provide shade from the harsh sun.

Situated in a remote desert village of Rajasthan, India, the Rajasthan School is a low-rise three-level school with open, enclosed and semi-enclosed spaces of varying volumes. It is situated in a township developed by a well-known Indian Cement manufacturer for the children of the staff working at their plant, in a remote area of Rajasthan.

The school design adopts from the character of Indian villages and old cities and contemporarises the interpretation. The school is fragmented to create a central courtyard covered in trapezoidal frames and sun-breakers, providing shade from the harsh sun and creating dynamic shadow patterns through the

day. It thus creates a relatively cooler micro-climate for outdoor activities and allows the landscape to be interspersed with the built-mass.

Taking cognizance of the extreme desert climate of its location with temperatures in excess of 35°C for most of the year, each of the classrooms are north oriented to derive indirect sunlight through the day, and enclosed in angled vertical walls. These vertical walls act as sun breakers to reduce direct heat gain from the east, west and south sides generating cooler internal spaces.

The auditorium, primary school and administration space occupy the southern side of the plot opening into a large semi-sheltered courtyard towards

the north beyond which the secondary school classrooms, library & cafeteria are located.

The placement of the seldom used – 42' high auditorium is deliberately kept to the south to act as a heat buffer for the rest of the school. The triple height structure blocks the southern sun through the day, keeping the central courtyard in partial shade. Within the two buildings the naturally ventilated, open corridors traverse between the classrooms and the courtyard furthering the buffer effect.

This semi-sheltered courtyard has multiple angular pathways, connecting the two parts of the school with landscaped play spaces that foster engagement. Traversed by a series of linear trapezoidal frames and sun-breakers, this focal area has a constantly changing shadow pattern depending on the sun direction throughout the day.

The layout is intentionally fragmented allowing open landscaped spaces to be interspersed with the school's learning spaces. The entire school opens towards an existing multipurpose playground & athletics track on the northern side.

The entire circulation is through open naturally ventilated corridors traversing & skirting the focal semi-sheltered landscaped court in the centre.

The complete electrical power requirement is generated by the residual energy of the cement plant nearby. Solar panels are also installed for additional energy usage. There existed no vegetation on site, thus territorial plants have been planted, which would take less water to grow and reduce the burden on the water supply. In addition, the rain-water from the terraces is recycled & reused through the installation of rainwater-harvesting systems under the garden areas. The building by its design is thus extremely energy efficient.

The Rajasthan School derives its character from the organic old cities, with an informal layout, interspersed open and enclosed volumes, designed in response to the hot climate, creating a school that is exploratory in multiple ways.



Courtyard in The Rajasthan School.



Classroom corridor view at The Rajasthan School.



Courtyard in The Rajasthan School.



North view of The Rajasthan School.



Sanjay Puri

“These design solutions, help to achieve a climatically sensitive structure providing a comfortable micro-climate while merging the landscape with the built mass.”

– Sanjay Puri, Principal Architect of Sanjay Puri Architects



South side view of The Rajasthan School.

PROJECT DATA

Project Name: The Rajasthan School
Location: Shree Cement Township, Ras Village, Rajasthan, India
Client: Shree Cement
Architecture Firm: Sanjay Puri Architects
Gross Floor Area: 93,000 square feet
Completion: February 2020
Photo credit: Dinesh Mehta

Bikurim



Sarit Shani Hay has conceptualised the interior design of Bikurim – the first inclusive school in Tel Aviv.

The first inclusive elementary school in Tel Aviv is a flagship project designed to support the inclusive learning model by creating an environment that works for everyone. The design brief was to foster inclusive experiences by rethinking the school's interior design.

The school supports the integration of students with disabilities into regular classrooms with the understanding that each child is unique with his/her specific needs. Twenty-five percent of students have physical disabilities, or are on the autistic spectrum and interact together in a space that encourages collaboration while celebrating the diversity of the students. The school is based on the inclusive model developed by Inclu Foundation.

The challenge in developing the design strategy was to create a pluralistic learning environment that encourages accessibility, equality and flexibility based on universal design. The process of developing the design concept was preceded by conversations with pedagogues and experts that understand the special needs in order to translate the idea into a physical environment.



The school includes rooms for different types of classes and treatments, such as physical therapy, yoga/meditation, as well as private study. Each room is walled with glass to support the inclusive philosophy.

The design strategy stems from various geometric shapes and how they can be molded to support group activities all children can take part in, regardless of their physical or mental abilities. Flexible furniture was designed alongside intimate soft nooks. Calm colours and wooden materials were used to avoid emotional overload.

Special attention was given to the public spaces between the classrooms, which were designed to encourage study through play. The concept of a group circle was used to create a circular seating





Sarit Shani Hay. Photography: Roni Cnaani

“This project was defiantly a great challenge and privilege for our studio. School is often the first encounter a child has with society. The earlier in life we learn to accept the other, to embrace our differences rather than fear them, the brighter our future will be. I truly believe in the power of design to make a change and it is my responsibility to strive for it. It is my hope and belief that this school’s embracing environment will inspire the children to explore, play, communicate and reach their full potential as equal partner in society.”

– Sarit Shani Hay, Head Designer & CEO of Sarit Shani Hay



PROJECT DATA

Project Name: Bikurim (Inclusive School)

Location: Tel Aviv, Israel

Client: Tel Aviv Municipality & The Inclu Foundation

Building Architect: Tsionov Vitkon Architects

Interior Design & Furniture

Design: Sarit Shani Hay

Completion: 2019

Photography: Roni Cnaani

bench split into two halves, allowing for different seating arrangements wherever possible for any child wanting to join the group, for example, a child in a wheelchair. Additionally, a puzzle shape motif is repeated throughout the design reflecting the uniqueness of each child and how when brought together, create a whole.

Throughout the school, there are different stations that encourage both

life-skill practice, as well as individual rooms and spaces for meditation and individual study. In one of the public areas, a domestic kitchen, a theatre corner and a shop were all designed to support imaginative learning. Tactile activity boards are hung on the walls to allow students to experience materials and textures alongside carved wood blocks to learn letters and their equivalent in Braille and Sign Language. The idea was

to create a learning environment that strongly supports inclusive learning spaces that enhance the achievements and overall feeling of belonging amongst the students. This first inclusive school in Tel Aviv was launched as a pilot with classes for first and second graders with plans to grow into a fully functioning elementary school.

The school is a winner of the 2020 FRAME Awards for the social category.



Yongjiang Experimental School



West north aerial view of Yongjiang Experimental School. Photo: © Xia Zhi

DC Alliance has introduced the spatial concept mode of "Enjoyable Courtyard" in the Yongjiang Experimental School.

The purpose of school education is not only to teach students knowledge and solve their confusion, but also to stimulate their interest in learning and to make them enjoy it. Based on that thought, architects take "Enjoyment" as the theme and carry out two conditions from the point of architectural view to satisfy enjoyable space: The first is sense of space belonging which is brought by the enclosure of "independent world", the second is the maximum sharing of teaching resources and expansion of campus activity space, that is called maximum publicity. Based on the theme of "Enjoyment", the spatial concept mode of "Enjoyable Courtyard" is proposed.

Concept Introduction

The design method of "Courtyard Mode" which reflects designers' thinking in architectural education is adopted in this case. The way of courtyard mode is to arrange the building's functional entities at the boundary of the site to accomplish the maximum public area in this courtyard. In this design of school, classrooms, administrative office, etc. are put around the boundary of site appropriately to form the courtyard inside and large public rooms are arranged in it. Thus the public courtyard is made as a core of school space mode. The "courtyard" formed by this method is not a simple large yard enclosed by volume, but an enjoyable



Stadium rendering base on human's eye. Photo: © Gao Pan

learning courtyard combined by hybrid school system and several small themed yards. This mode is similar to WeiQi (A kind of Chinese traditional chess) in that it encloses the largest area of public space with the least building functional entities.

Project Innovation

The architectural design way of "Courtyard" has three advantages:

1. This way brings the maximum sharable school space and the highest space utilization.



Outdoor small theatre. Photo: © Xing Zhi Ying Xiang



Terrace of the second floor. Photo: © Xia Zhi

2. Due to the courtyard mode, the school's city image is complete and unique. A complete display interface is formed to face the city.

3. The courtyard mode forms a strong sense of spatial belonging and security internally and improves spatial experience and perception of users. Because the courtyard mode not only can solve the strict requirements in this case but also has its irreplaceable advantages, architects choose this mode and add the theme element of "Enjoyment" to form the enjoyable learning courtyard in Yongjiang School.

Design Challenges

Each mode will come with its unavoidable problems and the courtyard mode is not an exception. This design faces three challenges: The first is a sense of closure. In order to solve this problem, the underlying overhead is used to reduce building's volume. Then, four corners and four sides of the building are opened to face the city.

The second problem is western sunshine. In the enclosed layout of courtyard mode, there must be a part of the building in a poor orientation, which brings western sunlight problem.



Dong Yi. Photo: © DC Alliance

““Enjoyment” is the theme of the project. We want to design a school complex that can not only help students to learn knowledge but also enrich their activities through flexible and diverse functional spaces.”

– Dong Yi, Partner of DC Alliance



Inner court. Photo: © Gao Pan

Architects use "Origami" facade as vertical shading, and calculate the angle and spacing size of the metal louvers according to the local summer solstice azimuth. Therefore, the vertical shading is arranged reasonably to solve the problem of western sunlight.

Third, there is lacking in spatial hierarchy. In order to avoid the situation of courtyard's large scale and hollowness, we eliminate this problem by superimposing the space of "one big courtyard + four small yards" and the common circulation at multiple levels.

PROJECT DATA

Project Name: Yongjiang Experimental School
Location: Jiangbei District, Ningbo City, China
Client: Education Bureau of Jiangbei District, Ningbo City
Architecture Firm: DC Alliance
Site Area: 34485 square metres
Building Area: 29500 square metres
Completion: December 2018
Photographs: Xia Zhi, Xing Zhi Ying Xiang, Gao Pan



Corridor space. Photo: © Gao Pan

Jinlong School Project



Photo: © Wu Qingshan

In Jinlong School Project, Crossboundaries created a multifunctional, predominantly prefab structure, with maximum flexibility and aesthetic personality through design accents whilst providing clever solutions for a high-density project.

In 2018, Crossboundaries designed a 36-classroom school, to be located in the newly established Pingshan district in the Chinese metropolis Shenzhen. The venture was not only an attempt to maximise the potential of prefab architecture but also an opportunity to realise and to contribute to a project of significant social impact.

Infusing flexible individualization into repetitive standardization

In the Jinlong School Project, Crossboundaries adopted prefabricated structures to a maximum, for approximately



Photo: © Wu Qingshan

75 percent of the project. This dramatically reduced on-site construction waste, required wet construction, labour input and the necessary construction period, thus saving budget and time. Due to the use of a local, Shenzhen based prefab elements factory, transportation costs were kept to a minimum. Additional advantages such as energy conservation, environmental friendliness and earthquake resistance were also incorporated.

The architects managed to give the school a distinctive aesthetic quality, its very own individual design character, whilst also paying attention to people-oriented spatial relationships. The overall complex hence represents a concise layout solution, with a compact conceptual approach. Modular applications are mainly used in the residential and educational buildings (e.g. dormitories, teaching and other classrooms) whereas public spaces and some other areas are configured in more conventional construction methods.

Crossboundaries integrated and introduced a combination of variations in an overall unified façade. For the three teaching buildings, the architects applied six kinds of prefab panels, with different width and different arrangements of window openings. Although the classrooms on each floor share the same layout, each of them has a different external wall.

This becomes especially evident on the outside, with the windows appearing in an alternating rhythm in sizes, vertical and horizontal rectangular shapes, also resulting in a change in density on the façades. Additional accents are set with yellow, protruding metal frames around selected window openings.

The colour concept further defines circulation areas (paths and corridors) in blue and meeting hubs for children/students (e.g. in the dormitory) in yellow. Yellow is therefore indicating zones where people stay and socialise, and move less.

The middle wing of the three teaching buildings was twisted a little, thus making the open spaces between buildings a bit more irregular and more unique, the shape of yards in between them are now defined as intriguing polygons, instead of being just simply square shaped.



Photo: © Yang Chaoying



Photo: © Yang Chaoying



Photo: © Wu Qingshan

For the dormitory building – highly visible from afar and facing Jinlong Boulevard, one of the main access streets to the school – the architects composed the facade out of prefabricated panels in different thicknesses and different colour hues. The most protruding ones are the brightest, the most set back ones the darkest. Evenly distributed openings function as balconies with a setback facade for the dormitory rooms behind them and allow for more depth in the overall appearance of the surface.

Clever interventions in a high-density space

With a construction area of more than 50,000 square metres and a site area of only around 16,000 square metres, the plot ratio of the Jinlong project is almost 2.5, representing a quite high index for a school. Due to the high density of the project, coupled with the extremely tight deadline and the demand

to accommodate a manifold of functions, it was essential to design the public spaces following practical and at the same time clever considerations, trying to avoid repetitiveness and a sense of oppression as well as to set aside space for future educational innovation.

Because of the small site area and the high demand of functions, some areas of this school are elevated to arrange more public and common spaces on the lower levels. In conventional campus layouts the sports field is pushed to the peripheral area, disconnecting it from the learning spaces. The Jinlong campus positioned the running track in the middle of the campus between the residential and educational zones and is lifted up on a platform to allow for other sport areas, art, library and multifunctional spaces below. At the same time the sports field with its recreational qualities is in closer distance



Hao Dong (left) and Binke Lenhardt, Founding Partners of Crossboundaries, Beijing. Photo by Matjaz Tancic

“Looking at the briefing, there appeared to be so many limitations: limited time, a limited budget, a potentially limited creativity due to the mandatory use of prefabricated, a very small site area, with all those functions to integrate. Then again, we were extremely intrigued to take on this project, to create a human, people-oriented school within all those limitations, and at the same time to still be as creative as possible, in designing a space that provides a solution for a realistic problem that we all have to face in quickly expanding cities in the future.”

- Hao Dong, Founding Partner of Crossboundaries



Photo: © Yang Chaoying

to the higher classroom floors, optimising circulation.

The lower level becomes the cross-connection for the campus, a public corridor that runs through the whole length of the site, linking the educational and residential quarters, while on the site's wide stretch bringing together the entrance zone on one side with the adjacent future neighbourhood on the other.

Corridors connect the teaching buildings on different levels to each other and also to adjacent areas of the adjoining, elevated sports fields. They form a larger scoped network,

facilitating pedestrian's free movement and student's active interaction out of different classrooms.

In the dormitory building, incorporated at different heights and emphasised in yellow, are multiple large-scale public spaces, to provide communication and meeting spaces for the dormitory's residents. They break the crowded and uniform feeling, the density evoked by the repetitiveness of the large number of residential units.

The school campus' design also takes into account the local, subtropical climate in Shenzhen. A lot of the school complex's public areas remain open and were not closed off like the classrooms, labs or other special areas. In addition, in order to allow for optimal air circulation, light facades composed out of perforated metal panels were applied to the teaching buildings, which – apart from their functional benefit – giving it additional visual qualities, revealing colours and movements behind.



Photo: © Wu Qingshan

PROJECT DATA

Project Name: Jinlong School
Location: Pingshan District, Shenzhen, Guangdong Province, China
Client: Shenzhen Pingshan District Building and Works Bureau
Architecture Firm: Crossboundaries, Beijing, China
Site Area: 16,172 square metres
Architecture Area: 54,465 square metres
Completion: January 2020
Photographers: Wu Qingshan, Yang Chaoying

Vidya Devi Jindal Paramedical College



SpaceMatters has designed a Paramedical College in the existing campus of the Institute of Medical Science in Agroha, Haryana, featuring red sandstone and exposed concrete.

This building is a gift from a reputed industrial house whose roots lie in the city. The brief was to design a modern, state-of-the-art facility within the Institute to provide affordable healthcare to a predominantly rural population. SpaceMatters took its design cues from the existing campus which uses the vocabulary of Corbusier's Chandigarh, and from the nearby 'Mounds of Agroha' that date back to the Harappan civilization (4th century BC).

The Paramedical College was designed to be a mound emerging from the earth, hence, the low, horizontal form. Red sandstone and concrete recreate earthy palettes of the prehistoric landscape. A triple-height white sandstone *jaali* / lattice-wall greets people at the foyer. The *Jaali* soothes the eyes in this dry and harsh region, while creating shade and bringing in cool air. The cuneiform symbols of the Harappan civilisation make up the lattice wall, making it a site of tribute to the knowledge and prosperity of ancient India.

At the heart of the rectilinear structure lies a courtyard, scooped out of the 'mound' to create a shaded oasis. An amphitheatre placed here functions as a spill-out space that also hosts assembly. Formal and informal, open and built space merge at the edge of this courtyard creating a place of shade that can support interaction and learning through the day and year.

The programme varies across the floors, and each floor is divided into wings (North-East, South-East, North-West and South-West). The four wings on the ground and



the first floor reduce to two wings seconds floor onwards. Academic spaces are on the ground, first and fourth floors while the second and third floors host staff offices and smaller libraries.

The 7000 square feet L-shaped library takes up half of the ground floor footprint. Enveloped in glass, it overlooks the garden on one side and the courtyard on the other. Flared mushroom columns, which meet the ceiling gently with an offset, give the impression





Moulshri Joshi (left), Amritha Ballal (centre) and Suditya Sinha (right), Architects & Partners of SpaceMatters.
Photo: © Akash Das, SpaceMatters

“Getting this right was important – a robust and imaginative campus within the public works budget & palette and in harsh north Indian climate. For us, this project is evidence & experience that the role of good design to transform public education should not be underestimated.”

– Suditya Sinha, Partner-SpaceMatters



of a floating ceiling. Creating this sense of lightness in a heavy, solid structure establishes a dynamic architectural expression – making the building come alive! The region faces harsh summers, and a large overhang is designed above the library in order to reduce heat gain from the West. At night, the library glows – like a metaphorical lantern, akin to how education dispels the darkness of ignorance.

SpaceMatters' design uses materials judiciously and carefully for longevity and minimal maintenance. Autoclaved aerated concrete blocks generated a lighter structure since pile foundations were avoided (demanded by a brick structure of this scale). Stone on the facade was fixed with MS frame and SS clamps using a dry-cladding technique instead of a cumbersome wet-cladding one. Silicone coatings over the sandstone facade prevents water absorption, thereby delaying moisture damage. The design lets in maximum natural while reducing heat gain through the use of louvers and building orientation.

The site's grand past inspired SpaceMatters to create a serene space of learning, which reflects modern ambitions.



PROJECT DATA

Project Name: Vidya Devi Jindal Paramedical College

Location: Agroha, Haryana, India

Client: JSW Group

Architecture Firm: SpaceMatters, New Delhi

Site Area: 27,000 square feet (2,500 metre square)

Project Area: 90,000 square feet (8,360 metre square)

Completion: August 2019

Photos: © Noughts and Crosses

SIS Prep Gurugram



The Singapore International School (SIS) Prep, Gurugram, designed by Urbanscape Architects, is a primary institution that aims to promote holistic development of a child.

The SIS school is conceived as an environment that nurtures and shapes the personality of children through their formative years. The school seeks to immerse children in a creative milieu, building new relationships and ways of engaging with the external environment.

Giving the users (young children, in this case) foremost importance, the process begins by centering around them. The formal development of the building counters the natural angle of the site – the sharp angles are moulded to carve out a fluid, turning form, representing a soothing and seamless fostering environment for the children. Spaces with no restrictions are thereby conceptualised, for users to move freely between the various programmes/portions of the building.

While light, colour and pattern are developed as educational tools, extending the classroom curriculum into the spatial environment. The resultant form engenders an interplay of light, shadow and porosity enabling the 'outside' to flow inwards into the spaces. Balconies are extruded across the kids' areas to extend physical access to the wide views. The composition of the building mass, openings and voids generates interior spaces that allow for effortless and uncomplicated movements within. As a response to the climate, the south façade is entirely closed while the west facade is strategically designed with all the services, screened by louvres. An exposed concrete and glass edifice represents honest materiality.

A sunken open-air theatre towards the east facilitates the process of evaporative cooling. A juxtaposed central atrium brings in natural light, ventilation and visibility. Owing to the conception of collaborative activities, the atrium is constructed across various levels with unconventional and playful architectonic features.

The raw material palette applied remains consistent to the idea of user-centricity. Built for a peer group that perceives openly, free





PROJECT DATA

Project Name: Singapore International School (SIS) Prep, Gurugram

Location: Gurugram, India

Client: The Balaji Group (Somesh Mittal and Surabhi Mittal)

Architecture Firm: Urbanscape Architects, New Delhi

Interior Design Firm: PAL Design

Site Area: 875 square metres

Completion: 2018

Photographer: Suryan//Dang



Dinesh Panwar. Photo: © Noughts And Crosses LLP

“The form of the building was derived from the child’s thought process that is playful, natural and most importantly, not forced. The seamless connection between the inside and outside was achieved by blurring the boundaries of the school.”

– Dinesh Panwar, Principal Architect, Urbanscape Architects



from the worldly constructs – the spaces provide an experiential environment in soft, earthy, natural tones with green terraces alternating along the implied 'front' to induce an organic character and 'soften' the form's edges.

A consequence of the adaptable and fluid form are the interior spaces; the spatial organisation conforms to the needs and movements of the children.

The intention of the overall process echoes through the child-centric environment that is ultimately created – one that youngsters can explore and call their own. Adhering to a process driven methodology from conception to completion, the SIS School offers an uncomplicated captivating ambience.

Hilltop School



A charity school had been functioning out of a large makeshift shed for four years finally raised enough funds for a building. Conceptualised by DesignAware, this school has won many awards.

The site is located on a hill top, in the unplanned settlement within the walls of the majestic Golconda fort in Hyderabad. The project was riddled with multiple challenges: a tight budget (as it is run by a charitable educational trust), a highly contoured, rocky site (a topographic trait of the Deccan Plateau), a dense urban context, and Heritage Zone regulations.

The existing school was just a large hall with partitions for classrooms, and was a very dark, cramped and uninspiring space, not at all how school should be, but unfortunately, how charity schools generally are. The architecture firm, DesignAware wanted to design bright and fun spaces, which would encourage learning and growth. They also aimed to preserve the openness of the playground by not building over it, which is a rare green lung space in the heart of the low-rise, high-density, unplanned neighbourhood.

Articulating the peculiar and difficult topography of the site and its surrounds posed a major challenge due to proximity to heritage structures and dense urban context, most of which is residential. The 250 million-year-old natural rock heritage



Hilltop School (shown in colour) situates itself within the tight surrounding context.

and the 800+ year old built heritage of the fort add to the beauty of the project. The site itself was sectioned into two parts by a wall of sheet rock, one part of the site lay 20 feet (or around six metres) above the other. The school is situated in such a way that it engulfs the rocks within it. Rocks were taken into the building, forming the walls of some classrooms and creating level differences and stepped seating on the floor of the library, which becomes an informal space, conducive to sharing and learning.

The surrounding context is colourful and kitschy, with walls of bright blue, pink and yellow. The building is left unfinished, with exposed concrete walls, that deliberately negate colour in contrast to the neighbouring houses. And yet, the colour palette of the context is borrowed and reflected in the windows, doors and grilles. Reds, blues, yellows and greens create pops of colour as accents in contrast with the gray of the concrete. The same colours



Hilltop School (shown in colour) in the greater context of the historical Golconda Fort.





reappear in subtle pastels in the classroom interiors. A bright red central staircase forms a central spine of the building, all the way from the ground to the top floor, where the roofs of the school become a play courts connected to the existing playground.

While the building differentiates itself from the context in terms of colours, it respects the scale of the adjoining courtyard houses by creating a small entrance into the kindergarten, also in response to the scale of the younger students. Due to shared walls with surrounding courtyard houses, opportunities for ventilation were created in the form of light wells that run through the height of the structure, as an homage to the courtyard concept. Two skylights and voids bring in light and air, and expand the space vertically.

A series of bridges lead from the wider section of the school to the narrow far end overlooking the road, where staff rooms and labs are located. This effectively divides the school into a large zone that students can freely access and a smaller restricted zone for teachers and supervised student access.

Each of the lowest and highest levels of the school has abutting streets. The varying levels allowed reduction in vertical circulation, by providing entrances from the street directly to the ground and first floors. The top level is left bare, enclosed only with permeable hollow block walls and trussed glass roof, and surrounded by different play areas. Older students can enter directly from this level, which has a more spacious scale. This bifurcation of entrances also allows division of the traffic entering the school, as well as



Takbir Fatima. Photo: © DesignAware

“This was at once an incredibly challenging yet most rewarding project we had the opportunity to work on. The site, context and terrain so dictated the design that the built form and spatial configuration evolved from the site itself, with little room for ambiguity. The school, thus, is a very context-specific building, that is a result of what the site desired.”

– Takbir Fatima, Architect + Director, DesignAware

segregation of students by age-group.

From its topmost level, the entire city is visible: the Golconda, the Qutb Shahi Tombs, the skyscrapers of Lanco Hills and the unchecked low-rise, high-density houses beneath.

The entire project was conceived, designed and constructed phase-wise over five years.

The project has won multiple architecture awards and has been exhibited in various exhibitions in India, China and the UK.

PROJECT DATA

Project Name: Hilltop School (Bright Horizon Academy)

Location: Golconda, Hyderabad, India

Client: Mohammadia Educational Trust

Architecture Firm: DesignAware

Completion: 2017–20 (phase-wise)

Photos: © Ujjwal Sannala, Akhila Rao, Aisha KT, Takbir Fatima

NUS School of Design Environment 4



The new NUS School of Design & Environment 4 (SDE4), the first NET Zero Energy building of its kind opened in Singapore. The building, a prototype of sustainable design, combines a stringent net-zero target and a revalidated grammar of tropical architecture. It is designed by Serie + Multiply Architects with Surbana Jurong.

January 2019 marked the opening of SDE4, an inventive educational architecture developed by the School of Design and Environment at the National University of Singapore, the institutional organisation that promotes design, sustainability and education in Southeast Asia. SDE4 is the first new-build net-zero energy building in Singapore and it is designed as a 8,500-square-metre, six-storey, multi-disciplinary space by Serie + Multiply Architects with Surbana Jurong.

Located on a hillock along Clementi Road near the southern coastline of Singapore, SDE4 is a new addition to the Design & Environment precinct and it is part of a larger campus redevelopment. The climate-responsive building includes more than 1,500 square metres of design studio space, a 500-square-metre open plaza; a wide variety of public and social spaces; workshops and research centres; a new cafe and a library. The building's flexible design and high efficiency reflect the School's ambitions of promoting new forms of teaching spaces as a scaffold for research. Most of the rooms are designed in a variety of sizes to allow a flexible rearrangement of layout for exhibitions, school-specific installations and future change of use.

Awarded to Serie + Multiply Architects



with Surbana Jurong through an international design competition launched in 2013, the building was envisioned as a porous architecture structured in a juxtaposition of 'platforms and boxes' expressing its programmatic content.

Christopher Lee, Principal of Serie Architects, described that "One of our ambitions when we started the project was to challenge the notion that a high energy efficient building has to be very opaque. Therefore you see that the

completed building is incredibly open. This is where I think it was successful: it is able to reduce its energy demand, but at the same time it doesn't end up being a very solid building. SDE4's large platforms are configured in a way that promotes interaction and visual connectivity. We envisioned a very transparent volume in which the outside and the inside spaces are ambiguous; where nature and landscape play an important part, as a backdrop to the building."

The design carries the principles of vernacular tropical architecture in Southeast Asia. More than 50 percent of the total area is naturally ventilated and most of the rooms can be opened to prevailing breezes. Air-conditioning is used only when needed while the spaces interspersed between cooled volumes benefits from cross ventilation, acting as thermal buffers/ social spaces, emulating the signature tropical verandas. The architecture is punctuated by an alternation of terraces, landscaped balconies and informal spaces. There are no formal boundaries between places to study, work and socialise.

The interstitial space between the inner and outer skins on the east and west facade is, for instance, designated for research. In these areas, elements of the façade can be dismantled and replaced with new systems depending on the School's research needs. Therefore, the building serves as a canvas for





test-bedding and developing relevant green building technology, becoming, in effect, a living laboratory.

Circulation corridors and straight flight staircases link and penetrate these volumetric platforms, allowing spaces to bleed from one learning and research space to another, thereby broadcasting a collaborative nature of design. The large over-sailing roof protrudes along the south elevation embedding a tropical portico, built around mature existing trees. This openness allows spaces to flow freely across the envelope of the building, bringing the surrounding landscape into close proximity with interior spaces and vice versa. The east and west facades are designed as a veil, an aluminum curtain that filters sunlight and emphasises a connection to the surroundings.

The south gardens are integral to the pedagogical experience of the building. Designed as a natural purification system, the landscape improves water quality while



encouraging lifestyle activities and teaching around water. Runoff from the roof and hard scape is cleansed by passing through soil, which removes sediments and soluble nutrients. Nearly 50 percent of the plants selected are native species and most are from the southern tropics, a choice that also provides opportunities for environmental education. The building has a strong biophilic component in the deliberate use and celebration of the raw and natural characteristics of the materials for steel, perforated metal and concrete. As a result the finished concrete surfaces are unique; some columns resemble marble, and all possess a tactile quality that enhances the materiality of the architecture.

The building is designed to be climate responsive with net-zero energy consumption featuring a range of sustainable design features and more than 1200 solar photovoltaic panels on its rooftop. SDE4 exceeds standards of health and wellbeing creating new avenues for delivering comfort in the tropics, embracing an innovative hybrid cooling system, designed by Transsolar KlimaEngineering, that supplies rooms with 100 percent fresh pre-cooled air, albeit at higher temperatures and humidity levels than in a conventional system, and augments this with an elevated air speed by ceiling fans. This cool circulating air creates a comfortable condition in a high energy-efficient system. Therefore, the architecture becomes an agent of systemic enhancement – not just to do less harm, but to do systemic good – by making the discussion of design fundamentally public.





Giovanni Cossu, Senior Manager at the School of Design and Environment, explained: "The main story of SDE4 is how we progress to net zero through design. During this process, the building has demystified the general perception of spatial quality, comfort, and cost for sustainable buildings. SDE4 changes the argument that green buildings cost more, as it has limited or no extra cost compared to similar, industry-standard models. Preliminary results of subjective surveys completed by occupants show high levels of user acceptance of the environmental conditions offered by the building. In doing this, SDE4 speaks to multiple audiences: occupants and users, policy makers and developers. And this generates a level of significance that cannot be ignored."

PROJECT DATA

Project Name: NUS School of Design & Environment 4 (SDE4)
Location: Singapore
Client: National University of Singapore (NUS)
Architecture Firm: Serie + Multiply Architects with Surbana Jurong
Building Gross Floor Area: 8,588 square metres
Completion: 2019
Photographer: Rory Gardiner



Christopher Lee. Photo: © Jordi Huisman

"Our design is a revalidation of the grammar of vernacular tropical architecture in Southeast Asia, namely that of the Malay House from which we find a large over-sailing roof, the loose accumulation of rooms to allow cross ventilation and the use of platforms to raise the building off the ground."

– Christopher Lee, Principal of Serie Architects

Early Learning Village



View of the stacked clusters. Photo: © Bogle Architects/Infinitude

A world first in pre-school facilities, the Early Learning Village in Singapore delivers a multicultural, flexible environment with capacity for 2,100 children from nursery to kindergarten age, as well as 400 support staff. This award-winning building has been designed by Bogle Architects.

The Early Learning Village represents an extraordinary milestone in the delivery of international pre-school education. This remarkable, ground-breaking school was designed by leading architectural studio Bogle Architects for the global schools operator Cognita. The Early Learning Village accommodates two of Cognita's schools in Singapore: The Stamford American International School and The Australian International School.

The design is radically innovative and despite the impressive scale of this institution, the 54,000 square metres building, while rigorously logical, is filled with visual delights creating a configuration to which both children and staff can relate.



Aerial view. Photo: © Bogle Architects/Infinitude

The school is specifically designed to enhance children's learning experience by offering a spectrum of lively learning environments filled with colour and sunlight.

While the teachers enjoy an adult's perspective of the spaces, Bogle Architects have created a dual environment by including child-sized doors, work-benches with steps for children of different heights, and signage at children's eye-level and on the floors.

Cognita's brief stipulated that this ambitious project should be a model for future schools of this nature, providing facilities rarely seen in pre-school buildings: external discovery play zones, a swimming pool, a flexible multi-purpose hall, and specialist subject classes for art, music and dance. The key challenges were to ensure that the significant volume was not intimidating for small children, to clarify circulation given the scale of the school and to



Canopies providing shade over external play areas. Photo: © Bogle Architects/Infinitude



Level 2 play area. Photo: © Bogle Architects/Infinitude



Early Learning Village. Photo: © Cognita



Early Learning Village. Photo: © Bogle Architects/Infinitude



Swimming pool. Photo: © Cognita

design a building that was essentially playful and fun as well as flexible enough to accommodate changing market conditions.

The architects explored the relationships between children of different ages, and the building's organisation clearly reflects the varied requirements of an 18 month old baby and a 6 year old child, with the most expansive green spaces at lower levels to be occupied by enthusiastic 4 and 5 year olds and adjacent to spacious parent cafés.

The Reggio Emilia philosophy places great emphasis on children's physical environment. Bogle Architects set out to create an environment that was open and engaging while full of natural light and external awareness. The varied spaces range from intimate areas of sensory learning to more expansive areas of external play for social interaction, recognising that a range of spatial experiences is critical in children's development. Low level 'child height' window seats for children allow them to explore their surroundings or read a book for cerebral development, while external physical activities in the swimming pool, multifunction hall or external play spaces provide for physical development.

"We know that the highest quality experience, at the earliest stages of learning, will reap benefits at every step of a child's subsequent educational journey – and beyond. An essential aspect of that experience is the educational environment itself. The Early Learning Village is an unparalleled project, reflecting Cognita's conviction in Early Years education as the all-important foundation for an individual's success in life. It is both innovative and inspiring – a breath-taking design that is at all times centred on the child and the exploration and discovery they need to flourish," said Chris Jansen, Cognita CEO.

There was no rule book for designing a project of this typology and scale, so Bogle Architects went back to first principles, taking the analogy of the 'nursery at the end of the street' as the initial building block – typically four classrooms organised around a central space with external play space of circa 100 children. Through a process of analysis and modelling, the stacked arrangement of these 'building blocks or clusters' with their projecting canopies has created a playful environment that also provides necessary weather protection. The other driver informing the design is the abundant use of green space and greenery. The design has been informed by two eminent Early Years specialists – Rosie Long from the UK and Gary Moore, an architect and Professor of Environment & Behaviour studies at Sydney University, whose combined expertise focuses on the

well-being of children in a learning environment.

ELV has won several awards such as Arhied 2018, Slovenia – Special Award; British Expertise Architecture and Design Project of the Year 2019 (Winner); and Iconic Awards 2019: Innovative Architecture (Winner). Recently, ELV has been nominated for the Building of the Year Award for 2020 (International Project Category) in the Czech Republic. The Award is organised by ABF – The Czech Building Academy.



Arrival at Chuan Lane. Photo: © Bogle Architects/Infinitude



Ian Bogle. Photo: © Bogle Architects

“This complex project has been a challenging exercise in terms of connectivity and vertical transportation, to ensure that significant numbers of teachers and children can orientate themselves easily around the building.”

– Ian Bogle, Founding Director of Bogle Architects



PROJECT DATA

Project Name: Early Learning Village
Location: Singapore
Client: Cognita
Architecture Firm: Bogle Architects
Gross Internal Floor Area: 54,000 square metres
Completion: 2017

External canopy and green wall.
Photo: © Bogle Architects/Infinitude

Designing office space *post Covid-19*

The outbreak of coronavirus has changed the way we live and also work. Once the stay-at-home rules are lifted, many employees will be allowed to go back to the office. Companies may need to re-design their office to keep their employees safe, healthy and productive. The pandemic will also have an impact on the future of workplace design. We hear from architects and designers on current and future workplace design trends during the Covid-19 situation.



NATHAN SRI

Principal, Strategy, Unispace

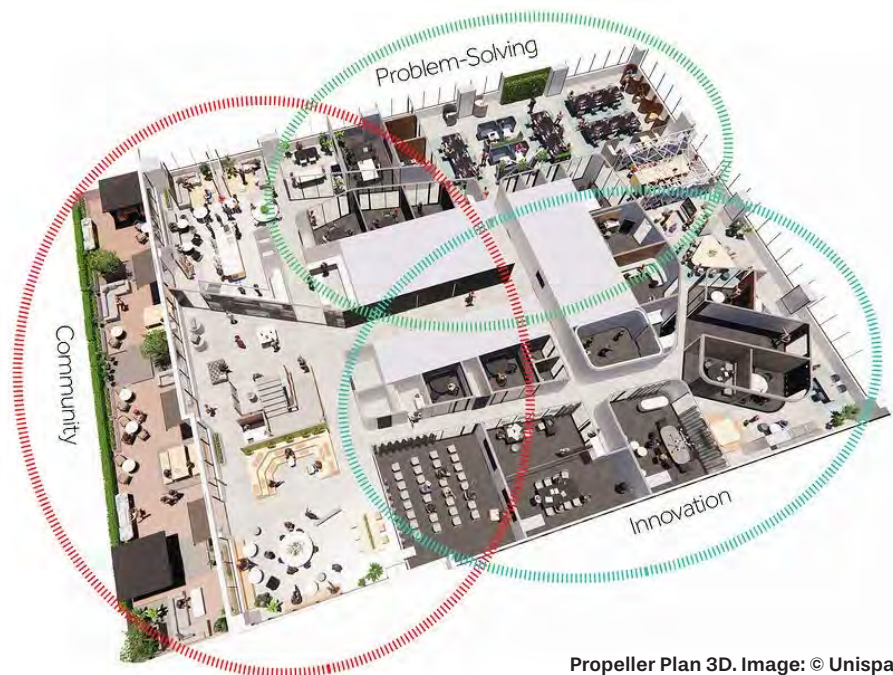
Changes to current workplace design

The prolonged impact of COVID-19 has forced organisations around the world to adapt their daily operations. At the initial onset of the virus, the vast majority of employees began working from home to flatten the curve. However, as the

situation stabilises and the economy gradually reopens, employees are starting to resume office-based work, subject to adjustments being made to the physical workplace.

In order to preserve employee health and safety as much as possible, employers are considering contactless

Nathan Sri
Photo: © Unispace



Propeller Plan 3D. Image: © Unispace



Propeller Model – Floor Plan (Artist Impression). Image: © Unispace

design as the first line of defence against the potential spread of the virus. At the workplace, this can include the automation of entry doors and access points, and the installation of occupancy sensors to monitor capacity levels in common spaces. Where fully-contactless design cannot be implemented immediately, adjustments to existing equipment can also be considered, such as focusing on usage via the elbow or forearm to minimise touch at high-contact surfaces.

Additionally, businesses need to carefully consider workplace ergonomics, such as integrating physiological elements that allow employees to safely spend time in the office. For example, the importance of clean air within office spaces has markedly increased, motivated by the possibility of COVID-19 being an airborne disease. However, even with these measures, businesses should continue taking other precautionary measures, such as maintaining social distancing and ensuring large-scale gatherings are avoided as much as possible.

Changes to future workplace design

As uncertainty around the pandemic continues to loom, organisations everywhere have become more open to extended flexible or hybrid working arrangements. According to the Unispace Global Remote Working Survey, 68 percent of respondents believe employees will continue to work from home two to three days a week even after the situation has stabilised. In light of this, employers might consider shifting workplace designs to allow employees to divide their time between home and work.

The same survey found that 63 percent of respondents considered the top internal-facing challenge of remote working to be socialising and creating meaningful connections – and 55 percent of respondents said that the top client-facing challenge was the decrease in presence and connection. From this, it is clear that while remote working has proven successful in the accomplishment of individual tasks and focus-based work, it has been less effective in other areas. The physical

workplace still offers employees a range of emotional, psychological and professional benefits, such as building tightly woven teams and a strong corporate culture – organisational pillars that are difficult to establish with remote working. As such, businesses need to develop future-looking workplaces that enable employees to return to the office for its best benefits.

Unispace's Propeller workplace model helps businesses achieve just this by creating value where remote working cannot, specifically around three areas. The first area, problem solving, empowers employees and partners to work together to create something more meaningful and innovative than what they could have achieved alone.

The second area, innovation, fosters the exchange of bold ideas and concepts that drive transformation, by encouraging diversity and imagination.

The third area, community building, demonstrates a commitment to mentorship and camaraderie, with a collective sense that like-minded people are there to do great things together.



David Calkins
Photo: © Gensler

DAVID CALKINS

Regional Managing Principal of Asia Pacific and Middle East, Gensler

Changes to current workplace design

Gensler has been exploring remote working concepts with our clients for at least a decade, but most were at best implementing modest pilot programs. The pandemic forced the world into universal adoption of working from home, an experiment in business survival that in many cases has lasted for over six months. During this period, we have been researching the changing state of attitudes toward work settings through a variety of studies including Gensler's U.S. Work From Home Survey 2020, a large-scale online study of U.S.-based workers who were full-time employees of a company of 100+ people. Each respondent routinely worked within an office environment prior to COVID-19 and was currently working from home at the time when the survey was released. After working from home for at least a month, we found that only one in eight respondents would like to work from home full-time after the pandemic is over. Most want to spend the majority of their normal workweek at the office, while maintaining the ability to work from home for part of the week. Over a quarter of the workforce is still undecided. Notably, the quality of the work environment workers left directly correlates to their interest in returning: on average, the more satisfied a respondent was with their prior work environment, the less days they want

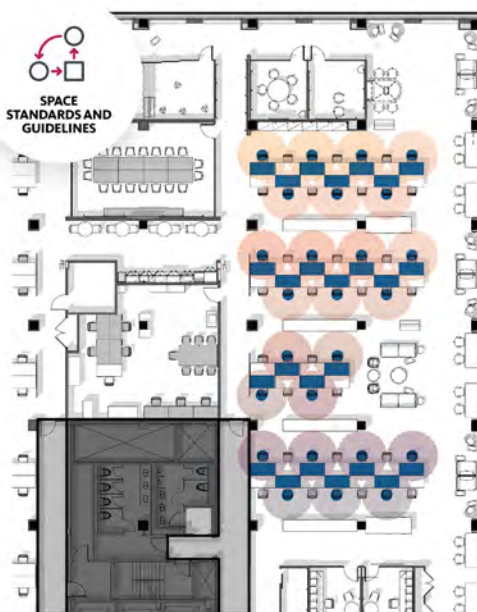
to work from home.

The dramatic shift toward working from home has crystallized the reasons why we come into the office. When asked about the most important reasons to come into the office, respondents overwhelmingly chose activities focused on people and community, including scheduled meetings, socialising, and face-to-face time. Over 40 percent of workers also list access to technology and the ability to focus on their work as key reasons to come in.

We want to return to the office, but not to the same office. We asked workers to rank the factors that would make them comfortable returning to the office – and respondents noted a combination of new policies around sick leave and working from home, physical environment changes including social

distancing and reduced workstation sharing, plus increased cleaning protocols.

Workers expect their companies to make changes to the workplace as a result of COVID-19, and feel positively about a wide range of potential scenarios including increased social distancing, less workspace sharing, and greater mobility and virtual work support. Social distancing and routine working from home – practices most discussed in today's discourses on safety – are the initiatives workers are most comfortable with their companies implementing. While workers expect less sharing of workstations, they report feeling less positively about reduced investments in shared amenities and are also wary of being discouraged from using public transit.



Gensler's open plan de-densification. Photo: © Gensler



Gensler's future space typologies. Photo: © Gensler

Changes to future workplace design

As designers, we see the role of the office as the catalyst for engagement, inspiration, and human connection, a platform for meetings inspired by hospitality, collaboration, and technology that fosters relationships and exchanges. Before the pandemic, awareness was growing around the concept of the hybrid workplace model which promotes collaboration, advanced technology, unassigned seating, and activity-based design, and offers a comfortable atmosphere driven by elements of hospitality. However, in the past, this model was limited by spatial conditions that required designing for a certain capacity, and this, combined with a focus on space efficiency, resulted in increased densities. We have been reducing the amount of space per person/desk consistently over the past 30 years – but the global health crisis is rapidly changing this trend.

As the office becomes more of

a collaboration hub, planning will evolve from a space-by-desk basis in order to account for the higher ratio of collaboration-driven work that's expected to bring people back into the office. Since this requires incorporating generous circulation space and support spaces, it means that space per seat will likely be 15 to 30 percent lower compared to previous workplace planning needs. The ultimate balance in ratios will depend on an office's existing space efficiency and the rate of adoption of remote working. Preliminary results suggest this approach leads to a moderate reduction in space, but more importantly, a reduction in density – which translates to more room (30–35 percent) per person and a better-quality workspace.

By putting the employee experience first, we can create new space types within the workplace in order to transform the office into a safe, more community-oriented workplace. To do this, we must think beyond the workstation and create

places where we can foster culture, innovation, mentorship, and organic interactions.

With an increased focus on wellbeing and safety, designers will also need to create a flexible separation between private and public spaces that can be opened or closed, depending on the risk scenario. Shared public spaces can act as co-working spaces with a variety of parts – like client meeting rooms, multipurpose rooms, work-cafes, one-to-one meeting spaces, and focus pods.

While it's critical to reconnect colleagues by providing collaboration hubs with flexible furniture for adaptable scenarios, heads-down spaces for "in-between" meeting spaces will also be important. A portion of the more traditional workstation areas will still exist in the hybrid workplace – but with a twist as we see smaller "neighbourhoods," complete with flexible workstations and spaces for easy access to virtual collaboration tools.



Nat Jentraichan
Photo: © Conexus Studio

NAT JENTRAICHAN

Associate Design Director, Conexus Studio Pte Ltd

Changes to current workplace design

Most businesses are still working from home here in Singapore, and we don't see major changes in the design of workplace, except for the adaptation of the current social distancing regulations

such as the de-densification of workstations.

Changes to future workplace design

I would sum up the focus on workplace design in the future to be "coming together, while staying apart". The most significant impact of the COVID-19 pandemic is how it made us transition to remote working and how it accelerated our reliance on technology. It really showed us the possibilities of how work can be conducted and taught us to be aware of the transmission of viruses in our surroundings. I foresee a stronger reliance on technology in the future. It will be deeply integrated into workplace design, to allow people to keep connected while keeping their distance, even in the same office.

Although we have unlocked the power

of working remotely, we believe that the office will increase in importance. Now that we're not physically tied to our desk at the office, the workplace has become even more of a space for in-person discussions and collaboration, rather than a purely functional work surrounding. This evolution will result in more individuality and sociability in workplace design in the future.

It ties in with another growing workplace trend: the modern workforce wants to identify with their employer's brand, feel a sense of belonging to their tribe and be inspired by a space that builds relationships and invites collaboration. Office design will focus on experiences as well as connective community spaces to meet these needs, bringing their community together to communicate and rejuvenate before some of them head back home to work.



The Post Covid-19 Workplace Design Guide is available for download from www.conexus.sg. Photo: © Conexus Studio



Disha Bhavsar (left) and Shivani Ajmera.
Photo: © Quirk Studio

DISHA BHAVSAR AND SHIVANI AJMERA

Principal Designers and Co-Founders, Quirk Studio

Changes to current workplace design

Now more than ever, the importance of designing open floor plans for workspaces will be of utmost priority. The introduction of dividers between workstations ensures that employees do not feel cooped up or isolated. Natural ventilation through windows is one of the most crucial aspects in making sure that fresh air circulates throughout the area. That being said, it will certainly reduce the office's need for air-conditioning. Most importantly, the installation of sanitization kiosks within the office space will become mandatory. And of course, the six-foot "social distancing" rule of the pandemic is intended to maintain the employee's health inside the office.

Changes to future workplace design

The future of workplace design is bound to change as the need for having a physical workspace cannot be undermined. Ultimately, a hybrid workplace model will evolve – defined as a combination of a physical office space, work-from-home space, and co-working space. The use of touchless technology will play a pivotal role in preventing the spread of infections and thereby ensuring the health as well as the safety of employees. Newly designed furniture and fixtures will be incorporated in office spaces to meet the post-pandemic requirements. Additionally, focus will be given on creating glass partitions and bringing in more fresh air by means of natural ventilation. To sum up, now the designing of workspaces will majorly cater to the well-being of the employees.



Office with a view, designed by Quirk Studio, is an example of how newly designed furniture and fixtures will be included in office spaces to meet the post-pandemic requirements. Workspaces by Quirk Studio are getting designed to maintain social distancing and adhere to the safety protocol in the future. Photos: © Pulkit Sehgal



Dang Ming
Photo: © HONG Designworks

DANG MING

Founder and Chief Designer of HONG Designworks

Changes to current workplace design

It has different impact on different types of businesses. IT firms, for example, are less affected due to its working way. Working at home or telecommuting is more suitable for them. As for architecture or design firms, well communication and cross-business cooperation are necessary. But during the outbreak of Corona virus period, to keep the employees safe and healthy, video calls and video conferences are obviously better than face-to-face communication, so the original large meeting rooms could be converted to smaller ones, or we could design more flexible office spaces to avoid gathering.

Changes to future workplace design

The pandemic will not change the trends of open-plan offices but will have a great impact on the future design of office furniture. Privacy should be considered to reduce the direct contact between each other besides openness. Meanwhile, larger desks are likely to be more popular to accommodate social distancing. In terms of air purification equipment, in addition to strengthen the ventilation, disinfection and sterilization equipment may become the office necessities of the future.

Photos below: Office of New Silk Road E-Commerce Company designed by HONG Designworks



Waiting area. Photo: © Tan Xiao and © HONG Designworks



Open office. Photo: © Tan Xiao and © HONG Designworks



Meeting room. Photo: © Tan Xiao and © HONG Designworks



Brooke Watts
Photographer: Toby Scott

BROOKE WATTS

Interior Designer, Conrad Gargett

To understand how things might change, it is worth exploring the current state of workplace and what it stands for. For many people, the 'office' is engrained in their sense of identity. It is almost an heirloom idealism of life that is passed from generation to generation teaching expectations of the transition from childhood to adulthood; and with its prevalence being echoed in pop culture, there really is no escaping the workplace as a reality of life. As such, things like workplace culture, brand alignment, wellness and flexibility have become items of value and distinction.

Changes to current workplace design

The workplace has evolved from a partitioned, cubicle, regimented scene to a 'place' that has the ability to reinforce aspirations of identity and lifestyle. With such vast advancements in work life integration in response to generational change, it is

intrinsic that this evolution persists and the impact of COVID-19 will see the acceleration of change for many organisations who may have otherwise have laid dormant, yearning for yesteryear.

What this means for designers is that it is important, now more than ever before, that we revisit the tools at our disposal. Innovation and its process of 'think, make, break, repeat' is living in its heyday and it is the wakeup call the briefing process needed to be able to engage more deeply with business and user needs.

Changes to future workplace design

To help paint a picture of a possible future state, perhaps there is merit in looking to other industries, equally as deep-seated in pop-culture, to draw tangents from their advancements in synthesising designs with user needs. Industries responsible for the development of all things 'wearable tech', the mobile phone and user experience, for example. The synthesising of designs with needs is, after all, the crux of design as business.

If history is any indicator, the future of workplace design will see a more human first response. People are a significant portion of business and the safety, productivity, wellness, attraction and retention of all people will continue to remain the priority when designing spaces for them. Only with the renewed humanisation of workplace and a flurry of innovative responses, will we see the morphing of workplace design to its future state.



RPS Workplace in Brisbane, designed by Conrad Gargett. Photographer: Toby Scott



Rachael McCarthy
Photo: © Bates Smart

RACHAEL MCCARTHY

Studio Director of Bates Smart

Changes to current workplace design

The pandemic has forced change and rapidly accelerated many disruptive trends around ways of working and the workplace itself. It has caused a workplace revolution, in place of the relatively slow evolution of change we had seen up to this point.

Remote working is on the radar for many organisations and this is changing the role of the physical office to a place of collaboration and social connection, a rally point.

Now more than ever we foresee a heightened importance of the office as a symbol of an organisations' values and brand.

Regarding design impacts, our early

thoughts gravitate towards social engineering to inform workspace design and purposefully drive greater collaboration. Re-scaling and re-zoning of expansive work areas will be key to overcome a lack of activation, energy and engagement in a partially occupied workplace. We anticipate an elevated focus on collaborative project team neighbourhoods that cluster around highly trafficked circulation routes, with fewer buffered individual working areas on the basis that this individual and concentrated work will be prioritised for at home. Display (both high tech and low tech) will become increasingly important to drive visibility of the content teams are generating across the organisations, driving valuable cross-business collaboration opportunities.

Changes to future workplace design

Many firms will leverage the learnings from remote and digital working to re-shape the way they work and the design of their own office. In a challenging economic climate, smart businesses will need to consider how they will achieve the best return on investment from people, technology and place to create value and thrive in the 21st century.

However the future isn't a one-size fits all solution – work environments will look different depending on the varied functionality, challenges and aspirations faced by sectors and individual businesses.

We envisage 4 scenarios, with many variations.

Scenario #1: Long live the office – Conservative organisations will seek to return to pre COVID business as usual as quickly as possible with 100 percent of their staff working at the office. They will do the minimum to manage the



RACV office, designed by Bates Smart.
Photographer: Sean Fennessy

restrictions around the virus in the interim.

Scenario #2: Death of the office – At the radical end of the spectrum, some organisations are citing a future where 100 percent staff continue working remotely. This is most prevalent within large tech organisations that adapted easily to remote working.

Scenario #3: Work Life / Home Life – Flexibility to work from home and office, involving a shift in user patterns that will impact the types of spaces in the 'workplace'. We see this as the most likely scenario for many organisations as it manages the variability of functional roles, changing work intensity/type and generational preferences (the next generation will prefer virtual).

Scenario #4: Hub & Spoke – involving CBD and satellite offices. This might take the form of a small CBD interaction suite with larger satellite workspace/s in the suburbs or a larger CBD workplace with access to co-working spaces in suburban locations. This offers many of the conveniences of home working by offering a 'local' workplace, however, avoids the disruption and better overcomes the challenges of separating work and home life associated with working from home.



Campaign Monitor Sydney office, designed by Bates Smart.
Photographer: Carine Thevenau



Bhavna Singh

BHAVNA SINGHAL

Associate Director, Strategy & Change, M Moser Associates (S) Pte Ltd

employees the freedom of choice to select the environments that best meet their work needs.

New hygiene and safety precautions are taking precedence to ease the emotional safety barrier. By addressing physical safety in the workplace, we can also influence psychological safety. An office that can provide the same sense of safety as home is crucial. While social distancing is paramount, it can be supported by strong technological solutions to enable greater flexibility. These tools might include: electronic booking systems, cloud storage and home working kits.

Changes to current workplace design

As variables continue to shift and evolve without a stable 'new normal', an agile mindset is the key as businesses continue to observe employee behaviours and collect feedback.

Employees are seeking flexibility now more than ever, making it imperative that we implement change in workplace policies and operations. A hybrid flexible model, for example 2-3 days working from home or office, could help attain an ideal work-life balance. It gives

Changes to future workplace design

When the 'new normal' sets in, the biggest challenge will be shifting mindsets. The 'workplace' will no longer be a place for 'work' only, but an anchor to engage with colleagues and build their professional networks, a collaborative hub to strengthen a sense of community and social bonding.

Not only will people be searching for

connection, but also for engagement and a sense of belonging with their work. A workplace is the face of a business and its brand. It is important for people to visually connect with an organisation's identity, and connect with its culture.

The work environment will become a multidisciplinary, adaptable space with endless opportunities where emphasis on user experience will be central. Spaces will continue to meet individual needs, while embracing the need for inclusivity and connection. It will be important to balance areas for focus, relaxation, wellness, along with providing energetic social hubs for serendipitous interactions. Most of all, workplaces will need to be enticing and exciting to encourage people to want to come back to the workplace.

The future of work will vary in different countries and regions depending on the culture or limitations of its location. It will be crucial for workplace designers and organisations to be sensitive and observant of those differences and implement designs that carefully consider local nuances.

Photos below: Zendesk Singapore, a project by M Moser Associates.



Warm lighting and biophilia create a comfortable environment conducive for collaboration and focus work near the reception. Photographer: Owen Raggett



This flexible void deck offers a variety of social settings to host informal gatherings among staff and wider company events with guests. Photographer: Owen Raggett



Amanda Stanaway
Photo: © Woods Bagot

AMANDA STANAWAY

Principal and Global Workplace Design Leader, Woods Bagot

Changes to current workplace design

Is workplace dead? How do companies optimize performance when creativity is at the heart of their business? There are loads of quick fixes to getting people safely back to their workplaces but if innovation is crucial for your business the focus needs to shift from safety to engagement.

We are working with clients to express and communicate the purpose of their office as a place of relating, important for business performance, culture, collaboration and innovation and true human connection.

While returning to workplaces demands addressing the points of anxiety and safety through distancing and hygiene, many of our clients are looking further ahead than the immediate return and intently focused on two things: new ways of working, and behavioural and cultural opportunities and changes.

Changes to future workplace design

Organizations are working to reinvigorate and re-envision the value of the office, because simply reducing density and cleaning more doesn't give employees a compelling reason to come back to work.

Already more comfortable working remotely, more of us will expect to do so more often. More than before, HOME will form an extension of WORK. The challenge is how to accomplish this while ensuring organizations have physical time together to build their culture and you don't end up living at work.

In pursuit of engagement and balance what matters most is allowing people to have choice and squaring those choices with the needs of the team and the business. When flexibility and diversity drive workplace strategies, companies can curate, change, and leverage different models of occupation to allow business to continue and thrive. The challenge as we move forward is balancing flexibility for mutual benefit, and to ensure and enhance business performance.

Forecasting the long term, sustainable future of workplace, we reimagined four workplace models where culture and performance are the focus. (Safety is a given.)

The models see working from home playing a role in them all, to greater or lesser degrees. The reality for most organizations will likely be a combination of two or more of these models.

Model 1: Culture Club

– office as the collaboration hub, the vital ingredient for creativity in complex problem solving.



Image courtesy of Woods Bagot

The physical office becomes a more club-like space, a place of creative interaction. In this model, the workstation transforms to a variety of adaptable settings for collaboration, leaving quiet, focused or process work to be accomplished remotely at our homes. Focus work is

done from home and people travel to the office only when it is necessary or preferable to collaborate physically with colleagues with buzz and energy. Imagine a workplace with no desks!

Model 2: In and Out

– percentage of the organisation's people are in at any one time.

When we talk about 'agile working', we're talking about creating freedom for people to decide how, when, and where they work. Agile workplace experiences include flexible start and finish times, shared spaces, and remote working. For employers, the strategy offers benefits in space optimization.

The future of work in this model is a more hybrid version of ABW or agile which de-densifies and manages the workplace population over times and days of the week through a combination of working from home and co-located agile staff. With teams rotating and fewer people on site at any one time, there's more space for physical distancing.



Image courtesy of Woods Bagot

Model 3: Community Nodes

- the decentralized HQ, where people work in disaggregated offices of their employer, located closer to their homes.
- changes the way we live, work, and commute but maintains the connection and tribes essential to organizational culture by 'working from work'.

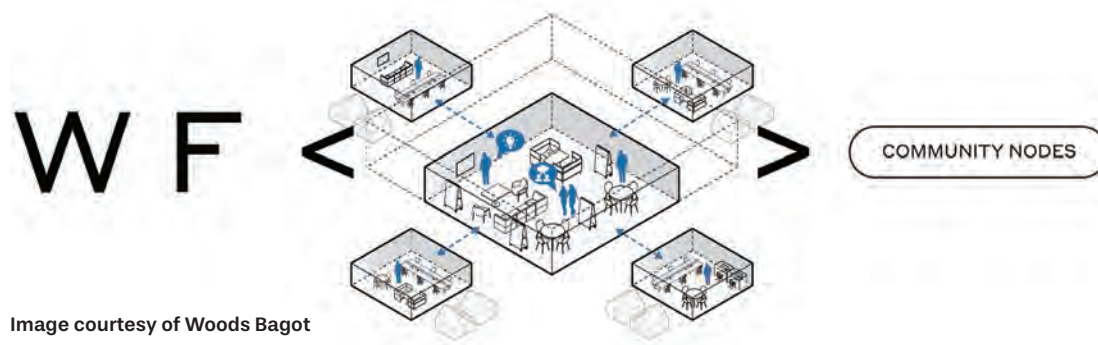


Image courtesy of Woods Bagot

The future in this model is more distributed than consolidated. Its focus is on smaller satellite, community based, work points closer to people's homes, making significant impact on the 'time' challenges of the old working models and supporting people to 'live and work locally' in tribes.

The central HQ office becomes smaller and

serves as the Culture Club (Model 1) bringing people together as required, from their community nodes. This approach balances the social benefits of being physically co-located with the efficiency of proximity to home. It also has the potential to reduce rent (in lower cost distributed locations).

Model 4: Collectives

- defined, cellular spaces are created for people to work together in small clusters (collectives).
- an expensive, and still flawed model as there is still a large amount of shared space, and people come together. But it does reduce the feeling of being in a large scale workplace, exposed to large groups of people for a long period of time.

Does COVID-19 mean the demise of open plan offices? Not at all. This future office maintains open plan layouts but reduces large groups to smaller team communities.

A version of co-working, in this model the collectives coexist within the boundary of the centralized office. While the boundary is flexible the intent is to reduce the scale of a massive workplace, bringing the circle of trust closer – the people you need to be with.



Image courtesy of Woods Bagot

Anchoring teams to studio-sized neighbourhoods within a larger office minimizes exposure to people. Long term exposure between the studio communities is limited, while amenities can remain shared. The model relies on increased cleaning and hygiene regimes and associated operational discipline.



Meena Murthy Kakkar
Photo: © Envisage

MEENA MURTHY KAKKAR

Design Head and Partner, Envisage

Changes to current workplace design

The current situation demands that offices relook at spaces on multiple levels, and holistically. Apart from the layout of the space and circulation, which are the immediate factors that impact 'space preparedness', one also needs to look at building services, ventilation, materials, sanitation, office demographics, regulations and processes etc. – all from an analytical point of view.

Faced with a challenge, most corporate houses have risen to the occasion and taken a paradigm shift towards working from home. This eventually helps in implementation of social distancing modules – such as the 6' office model – successfully. Workspaces are being rearranged to ensure the minimum six-foot radial gap between employees, along with other changes that will mitigate risks. Conference rooms are being planned to allow occupancy by half the number of people and can be used as additional workstations. One-way movement, which is most efficient, will be decided and floor-markers are added to ensure the same. A glass clip-on partition can be added wherever necessary between workstations across the office to facilitate segregation of space.

Teams should be allowed to choose a breakout period for themselves; this would ensure ease of planning the rest of the day accordingly. Such plans would also allow everyone to use the

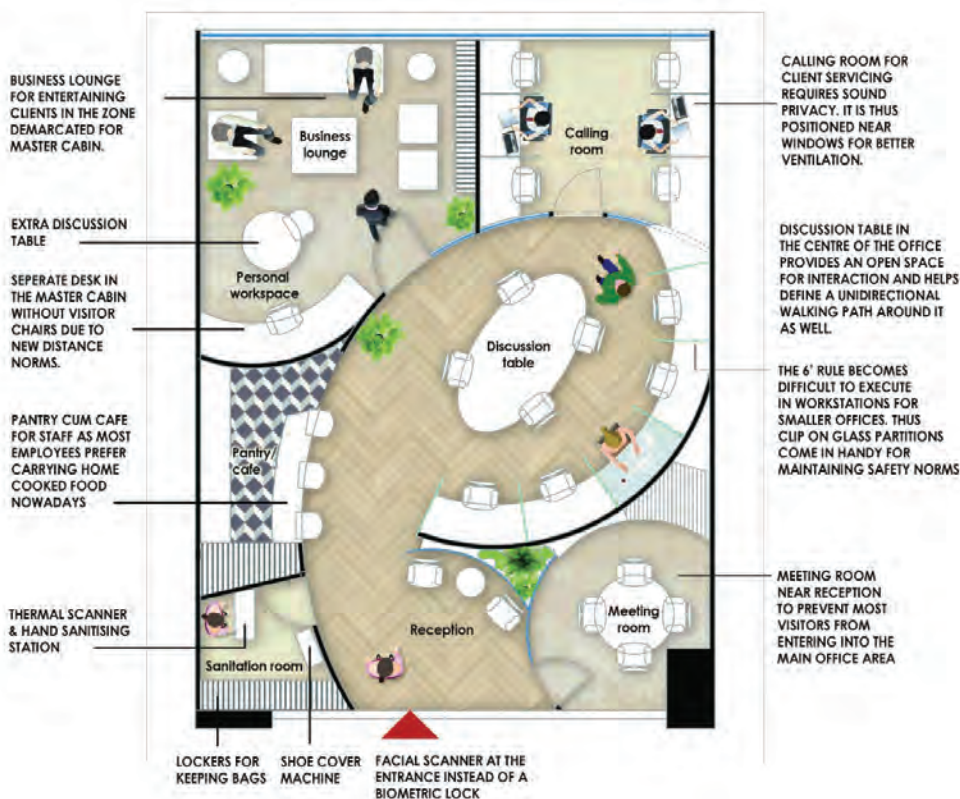
breakout space during the span of the day, without crowding the area. With teams having distinct operational and breakout timings, it is akin to developing individual timetables for them, in order to avoid unplanned congregations.

Changes to future workplace design

The new norms surge the 'per desk' cost to the office, both in terms of floor area requirement – which gets upped by 50 percent to seat the same number, plus an additional 30 percent in infrastructure and 50 percent increment in the running cost. Thus, the changes that one would bring about today should be easy to revert to and modify as and when one deems it to be necessary. In a post Covid scenario, cubicles could be designed to resemble isolated larger workstations instead of rooms with visitor chairs. Partitions could be made of glass and covered with

roller blinds instead of frosting films, to allow the user to experience a feeling of a larger space, yet giving them privacy when needed.

Workstations could continue to be open-planned, but with some screening, devices separating teams, which could be fixed or foldable. The desks need to be modular in nature accommodating one per module so that they can be placed at a required distance from each other. This would also help in rearranging them in the future whenever required and would enable the addition of modules later if necessary. Larger tables would be wasteful as no one needs 6' of table width for standard office operations. The post COVID office thus needs to be a space that has adaptability at the core of its design. And most importantly, one that takes into account, both – the physical and mental well-being of its occupant – for a safe journey ahead.



Proposed post Covid-19 office plan. Image: © Envisage



Matthew Blain
Photo credit: Nicole Bachmann

MATTHEW BLAIN

Principal, Hassell

nearly all employees will be mobile and require a network of locations, with the home office becoming another activity/agile based work setting.

This new balancing will cause designers to be more deliberate about why and when we go into the office. With more individual work taking place at home, the focus of the office will be on facilitating team activities, building team dynamic, and creating community, with the emphasis on creating ideal employee experience becoming more important than ever.

Technology will be in the spotlight to enable this more remote model of agile working. Employee's expectations will be for a seamless office-to-home experience. And organisations will want to ensure employees can maintain productivity and engagement, no matter where they are.

Smart buildings and the use of smart data, to track who sits where over the course of a day for example, will become more fully utilised, as organisations look

to maximise the use of their space, while ensuring that teams can work together safely and efficiently. Companies may choose to consider different space allocations on different days; modelling the needs of the organisation over a typical week, with allowances for spontaneous activity.

Finally, given the macro changes in the economy it's likely that the "freelance" model and mind-set will only increase, to create flex in the core employee base, and help companies to be agile in the face of any future crises. This of course will only place more pressure on the office as an 'attractor' and 'connector' for a more transient and fragmented workforce who will still want and need to be connected to achieve shared goals and enjoy the social aspects of work.

The best organisations will use this global pandemic as an opportunity to build positive culture, achieve organisational goals and drive the sort of change that may even have seemed impossible before.



AMP Capital London
designed by Hassell.
Photographer:
Mark Cocksedge



Petr Esposito
Photo: © ThirdWay Architecture

PETR ESPOSITO

Founding Director, ThirdWay Architecture

seen as a traditional desk station; we are working on designs that also offer the 'home life' in the office – exploring areas of residential design such as shared long dining tables with touch in points, more snug areas, from smaller group working pods for 2–4 people, to large forum spaces.

More than 50 percent of the space will be allocated to 'living' areas in the office over traditional desk spaces – within some designs there is as little as 20 percent desk provision. This is aligned with companies offering a flexible Hybrid Working Model where 100 percent of the team will never be

in the office at any one time.

Greener thinking is also starting to take shape with some landlords focusing on increased bike storage and the provision of better shower facilities to encourage greener modes of transport to work. Some are also encouraging tenants (especially on the lower floors) to use the stairs instead of lifts where possible.

Roof top amenity as a shared space is becoming a large talking point, with a number of our projects reducing the height of the main building by a level to factor in high quality roof top amenity for gatherings, isolated working, as well as wellness activities such as yoga.

Changes to current workplace design

The current changes to workplace design during the pandemic are reactive, and ones that focus on the human sentiment / balancing the needs of individuals. Unquestionably there is still a desire to communicate and engage within a physical office environment, but only if safe to do so. The office design today is more about creating micro safe havens for injections of office culture, collaboration, and client facing meetings all hued with covid, safety protocols.

Some immediate alterations we have been working on include rearranging desks and room layouts to create user friendly, one way routes which align with the natural flow of people throughout the building. Plus, moving partially away from traditional boardrooms and supplementing these with more dynamic spaces for meetings.

Changes to future workplace design

The future shift in office requirements is inevitable however this does not mean the death of the office as we know it. The prolonged lockdown in the UK has only highlighted the benefits for office space, both for employers, and the individuals they employ. Creativity, ingenuity, inventiveness are becoming the core of office based business, and we still require space to facilitate these skills.

The office is no longer going to be



Office designed by ThirdWay Architecture. Photo credit: Marek Sikora



Brent Capron
Photo: © Perkins&Will

BRENT CAPRON

Interior Design Director and Principal, Perkins&Will's New York Studio

Changes to current workplace design

Current changes to workplace design will largely be measures that can support physical distancing, until more long lasting solutions are implemented. Given the cost of office spaces around the globe, especially in major markets, it is unlikely that clients will take on larger spaces (for the course of a lease term) in response to the COVID crisis.

Rather, it means staggered schedules, and increased flexibility towards working hours to decrease the number of staff in each given space.

Despite some industry rhetoric, this isn't the death of the open plan office. Flexible shared spaces and co-working spaces will continue to be a viable option as we emerge from this current pandemic. However, our perspective on personal space and the requirements of what we need to feel safe and comfortable in our work environment will most likely shift in the wake of a global health crisis. No one knows definitively how employees will react, although there is anticipation that shared desks will not be desired or in some cases, even recommended.

Until everyone is comfortable returning to an office, some companies may also opt to open regional hubs or provide access to co-working spaces wherever their staff reside, rather than having one central office where most of their workforce is concentrated. Until then, assigned seating will be crucial.

Changes to future workplace design

Designers need to start looking at office spaces from a public health perspective, without compromising good design. We will need to find a way to do both, and I don't necessarily believe that means larger working spaces that support physical distancing. It will mean better utilizing existing spaces. Support and socialization will still need to be provided to keep the workforce productive and to build corporate culture. While employees may use their living rooms for heads-down work, the office function may instead evolve into a high impact, high value space for collaboration and human connection.

Ultimately, employers and landlords of co-working spaces may engage design firms more frequently – above and beyond how they would have done in the past. They may assign greater value to design because they see its potential to create culture and unite colleagues in a post-pandemic world.



Viacom's headquarters in Manhattan, USA, designed by Perkins&Will.
Photo: © Eric Laignel

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Is Your Key Safe? A Definitive Guide to Key Protection

By Urs Spaeni, VP Strategic Innovation, dormakaba Switzerland
Adapted from the official dormakaba blog. Photos courtesy of dormakaba.

The first known keys in history were wooden sticks used some 6,000 years ago in Ancient Egypt and Babylon. Today, following the astonishing technological developments and digitization, the rudimentary idea of the "key" has since evolved to encompass many definitions. Devices such as a card, a smartphone, and even fingerprints, voice, or eyes can authorize users to access an area.

Despite the growing market of digital or frictionless access methods, mechanical keys and locks are still the most popular method to secure a room or a facility thanks to their durability and affordability. As mechanical systems are safe from digital hacking attacks, the mechanical key is often viewed as a traditional, yet secure and reliable option compared to its new-age digital counterparts.



dormakaba's customisable mechanical key solutions

With more than 150 years of experience prioritizing safety and security in its innovations, dormakaba has developed ways of ensuring that your mechanical key system remains trusted and true. This article explores some of the methods that dormakaba has held dear while carefully manufacturing each key to maximise your safety and security.

Key Protection Method #1: Make It Complex

Not all mechanical locks are created equal. Subpar materials and unsophisticated key profiles can be factors for easy targets for lock manipulation.

When a fragile lock is used, criminals can follow classic lock manipulation methods like lock picking, key bumping, snapping, or drilling to gain unlawful

access. Thus, to galvanize a mechanical lock's security, users must ensure their locks are as complex and high-quality as possible.

Ideally, mechanical keys should be manufactured with a unique key profile made with "anti-snap" material, and be aligned with the relevant industry conducts such as the European Security Standards.



The high security of dormakaba's mechanical key systems is based on the sophisticated technology inside the cylinder lock. dormakaba's PENTA cylinder locks are one of the most secure on the market and against the most common opening methods. In particular, the bumping method – which can open a common cylinder lock with a specially prepared key and a hammer with leaving any traces of force – is no concern for the owner of a dormakaba PENTA cylinder lock.



dormakaba PENTA multi-row reversible key double cylinder lock design offers increased security over a traditional serrated key cylinder.

Key Protection Method #2: Copy-Proofing the Mechanical Key

Even when users acquire a robust mechanical lock system that will be resilient against common lock manipulation methods, they might still face the risk of unauthorized copies. The most straightforward way to mitigate this risk is to source keys from a reliable

business partner that can offer patent or brand protection.



dormakaba PENTA is protected by European Patents EP1185755 and EP2890856B1. This means only dormakaba produces the cylinder locks and additional and/or duplicate keys only at the user's request.

Patent-protected keys ensure that only authorized persons can order copies of keys and cylinder copies. Likewise, brand-protection allows keys to have a recognizable and uncopyable logo, helping system owners determine if a key is an original or an unauthorized copy. Unlike a patent, which typically expires in 10 years, brand protection last forever.

The Herculean effort required, coupled with the legislation protecting the copying of patent or brand-protected keys, acts as a massive active deterrent to potential invaders.

Key Protection Method #3: Taking Personal Responsibility



dormakaba keys and locks are created with your safety and security in mind.

The gentle curves juxtaposed with strict ridges and edges on the mechanical key remains a comforting and reliable shape to hold in the palm of the hand for many. However trusted your key may be, it takes a nosedive into a nightmare the moment it falls into malicious hands. It is now the owner's turn to protect the key. Keeping the lock and key system safe, will in turn keep you safe.

Windows, Doors & Building Profiles: Market Growth, Trends and Innovation in the time of Covid-19

In this issue, we get some insights on the market situation of windows, doors and building profiles in ASEAN and China from ASSA ABLOY. Troy Jackson, Managing Director – E-Business and Smart Residential, ASSA ABLOY Opening Solutions APAC, shares his views on market demand and trends and the impact of Covid-19 on the industry.



Troy Jackson
Photo: © ASSA ABLOY

SEAB: What is the current market situation of windows, doors and building profiles?

TROY: Global windows market is estimated at greater than USD130 billion, split 65 percent residential versus 35 percent commercial. The global market size of window hardware is estimated at USD15 billion in 2018 representing more than 10 percent of the window value.

ASEAN market varies in development where mixed with developed countries like Singapore and developing countries like Philippines or Indonesia. Customers' interests in those developed markets are more related to brand, technology, quality and sustainability, which are different from the developing countries market, where product price is still very sensitive for the majorities, and the market size for high-end products is still very limited.

China's residential replacement door market has been seriously impacted by Covid-19 from the beginning of 2020. The first quarter has been affected the most due to the lockdown, while during Q2 and Q3 the market started to recover due to Chinese government's effective control. If those control measures can keep up with a positive result, the market situation may possibly resume to the similar level of Q4 last year.

SEAB: What factors are expected to drive the demand for windows, doors and building profiles?

TROY: The demand for windows and doors is generally linked with similar design and functionality requirements from customers, and windows and doors are often offered by the same manufacturers. Modern design, convenience to use, smart and sustainability are the factors driving the demand for windows. For developing markets, cost-effectiveness is also a very important factor. The door replacement market in China is mostly driven by the needs of house re-decoration. According to ASSA ABLOY's study, re-decoration usually happens 12-15 years after the first decoration was undertaken in China.

SEAB: What are the key trends in the windows, doors and building profiles?

TROY: Windows market is expected to achieve 4-5 percent CAGR following urbanisation trend and higher-priced window solutions (e.g. for energy efficiency) with window hardware growing at a slightly faster rate with impact of energy efficiency and smart solutions increasing value.

Trends driving growth for windows and hardware:

- Sustainable solutions: Energy efficient windows which reduce energy consumption and greenhouse emissions will grow faster rate with >10 percent CAGR.

- Heavier windows: Large windows often fixed as lack of operational hardware for opening. Thicker windows with more glass for energy efficiency.
- Smart and electro-mechanical windows: Smart window segment to grow at >14 percent CAGR. Smart glass and smart hardware for operating window. Energy efficiency and growing desire for home automation.
- Windows can be part of smart home system. More customised products can fit with the overall style of the apartment.

ASSA ABLOY offers Yale branded Smart Electric Window with advanced design and agile response can detect smoke and adverse weather conditions to protect interiors.

Modern pattern, simplicity design with light colours and smart technology are the key trends of the residential doors in China. These characters are preferred by most young generation which is completely different from their parents' choice of heavy colour with classic European patterns.

In China safety function becomes more and more important for door and window products due to the increasingly strict anti-fire regulations demanded by Central and local governments and institutions.

SEAB: Have you developed or innovated any new products to fight the Covid-19 crisis?

TROY: ASSA ABLOY has launched touch-less products both for door and windows. For example, Yale branded Smart Electric Window, in conjunction with the Yale Fire Prevention Cloud-based Management Platform, can be closed remotely in case of a fire or extreme weather.

We also launched a series of anti-bacteria products including handles, doors and other touchable hardware with BioSecure™ technology material to reduce the potential virus maintains on the handles, as well as touch-less solutions including facial recognition, touch-less triggers for automatic door/window open and close.



ASSA ABLOY offers anti-bacteria hardware with BioSecure™ technology material. Photo: © ASSA ABLOY

PANPAN, a leading brand of security door in China market, part of ASSA ABLOY Group is developing an automatic open/close structure on doors to fight against Covid-19 pandemic. It will provide touch-less open and close solution even for residential doors, and will feature face recognition, full auto opening structure and full closing structure.



Mitsubishi Electric to supply elevators and escalators for New National Assembly Building in Laos

Mitsubishi Electric Corporation has announced that MELCO Elevator Lao Sole Co., Ltd. (MLAO), a subsidiary of Mitsubishi Elevator (Thailand) Co., Ltd. (MET), has secured an order to supply 14 elevators and 4 escalators for safe, comfortable and reliable vertical transportation in the new National Assembly building in Laos, which is currently under construction. The new National Assembly building is being built on the site of the former National Assembly building, which was constructed in 1991. The order reflects the high evaluation of the company's product and service quality in Laos.



New National Assembly Building in Laos.

PROJECT DATA

Project Name: Lao National Assembly building
Location: Vientiane, Lao People's Democratic Republic
Facility: 1 basement floor and five storeys above ground
Total Floor Area: 35,000 square metres
Products: NEXIEZ-MR elevators – 14 units
 Z type escalators – 4 units
Supplier: Mitsubishi Elevator Asia Co., Ltd. (Thailand)
Schedule: Ship from October 2020



NEXIEZ-MR elevator.
 Photo: © Mitsubishi Electric Corporation



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Event	Date	City	Country	Website	Page
ARCHIDEX 2020	16 – 19 Dec 2020	Kuala Lumpur	Malaysia	www.archidex.com.my	5
WORLDBEX 2021	17 – 21 Mar 2021	Manila	Philippines	www.worldbex.com	IBC
Geo Connect Asia 2021	24–25 Mar 2021	Singapore	Singapore	www.geoconnectasia.com	7
Architect Thailand 2021	27 Apr – 2 May 2021	Bangkok	Thailand	www.architectexpoasia.com	9
ASEAN Super 8 2021	15 – 17 June 2021	Kuala Lumpur	Malaysia	www.super8asean.com	11

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Antimicrobial Door Sealing Solutions



The threat of bacterial infection exists in all environments, but particularly in 'high traffic' commercial buildings. Dwelling on common surfaces, including doors, door hardware and door seals, bacteria can be easily spread by simple human contact.

To assist in suppressing the growth & spread of bacteria, Kilargo has incorporated antimicrobial technology into the manufacture of its range of silicone door seals. Our innovative range of antimicrobial silicone gaskets provide outstanding performance with unbeatable hygiene, eliminating up to 99.99% of bacteria.

Manufactured with in-built SteriTouch® protection, they are designed for 'clean room' environments and buildings that demand superior infection control, including:

- hospitals, medical centres and nursing homes
- laboratories and testing facilities
- childcare centres and schools
- food-handling areas.

Like all Kilargo products, our SteriTouch® range is professionally manufactured to exacting standards – providing exceptional solutions for containing sound, limiting the spread of smoke, improving energy efficiency and preventing weather infiltration. With incredible bacteria resistance, they're the perfect choice for the most hygienic buildings.

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