# PRESIDENT\*S DESIGN AWARD SINGAPORE 2025

\* Ar. Alan Tay
\* Gabriel Tan
\* 21 Carpenter
\* Bird Paradise
\* Delta Sport Centre
\* KartaCam 2
\* School of Tomorrow
\* Silver Pride
Lion Troupe
\* Surbana Jurong
Campus

\*

PRESIDENT\*S
DESIGN AWARD
SINGAPORE 2025

ENABLING ECONOMIC TRANSFORMATION

- 7 MESSAGE FROM THARMAN SHANMUGARATNAM President of the Republic of Singapore
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\* DESIGNER OF THE YEAR



30 AR. ALAN TAY
Principal Partner,
Formwerkz Architects



50 GABRIEL TAN
 Principal, Gabriel Tan Studio and Studio Antimatter;
 Co-founder, Origin Made

DESIGN OF THE YEAR



21 CARPENTER WOHA Architects



86 BIRD PARADISE
Mandai Wildlife Group
In collaboration with
RSP Architects
Planners & Engineers



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132 SCHOOL OF TOMORROW Kinetic Singapore



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CAMPUS
Safdie Architects
In collaboration with
Surbana Jurong Consultants

176 IMAGE CREDITS

178 2025 JURY SESSION CREDITS

180 ACKNOWLEDGEMENTS

# THARMAN SHANMUGARATNAM

Design is everywhere. It reflects our spirit of tackling challenges creatively, whether in securing high-grade water, or in shaping products that make everyday life just a bit easier and more delightful, or in helping those who need care.

This year's awardees show us that good design is never just about aesthetics. From nurturing our bonds with nature, to shaping sustainable urban spaces, to reimagining how our children learn, their work is at the heart of an inventive society.

I extend my warmest congratulations to all President\*s Design Award (P\*DA) 2025 recipients for their captivating and meaningful contributions.

## **DAWNIIM**

Design has always played an important role in our nation building. Coinciding with Singapore's 60th anniversary, the 2025 cycle of the P\*DA is a timely opportunity to reflect on how we got here.

When the award programme was reoriented in 2017 to focus on the impact of design, our conceptions of how the awarded designs and designers would represent Singapore also shifted. We looked for groundbreaking achievements in design but also examples of how design was enabling economic transformation; raising the quality of life; and advancing Singapore's brand, culture, and community. That meant the award recipients would, by virtue of the judging criteria, tell rich stories of design's power to make life better.

The impressive design accomplishments recognised by the P\*DA build on a truth that I believe all Singaporeans intuit: We are, and have always been, a Nation by Design. Through six decades, Singapore has been shaped by bold, creative, and strategic thinking. This has enabled us to overcome significant national challenges and develop a quality of life that is admired by many.

As the P\*DA demonstrates, many of Singapore's designers are finessing ever-more impactful responses to today's emerging and pressing problems, and harnessing design's potential in new ways. They are manifesting the creative courage that built their nation and steering it toward current challenges.

In this year's award recipients we see creativity, innovation, and determination in response to issues such as climate change (School of Tomorrow), technological advancement (KartaCam 2), our ageing population (Silver Pride Lion Troupe), and our engagement with wildlife conservation (Bird Paradise). In our outstanding Designer of the Year, Gabriel Tan, we see how an entrepreneurial Singaporean designer can achieve international success while honouring meaningful craft traditions.

The P\*DA remains steadfast in its focus on the impact of excellent design, which is being practised in an increasingly complex environment. Our recipients reflect the design industry's shift toward multidisciplinary and interdisciplinary projects, with designers becoming better equipped to address the complex, multilayered needs of the 21st century.

Congratulations to all P\*DA 2025 recipients. Singapore's spirit as a Nation by Design sets the stage for our designers to continue responding proactively to tomorrow's challenges. They will, as ever, be central to shaping our future.

# LIM ENG HWEE

Over the decades, Singapore's extraordinary urban transformation has greatly enhanced the city's liveability and distinctiveness. The Singapore we cherish has been shaped by long-term planning and detailed urban design, but also by thoughtfully conceived architecture that brings us delightful forms and experiences.

The architecture recipients in the 2025 cycle of the P\*DA demonstrate how innovative strategies for buildings can contribute to the positive collective experience of our city. As Singapore continues its urban development journey, these beacons of architectural excellence offer real and tangible design solutions to some key challenges that require forward-looking responses.

The meaningful adaptation of our existing buildings is one such challenge, 21 Carpenter demonstrates how our heritage buildings can be adapted for the future through the embrace of both old and new. This boutique hotel inspires with storytelling through form. The building helps keep our heritage alive and offers emotionally resonant ways for people to connect with our past.

Delta Sport Centre shows how strategic adaptive reuse can strengthen community bonds and neighbourhood connectivity. Strategic subtractions and thoughtful additions were made to the site's existing modernist-inspired architecture. Every adaptation forges stronger connections with the surroundings and better serves the community's needs.

Our city stands to benefit when new developments embrace the generous provision of public spaces, enriching the urban environment and enhancing quality of life for all. A case in point is the Surbana Jurong Campus, which reimagines typical office headquarters through substantial green public spaces linking to the neighbourhood. The outdoor and indoor garden areas offer a peaceful oasis for both Surbana Jurong staff and members of the broader community.

The work of Ar. Alan Tay speaks volumes about the ingredients of a liveable and distinctive city. From unique homes that honour their tropical context, to a mosque that breaks down social barriers with a porous edge, his crafting of space and form has been consistently exceptional and always boundary-pushing. An inspiration to the architectural fraternity, he is deservedly recognised as Designer of the Year.

The achievements of this cycle's architecture recipients are testament to Singapore's urban vision of a city whose character enhances our quality of life. I am pleased to congratulate the P\*DA 2025 recipients and heartily acknowledge their contributions to Singapore's architectural and urban excellence.

The President's Design Award, Singapore's highest honour, is accorded to designers and designs across all design disciplines. It recognises the significant achievements of an extraordinary group of people that has positively impacted the lives of Singaporeans and the global community.

The recipients are standard bearers whose commitment to design excellence is the benchmark that future generations of designers should aspire to reach and exceed.

These standards will eventually permeate the consciousness of society, whilst bringing about a greater awareness and appreciation of the impact of design.

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The 15th edition of the P\*DA coincides with a landmark moment for the nation, as Singapore celebrates its 60th year of independence. Since its launch in 2006, the award has stood as the nation's highest honour for design excellence, evolving into a living archive that records the impact of design on Singapore's growth and identity. More than just an accolade, the P\*DA serves as a benchmark of excellence, capturing the spirit, creativity, and aspirations of each era.

The 2025 edition reaffirms the award's role as a lasting record of how design continues to shape and inspire Singapore's future. With this, we write another chapter in its ever-evolving narrative.

### 2006

### DESIGNER OF THE YEAR

AR. CHAN SOO KHIAN SCDA Architects Pte Ltd

THESEUS CHAN WORK Pte Ltd

### DESIGN OF THE YEAR

6 SPECIAL EXHIBITIONS AT THE ASIAN CIVILISATIONS MUSEUM (EMPRESS PLACE) Asian Civilisations Museum

CHURCH OF ST MARY OF THE ANGELS WOHA Architects Pte Ltd

ESPLANADE -THEATRES ON THE BAY DP Architects Pte Ltd In association with Michael Wilford & Partners (London)

FULLERTON HOTEL
AND ONE FULLERTON
Architects 61 Pte Ltd

HP DESKJET 460
MOBILE PRINTER
Hewlett-Packard (Singapore)
In association with
Philips Design

MINI HABITAT Kingsmen Exhibits Pte I td.

NEW MAJESTIC HOTEL Ministry of Design Pte Ltd In association with DP Architects Pte Ltd

### 2007

### DESIGNER OF THE YEAR

WILLIAM CHAN, MELVIN CHEE, ALVIN TAN & JACKSON TAN PHUNK

**ENG SIAK LOY** 

CASEY GAN & LIM SWE TING Cicada Pte Ltd

ANDREW GN Andrew Gn Designs (Paris)

LIM SAU HOONG (Formerly with 10AM Communications Pte Ltd

AR. MOK WEI WEI W Architects Pte Ltd

### DESIGN OF THE YEAR

J5UI The Finger Player

1 MOULMEIN RISE WOHA Architects Pte Ltd

BISHAN COMMUNITY LIBRARY LOOK Architects Pte Ltd

DELL 966 ALL-IN-ONE PHOTO PRINTER Dell Global BV (Singapore Branch) Experience Design Group

PAGE ONE BOOKSTORE AT VIVOCITY Kay Ngee Tan Architects

PEDIGUARD™
PSB Technologies Pte Ltd

(Now known as XentiO Pte Lt

PHILIPS SINGAPORE LEARNING CENTRE Philips Design

### 2008

### DESIGNER OF THE YEAR

EDMUND WEE Epigram Design
(Formerly Epigram Pte Ltd)

AR. WONG MUN SUMM & WOHA Architects Pte Ltd

NATHAN YONG (Formerly with Air Division Pte Ltd)

### DESIGN OF THE YEAR

16 JALAN ELOK

**OUTLET SYSTEM** 

OF THE ARTS & Engineers (Pte) Ltd

NATIONAL MUSEUM CPG Consultants Pte Ltd

NAUMI, SINGAPORE

NEW MAJESTIC HOTEL.

### 2009

### DESIGNER OF THE YEAR

KOICHIRO IKEBLICHI Atelier Ikebuchi Pte Ltd

(Formerly with Ogilvy & Mather (New York))

### DESIGN OF THE YEAR

Arup and WOHA Architects Pte Ltd

HENDERSON WAVES RSP Architects Planners IJP Corporation Ltd (UK)

THE MET (BANGKOK, THAILAND) WOHA Architects Pte Ltd

PAPER FOLD

DP Architects Pte Ltd

Nanyang Optical Co Pte Ltd

### 2010

### DESIGNER OF THE YEAR

JOHN CLANG

LATE DR KERRY HILL

### DESIGN OF THE YEAR

**BLACK FOREST TABLE** Outofstock

LIGHTING MASTERPLAN FOR

THE TABLESCAPE

+ Urbanism Pte Ltd

BMW Group a BMW Group Company)

STADIUM MRT STATION WOHA Architects Pte Ltd

THE TREE

# 2011

### DESIGNER OF THE YEAR

AR. CHAN SAU YAN SONNY

### DESIGN OF THE YEAR

A MODEL OF THE COMPACT CITY Ar. Belinda Huang Assoc. Prof. Erik G. L'Heureux

DYSON DIGITAL MOTOR Dyson

KHOO TECK PUAT HOSPITAL

MARINA BAY SANDS Moshe Safdie International LLC Boston Massachusetts

PRYDE GROUP BICYCLE DESIGN DEVELOPMENT BMW Group a BMW Group Company)

SCHOOL OF THE ARTS WOHA Architects Pte Ltd

STATE THEATRE CENTRE OF WESTERN AUSTRALIA

STREETWAVE SWAVEBOARD

UNDERSCORE MAGAZINE

## DESIGNER OF THE YEAR

2012

AR. TAN CHENG SIONG

VOON WONG (Formerly VW+BS)

YANG YEO Wieden+Kennedy (China) (Formerly with JWT, Shanghai)

### **DESIGN OF THE YEAR**

19 SUNSET PLACE

BISHAN-ANG MO KIO PARK Atelier Dreiseitl Asia Pte I td

DELL ALL-IN-ONE DESKTOP PC FAMILY

Pelé Sports Innovation Team

Hans Tan Studio

Spacedge Designs

### DESIGNER OF THE YEAR

2013

PATRICK CHIA Design Incubation Centre

AR. RICHARD K. F. HO

The Little Voice Pte Ltd

Boenga Pte Ltd

AR. YIP YUEN HONG

### DESIGN OF THE YEAR

BEING TOGETHER: FAMILY & Kingsmen Exhibits Pte Ltd In collaboration with

**DELL INSPIRON 23:** Dell Global BV (Singapore Branch)

GARDENS BY THE BAY (BAY SOUTH GARDEN)

INITIAL 'SIGNATURE' RANGE

LUCKY SHOPHOUSE

PARKROYAL ON PICKERING WOHA Architects Pte Ltd

SATAY BY THE BAY

World Kitchen (Asia Pacific) Pte Ltd

CHRONOLOGY OF RECIPIENTS	
YOFR	
0109	
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# 2014

### DESIGNER OF THE YEAR

LARRY PEH

AR. TAN KOK HIANG

PETER TAY Peter Tay Studio

### DESIGN OF THE YEAR

A GUIDE TO THE FLORA AND FAUNA OF THE WORLD

In collaboration with

Pirate3DP Pte Ltd

Nanyang Optical Co Pte Ltd

Atelier Dreiseitl Asia Pte Ltd

MKPL Architects Pte Ltd

RABBIT & THE TORTOISE Studio Juju

**SANDCRAWLER** 

SOUND BLASTER ROAR SR20

### 2015

### DESIGNER OF THE YEAR

DR COLIN K. OKASHIMO

Tierra Design (S) Pte Ltd

AR. SIEW MAN KOK MKPL Architects Pte Ltd

AIR+ SMART MASKS AND MICRO VENTILATORS

ARCHITECT'S OFFICE AT KIM YAM ROAD

DECK - PEOPLE PLACE LAUD Architects Pte Ltd

LIBRARY@ORCHARD In collaboration with DIA Brand

NATIONAL GALLERY SINGAPORE Studio Milou Singapore Pte Ltd

DEVELOPMENT AND STUDY CENTRE

Hans Tan Studio

Kinetic Singapore

SUNRAY WOODCRAFT DP Architects Pte Ltd

### 2016

### DESIGNER OF THE YEAR

AR RENETAN

AR. RAYMOND WOO Raymond Woo & Associates Architects

### **DESIGN OF THE YEAR**

BYND ARTISAN &Larry Pte Ltd

**ENABLING VILLAGE** WOHA Architects Pte Ltd

HP OFFICEJET PRO 8720 ALL-IN-ONE PRINTER HP Inc. Global Experience

NATIONAL DESIGN CENTRE SCDA Architects Pte Ltd

NSP Tech Pte Ltd

SKYVILLE @ DAWSON WOHA Architects Pte Ltd

GE Healthcare

WAH SON @ SELETAR AFROSPACE PARK

## 2018

### DESIGNER OF THE YEAR

AR. ANGELENE CHAN DP Architects Pte Ltd

HANS TAN Hans Tan Studio

### DESIGN OF THE YEAR

TRANS-URBAN CONNECTOR

MEDIACORP CAMPUS Maki & Associates In collaboration with DP Architects Pte Ltd

OASIA HOTEL DOWNTOWN WOHA Architects Pte Ltd

AIRPORT TERMINAL 4 Changi Airport Group (S) Pte Ltd

THE FUTURE OF US PAVILION

THE WAREHOUSE HOTEL

WHO CARES? TRANSFORMING

## DESIGNER OF THE YEAR

2020

AR. BELINDA HUANG

### **DESIGN OF THE YEAR**

AirLab @ Singapore University of Technology & Design **Zhejiang University** 

Formwerkz Architects

DP Architects Pte Ltd

RSP Architects Planners & Engineers (Pte) Ltd

WOHA Architects Pte Ltd

PRESCHOOL AT PUNGGOL

### DESIGNER OF THE YEAR

2023

Henning Larsen, APAC

AR. TAN KAY NGEE Kay Ngee Tan Architects

### DESIGN OF THE YEAR

In collaboration with RSP Engineers (Pte) Ltd and Carlo Ratti Associati

HACK CARE: TIPS AND Lekker Architects and Lanzavecchia + Wai

Hans Tan Studio

WOHA Architects Pte Ltd

Serie + Multiply CPG Consultants Pte Ltd

TEBET ECO PARK SIURA Studio Pte Ltd



# CHRONICLING THE EVOLUTION OF A NATION BY DESIGN

Singapore's national design award has achieved what international or commercially driven awards cannot: It has chronicled how Singapore at large is shaped by, and continues to evolve with, design.

The diverse archive of P\*DA recipients is a wellspring of examples of design's influence on the nation. The honour roll of past recipients, dating back to 2006, reveals the birth of globally recognisable national icons, the growth of a uniquely Singaporean approach to vertical greenery, and the elevation of Singapore's civic, cultural, and infrastructural assets.

It shows the development of a systemic approach to the urban landscape and our water security; the transformation of housing – be it multiresidential blocks or single homes at one with their tropical climate; and a revolution in Singapore's approach to places, spaces, and strategies for health, care, and education.

Beyond those outstanding outcomes, it also catalogues the growing international reputation of Singapore as a source of high-quality design and creative perspectives. These are consumed beyond Singapore's border through cutting-edge products, innovative buildings, immersive exhibitions, and thoughtful publications that resonate with important messages about living meaningfully and sensitively within the current era.

What does it all tell us about Singapore and design? First-time P\*DA Juror, design and innovation specialist Michela Magas, astutely recognised how an ethos of improvement and evolution permeates local design practice. "Design in Singapore is a tool for capacity building, knowledge sharing, and inclusion," she says.

The Sweden-based Founder and Chief Executive Officer of MTF Labs and Director of Industry Commons was a member of the Jury's diverse Design Panel. By her observation, Singapore's designers are tackling major contemporary issues such as education, accessibility, inclusion, and sustainability. These are approached as parts of a larger cultural system that values social impact.







### DESIGNING WITH CARE AND PURPOSE

The theme of designing with care emerged repeatedly during the judging process. For Design Panel Juror Welby Altidor, Chief Creative and Innovation Officer at NEON, the most compelling projects were not flashy or ostentatious. Instead, they revealed themselves in subtler ways, through responsiveness to context and attentiveness to people's needs. "That care often emerged most vividly not through spectacle, but through restraint," he says.

This sense of responsibility extended to planetary concerns as well. Design Panel Jury Chair Dr Hossein Rezai was heartened by a genuine and rising concern for the natural environment within the P\*DA submissions, even as the global pace of progress toward a desired future seems to have slowed. Rezai is the Singapore-based Global Design Director at Ramboll and Founding Director of Milan Research Lab, as well as a P\*DA Jury veteran, having served in four award cycles.

He points out that there was also a noticeable uptick in projects dealing with ageing this year. "Singapore has one of the world's most rapidly ageing populations. Designers are addressing a real need, some of which exists now but much of which will be in the future. Their foresight is remarkable," he states.

Responsiveness to social needs was noted on the Architecture Panel, too. Juror Ar. Tan Kok Hiang, Founding Director of Forum Architects, observed the rapid evolution of social spaces in buildings, both private and public. "I believe Singapore has come very far in this area," he comments, "ensuring that all buildings pay heed to the need for amenable spaces that foster interaction, recreation, and public gathering."

Deputy Chief Executive Officer at Singapore's National Arts Council, Lynette Pang, served on the Jury's Design Panel for the first time this cycle. She noticed a significant number of projects focused on inclusivity and sustainability. For her, this tracks well with the thinking that sits at the core of how Singapore, the nation, is shaped: always with a long-term view.

"Singapore was created by design and with the many complex pieces carefully assembled," she shares, "one of which is the physical scape of the city. There is long-term thinking about the sustainability of places. We never allow for something to happen without giving thought to what we want it to be in 20 to 50 years. There's care for the generation here today, and for the generations to come. I think that's a very clear mark of Singapore."

### JUDGING WITH INTENTION

Behind each awarded project lies a rigorous and reflective judging process, one that mirrors the values the award seeks to promote.

"I really enjoyed my experience on the Jury," says Pang. She continues, "The entries were extremely strong and wildly eclectic, so the challenge was: How do you compare apples, durians, and cherries? The process of talking it through was an interesting intellectual and emotional exercise." Importantly, she noticed during the week-long adjudication that international Jurors began framing their evaluations in uniquely Singaporean terms. She recalls, "They were asking: 'How is







this emblematic of Singapore design?' That was very heartening."

The generosity and rigour of the judging process is memorable for many of the Jurors. Peter Murray, a seasoned design advocate and Co-Founder of New London Architecture, highlights that on the Architecture Panel, differing perspectives were balanced with shared standards. "Although Jurors did not always agree, there was a common understanding of quality, attention to detail, and delight," he says.

Architecture Panel Jury Chair Ar. Chan Soo Khian, Founding Principal and Design Director of SCDA Architects, emphasised the importance of architectural craft. This is a quality he believes must transcend the unique outcomes enabled by Singapore's planning regulations.

For Tan, what stood out was the integrity of the debate. "It's always a pleasure when you can debate with experts who are aligned in their purpose. Mind you," he says, "we had discussions that stretched into the next day! I have been on a few architectural juries, and by far, the P\*DA judging process is the most rigorous and best organised, befitting the highest design award in the nation."

Altidor found the diversity of perspectives on the Design Panel to be a strength. "There was a deep respect, but also a shared commitment to thoroughly interrogating the work," he says. This openness created space for Jurors to reflect, learn from one another, and even revise their assessments as conversations evolved.

The P\*DA's multilayered judging process, with research from its knowledge partners backing collaborative discussion of the submissions, earned praise from many Jurors. "It compares well with highly acclaimed international awards like the Aga Khan Award for Architecture," suggests Rezai.

Yet, the Jury also grappled with complex questions around how effectively designers were responding to today's multiple challenges. Says Rezai, "Some of the key points of debate among Jurors were about relevance to the current polycrisis, and the positive impact that the designs and designers offered in response."

Kelley Cheng, Creative Director of The Press Room and Design Panel member, is of the opinion that design merit must remain at the core of the adjudication process for an award such as the P\*DA.

The categorisation of design disciplines was another point of discussion. "I have a broad view of design as a way of seeing the world and a method for addressing challenges across fields of human activity," reflects Magas. In her view, drawing boundaries around design domains constrains the possibilities of what design can be, the values it can bring, and its potential in the public imagination.

For Rezai, the Design Panel was a platform for witnessing a trend he has observed across four cycles of the P\*DA: the emergence of the transdisciplinarian designer. "That emergence is very encouraging because it addresses the disruption we are currently experiencing. With the advent of Artificial intelligence (AI)," he says, "the current disciplines are going to become more mixed."





### **DESIGNING THOUGHTFULLY AND BOLDLY**

Over the years, P\*DA recipients have showcased Singapore's success at shaping a nation with design. Singapore's physical form is perhaps the clearest manifestation of that success.

"Singapore's integration of greening with dense urbanism is world leading," says Murray, who also commends the city's human-oriented urbanism. Chan agrees, pointing to landscape integration and housing as areas where Singapore excels. "Design has given Singapore a highquality environment with greenery and seamless movement through town," Chan says.

Altidor views Singapore's design ambition as both pragmatic and poetic. "Singapore has elevated urbanism in small spaces to an art form," he describes. "It's made the idea of a city in a garden not a marketing slogan or abstraction, but a daily, living design that nurtures inhabitants and contributes to well-being," he shares.

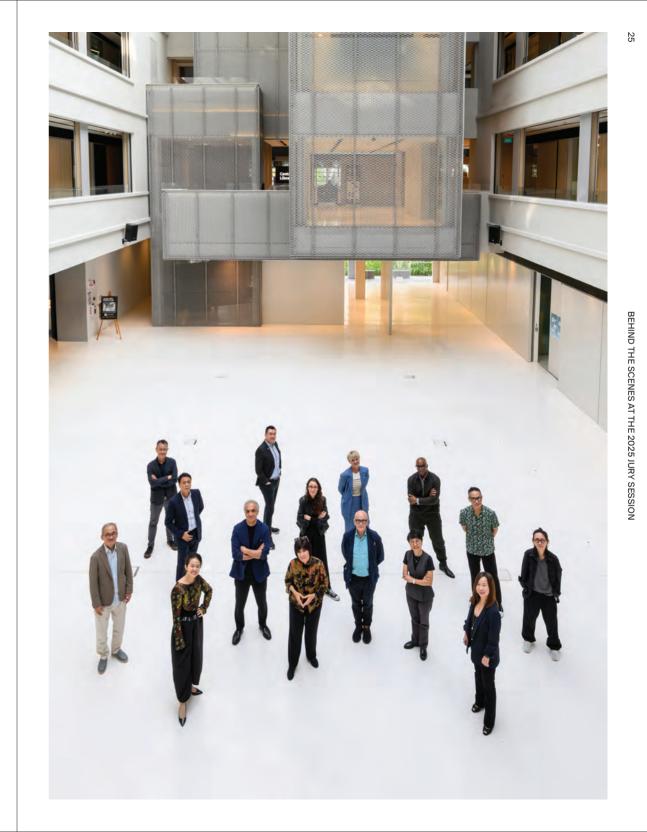
The future, however, will undoubtedly bring new challenges. As climate impacts intensify and Al disrupts established norms, what will it mean to shape a nation, and the world, through design?

Cheng calls for more risk-taking. "It would be nice to see more Singaporean designers stepping outside the safe zones and taking some risks," she comments.

Altidor is hopeful about the potential for innovation through crosspollination between art and science, technology and tradition, business and design, and local stories and global frameworks. Singapore's size and connectivity, he suggests, give it a unique advantage: small enough to be agile, yet plugged into the larger world.

Rezai's attention is often directed toward the effects of new technologies. "With the advent of AI," he says, "a concerning trend is the collapse of the multilayers of conception, thinking, and operating onto one single layer. Design and the creative process can help enable an environment where all forms of intelligence can coexist and be mutually enriched. Promoting the agenda of design in Singapore is a key contributor to this coexistence."

The maturity of the work he judged in the P\*DA 2025 gives Rezai strong encouragement about the potential for Singapore's designers to continue to shape purposeful outcomes for the nation and beyond. As Magas recognises, "Singapore's designers are successfully answering important challenges with a strong focus on social impact." This, she says, reflects the Singaporean value system. It is a sturdy base from which to navigate the future.





AR. CHAN SOO KHIAN Jury Chair (Architecture Panel) Founding Principal and Design Director, SCDA Architects Pte Ltd

JURY MEMBERS



DR HOSSEIN REZAI Jury Chair (Design Panel) Global Design Director, Ramboll; Founding Director, Milan Research Lab



KOTCHAKORN VORAAKHOM Jury Vice-Chair (Design Panel) Founder and CEO, LANDPROCESS and Porous City Network (Thailand)



WELBY ALTIDOR Jury Member (Design Panel) Chief Creative and Innovation Officer, NEON



KELLEY CHENG Jury Member (Design Panel) Creative Director, The Press Room



DR JEFFREY HOU Jury Member (Architecture Panel) Provost's Chair, Professor, and Head of the Department of Architecture. National University of Singapore



MICHELA MAGAS Jury Member (Design Panel) Founder and CEO, MTF Labs; Director, Industry Commons (Sweden)



DR PATRICIA MOORE Jury Member (Design Panel) President, MooreDesign Associates (United States of America)



PETER MURRAY Jury Member (Architecture Panel) Co-Founder, New London Architecture (United Kingdom)



MARIA NICANOR Jury Member (Design Panel) Director, Cooper Hewitt, Smithsonian Design Museum (United States of America)



LYNETTE PANG Jury Member (Design Panel) Deputy Chief Executive Officer, National Arts Council



AR. TAN KOK HIANG Jury Member (Architecture Panel) Founding Director, Forum Architects Pte Ltd



DR WONG SWEET FUN Jury Member (Design Panel) Senior Consultant, Geriatric Medicine; Deputy Chairman, Medical Board; Khoo Teck Puat Hospital & Yishun Health



SYLVESTER TIMOTHY WONG Jury Member (Design Panel) Asia ESG and Sustainability Services Lead, AECOM (Philippines)



**VOON WONG** Jury Member (Design Panel) Creative Director, Viewport Studio (United Kingdom / Singapore)

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DESIGNER OF THE YEAR

# AR. ALAN TAY

The late 1990s and early 2000s were a turbulent time for the architecture profession in Asia. The economic turmoil wrought by the 1997 Asian Financial Crisis led to a sharp downturn in construction activity. In 1998, the drop-off in Singapore was significant enough for a young Alan Tay, then an architecture student at the National University of Singapore (NUS), to have his internship at a local firm terminated.

Facing the reality of practising within fluctuating economic cycles, Tay and two of his course mates, Seetoh Kum Loon and Berlin Lee, decided to bet on their own entrepreneurial capacity. Leads for small interior design projects were the impetus for founding Formwerkz that very year, well ahead of their graduation in 2000. Gwen Tan joined them soon after and Formwerkz Architects was established in 2004 with four partners.

More than a few eyebrows were surely raised at the bravado of these young architects setting out on their own without the traditional training period in established firms. But speaking to Tay two decades later, one still hears the appetite for experimentation that has driven him all along. To play with conventions as they intended to, Tay and his Partners would be best served by their own playground.

Houses were their natural entry pathway to the profession. Tropical houses, in particular, aligned well with Tay's interest in how architecture can promote engagement with the natural environment and support human relationships. He has designed many poetic examples, including the Cloister House (Malaysia, 2018), which received a P\*DA for Design of the Year in 2020.

Tay and his colleagues enjoy thoroughly questioning established architectural typologies, or building types, in their pursuit of making the world a better place. Over the years, this approach has been carried over into award-winning commercial, institutional, and multiresidential projects. And for Tay, the quest for better outcomes has also led to numerous adjacent pursuits.

Aside from teaching at his alma mater, Tay has served on the Advisory Committee for the School of Design at Temasek Polytechnic and the Board of Architects' Professional Practice Exam Board. In 2019, he curated the SingaPlural exhibition of creative installations during Singapore Design Week, and was appointed Festival Director of the Singapore Institute of Architects' Archifest. His selection of the festival theme, "Craft", spoke of his dedication to the process of crafting space and form in an age of expediency.

While Tay has set his sights beyond Singapore over the years, a core concern has been raising awareness of the importance of design among all Singaporeans. He advocates for the building of "design intelligence" among students, such that every member of society will have the agency to solve problems with nuance and good judgement. This, perhaps, is his ultimate architectural project.



### JURY CITATION

An educator and an architect, Alan Tay has created a consistent body of work over the past two decades in Singapore, China, and Malaysia. He has contributed to the architectural industry through his exceptional craft-making and commitment to exploring how architecture can address deeper issues, influencing the way we live and perceive the world around us. Whether it is a mosque, house, or office building, Tay demonstrates clarity of thought in his architectural designs and leads rigorous investigations to create highly contextual designs that respond to tropical environments.

From the Cloister House in Malaysia to the Al-Islah Mosque in Singapore, he seeks to create architecture that is not only memorable but also inspires deeper reflections on conventional typologies, forms, and norms. Tay also contributes to shaping the future of architecture education and discourse in Singapore as an educator, curator, and mentor to aspiring architects. The jury commends Tay for his dedication to honing his skills and sensibility in architectural craft-making, and for creating impactful, sensitive designs for all.

### NOMINATOR CITATION

Professor Heng Chye Kiang (PhD) Provost Chair Professor and Deputy Dean, College of Design and Engineering, NUS

It is with great pleasure that I endorse Alan Tay for the President\*s Design Award, Designer of the Year 2025. I have known Alan since his student days at the Department of Architecture, NUS, where he excelled in his studio design. It is no surprise that he went on to become a very fine design architect upon graduation.

Throughout his distinguished career, Alan has consistently demonstrated a commitment to creating spaces that go beyond mere functionality, embodying deeper social, cultural, and environmental values. His architectural works are not just structures, but narratives that engage with broader issues such as community, nature, and the human spirit.

Alan has won a multitude of awards and prizes, with an average of three per year over his 25 years of practice. Many of these are locally and internationally prestigious, including the President\*s Design Award (2020), Golden Pin Design Award (2021 and 2022), and the Chicago Athenaeum Museum of Architecture and Design International Architecture Award (received on five occasions).

One of his most transformative projects - the winner of several awards - is the Al-Islah Mosque (2015) in Punggol, which exemplifies how architecture can be a tool for social change. It was envisaged as an "open mosque", fostering inclusivity within a largely non-Muslim community in a Housing and Development Board (HDB) setting. The design breaks down traditional barriers, creating a sense of openness and accessibility that extends beyond the physical structure. It stands as a beacon of tolerance and dialogue, embodying Alan's belief in architecture as a powerful medium for understanding.

The same qualities could be discerned in another award-winning project, Punggol Soka Centre (2022), which is similarly located at the junction of busy arterials.

Alan's residential and commercial architecture is equally impactful. His designs, such as the Cloister House (2018) and Garden Curtain Wall (2021), reflect a deep connection with nature and a desire to reclaim the "landedness" and vegetation often lost in urban landscapes. These projects integrate natural elements, creating living and intermediate spaces that inspire and respond to the environment. Celebrated for their serene atmospheres, both projects blur the boundaries between indoor and outdoor spaces, offering a retreat from the city's bustle.

The mixed-use project TMW Maxwell, to be completed in 2028, represents a pioneering approach to urban living. The communal sky terraces facing Maxwell Road have been designed as pocket gardens or biophilic extensions of the home and form a vertical park, providing residents with seamless access to nature in the heart of the city.

Beyond practice, Alan has been influential in the academic and design communities. Among others, he was Director of Archifest 2019, a member of the Design Education Advisory Committee (2020–2024), as well as adjunct teaching staff at the Department of Architecture, NUS, where he inspired a new generation of architects by emphasising the potential of architecture to make the world a better place.

In summary, Alan's architectural practice is a shining example of how design can address the pressing issues of our time. His innovative projects, numerous accolades, and contributions to design education underscore his standing as a leader in the field. I wholeheartedly endorse him for the President\*s Design Award Designer of the Year 2025.

You co-founded Formwerkz in 1998 before completing your studies at NUS, and Formwerkz Architects soon after in 2004. Describe the energy in Singapore's architecture industry at that time. What were your professional aspirations? ALAN TAY (AT)

The late 1990s was a very eventful period. When the 1997 Asian Financial Crisis hit, I suddenly had a lot of spare time, because my year-long internship was prematurely terminated due to the economic situation. I had a couple of months left before the new study term started. Myself and two friends, Seetoh and Berlin, were trying out the idea of a side gig before we finished school. We knew people who wanted our help on a couple of interiors.

It was the Dot-com boom as well, and our student peers in computer science were setting up online businesses. The entrepreneurial spirit was riding high and we also caught the startup fever. We felt that we could work on interior design commissions and even furniture design while our peers were working on web design. That's how we started Formwerkz.

But when we graduated, the wider situation had become more serious. It was 2000, and the construction and real estate sectors had not picked up. In fact, there was a massive exodus of local architecture graduates who went to China at that time. But we decided to continue, to turn what was an interior studio into an architecture practice.

In those early days, what did it mean to you to be a Singaporean architect? What unique contexts or issues did you want to address through your work? AT Back then, the only commissions accessible to us were interiors and houses through referrals and publications. So, the first decade of our

practice largely involved landed housing.

It was a good start, in my opinion, because it laid the foundation for us to hone our understanding of the tropics, which is important because it's specific to our region, not just Singapore. Designing houses also enabled us to develop our sensitivity to the human scale and our relationship with nature.

Designing houses also afforded us the time, space, and opportunities to experiment and to explore the poetics or beauty of architecture more easily.

Our earliest preoccupation was reinventing the typology of the house, exploring how a domestic place could address the larger issues of climate and disappearing nature. We had always wanted to use architecture as a vehicle to talk about these issues. When we ventured into other typologies, we adopted similar design processes and the issues we identified were carried over from the earlier days.

# 2 SPATIAL FLOW

The Courtyard House (2012) was built for a multigenerational family who sought a communal way of living that offered privacy from neighbours. The design adapts North China's courtyard house typology to tropical Singapore.

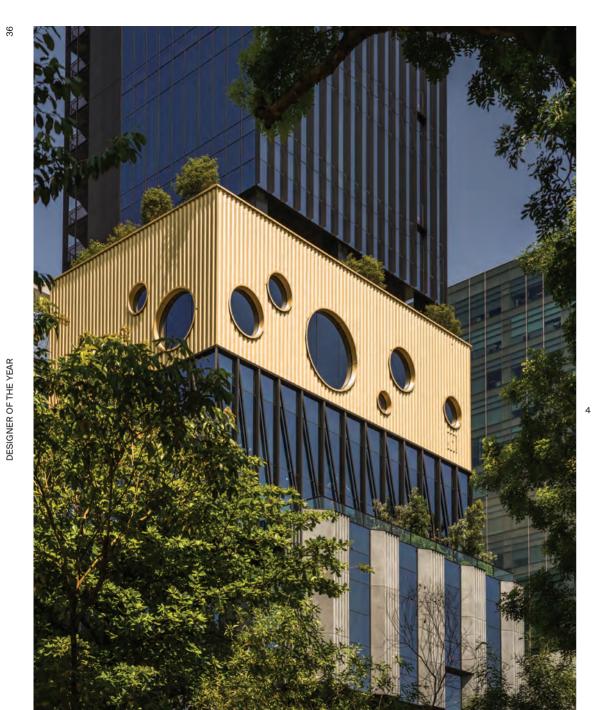
3 ROOM TO GROW From the street, the Terrace House (2014) resembles a concrete ruin overrun by a wild landscape. The terracing rooftop is heavily planted and provides a place of respite, akin to a personal park within a suburban community.













4 ASSEMBLAGE OF VOLUMES Alexandra Terrace Tower (2025) is an office building that grabs

5 LOOKING INWARD The Concrete House (2024) was imagined as a fortified sanctuary beside a major road and opposite a busy hawker centre in Singapore. A simple, impervious external form

6 PROTECTIVE SHIELD neighbourhood noise at the route brings focus to the delicateness of the plant life.



attention with stacked volumes, bold shapes, and striking facade patterns. The design evolved from Tay's re-examination of today's work culture and the dominance of monolithic towers.

Robust off-form concrete buffers Concrete House. In the courtyard garden, an external circulation

encloses an internal garden oasis that the interior spaces look into.

DESIGNER OF THE YEAR



The Raumplan House (2022) is a terrace house designed around a voluminous atrium that ventilates the home using the stack effect. Dark expanded mesh on the upper part of the facade provides privacy and sun shading to the bedrooms

### GARDEN FOCUS

7 SPLIT-LEVEL LIVING

The staggered floor plates of the Raumplan House allow for visual connection between spaces and multiple views of the green atrium The stairs wrap around a lift core, which enhances accessibility



"A house will be alive when you are not in constant. uninterrupted thermal comfort."

How has sharing your journey with the Formwerkz Architects co-founders influenced your practice?

AT The four of us were really young to start a practice fresh from school. There are very few architecture firms that have done that in Singapore. Looking back, a better way of evolving would have been to practise with someone after graduation and then branch out on your own after gaining knowledge, and business know-how. That's still the advice I'd give to graduates, unless there's a dramatic change to the way things work with practice in the future.

But we just went straight into it. We learned, we suffered, and it was really tough. We matured together. We cried over things we lost and we laughed about things we gained. We have four different and very stubborn minds. But there are similarities that have kept us together. Each of us has very different passions and preoccupations, and that combination has enabled us to leverage each other's strengths. I feel all of us would receive this honour in time to come.

Over the years, the houses designed by Formwerkz Architects have shared common threads such as a focus on human interactions and connections with the natural ebbs and flows of garden spaces. What have you concluded to be the most important architectural principles for living well in landed homes in the tropics?

AT When the right client comes along, the gold standard is architecture that sensitises the occupants to the tropics. That means accepting the tropics in their entirety: the good, the bad, the nasty, and the poetic sides. The tropics are really unforgiving compared to other climates. There's not the polarity you experience in more temperate zones. There are many forces at work that conflict with each other. You want to enjoy the breeze, but you don't want the rain. Things also get mouldy in no time.

For us, it's a great success when our design provides a buffer that allows the occupants to work with the climate. A house will be alive when you are not in constant, uninterrupted thermal comfort. The occupants will develop daily rituals, like lowering and closing the blinds when it rains. They become part of a cycle of observing nature and being aware of their surroundings, becoming mindful of the passage of time through weathering and shadows. To me, a design that can integrate this kind of awareness is a successful one.

More recently, you have been working on TMW Maxwell, a mixed-use development with 324 apartments, that is currently under construction. What approaches have you carried over from your single residential projects to this high-rise development? What opportunities do you wish to create for post-pandemic city dwellers?

AT In single-family houses, we usually invest a lot of energy in the design of shared spaces. Our preoccupations and our interests naturally tend toward the corridors and the spaces where you interact and move, as opposed to the private bedrooms. That continued with TMW Maxwell. The key communal spaces we have focused on are the stacked sky terraces that front the development. They will be shared spaces for the apartment dwellers, distributed and connected across different floors.

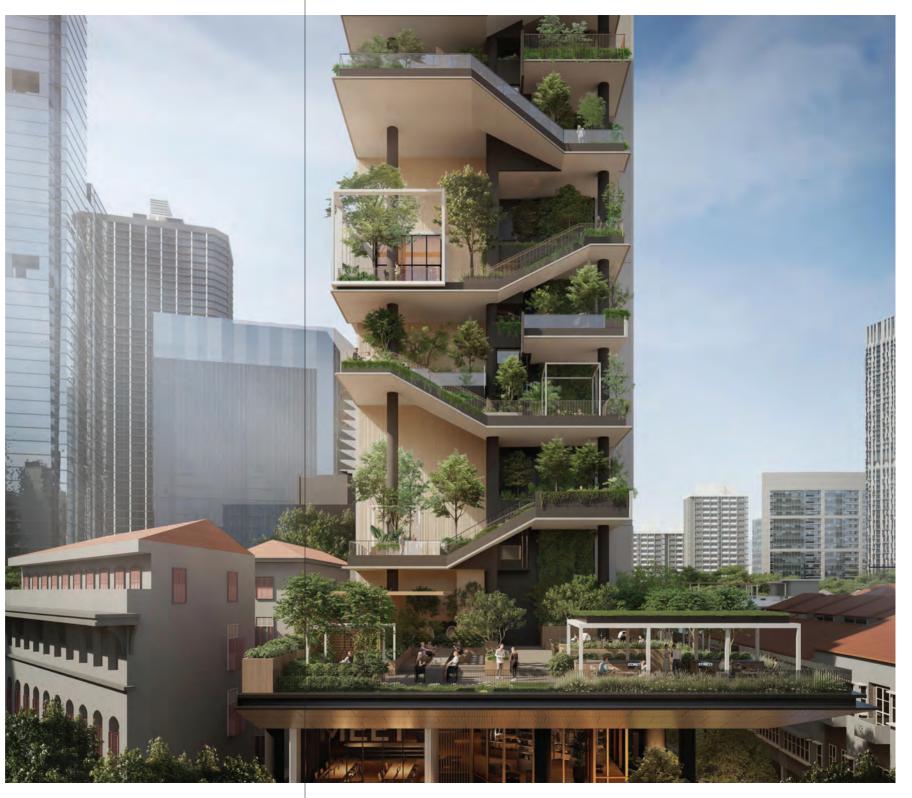
We are always driven by an investigation of typologies. In this case, the sky terrace became the type we were exploring. We were trying to push the limit of what a sky terrace could be. Sky terraces have been encouraged as part of the Urban Redevelopment Authority's (URA's) guidelines for developments since 1997, and they are everywhere. You find them in condominiums, in public housing, in offices, even in factories. They are meant for communal use and the integration of nature with urban living.

Verticality was the start of our investigation of sky terraces at TMW Maxwell. Rather than the entire floor plate that is often dedicated to sky terraces in tall buildings, we created smaller pockets of garden, stacked them up, then staggered them. Doing so allowed for more connection between the floors, so the sky terraces could function more like a hub. Residents don't have to take a lift to a particular floor at the mid-height of the block, as is often the case.

There was a spirit of post-pandemic optimism when we were invited to take part in the competition for TMW Maxwell, and our proposal aligned with the developer's vision of working from home. We envisioned these sky terraces not as passive spaces, but as active outdoor rooms that will really be utilised. They could be a new third space, meaning residents don't have to go out to a cafe. We are sculpting the sky terraces with plants to create differently scaled spaces, with some that would make you feel comfortable if you were alone on a Zoom call, and some large enough for small gatherings.

We're also integrating different kinds of furniture, which makes sense from the developer's point of view, because the development largely consists of studio apartments. The sky terraces will be extended living spaces. That whole facade of the building will demonstrate the ethos of live, work, and play.

9 TOWER OF TERRACES TMW Maxwell is a mixed-use development that will be completed in 2028. It will include a vertical park with pocket gardens that can be used by residents as extensions of their homes.





10 DISTINCT FORM The monolithic, sand-coloured exterior of the Al-Islah Mosque (2015) is unmistakable against

the background of high-density

### 11 NEW OPENNESS

### 12 VISUAL ACCESS

The perimeter of Al-Islah Mosque glimpse aspects of its inner life. Tay was keen to challenge the tradition of enclosing religious





Formwerkz Architects' competition-winning design for the Al-Islah Mosque in Punggol, completed in 2015, presented a novel fusion of traditional and contemporary forms, as well as an unexpected openness. In your mind, what does this project say about how architecture can contribute to larger social dynamics?

AT We won the competition for the Al-Islah Mosque in 2013. It was less than a decade since we'd established our practice, so it was a big thing for us, and we felt very fortunate to have that project. It was also important because it seemed appropriate to reimagine what a mosque could be going forward at that moment in time. This was also the challenge put forth in the brief.

Mosques in Singapore had gone through a cycle of evolution from the very early colonial period, where you had the Sultan Mosque typology, then the mosques that everyone recognises in HDB towns with the tall minarets and the onion domes. In the 1980s, mosques adopted the vernacular style. Then, we had the seminal and very contemporary Assyafaah Mosque designed by Forum Architects in the early 2000s.

When it was our turn, a decade later, the stylistic transformation seemed complete. In asking ourselves what a mosque is, the idea of openness became evident. We envisioned this openness to extend beyond the tangible architectural manifestation of visual porosity, accessibility, and climatic openness. It would seek to also embody tolerance and to bridge differences in an increasing polarised world.

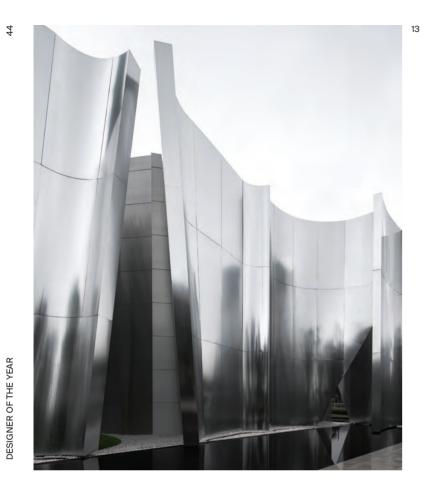
Most mosques are quite closed off, which makes sense because any religious institution needs to establish a threshold. You need to protect the sacredness of the space. But we wanted to explore whether openness could begin to connect the mosque with the wider population, beyond its community of believers. Architecturally, it made perfect sense because mosques are largely non-air-conditioned. That intimacy with the tropics reconnected us back to what we were familiar with, from the houses we'd designed.

We picked up on a single sentence in the brief. It talked about a mosque without boundary walls. If we removed the boundary between inside and outside, we could create a mosque where certain vantage points on the street would have a view right into the main hall. The design exercise became about balancing the dichotomy of openness and closure, because certain areas still needed to be protected.

public housing in Punggol.

At Al-Islah Mosque, Tay sought to reimagine the traditionally inwardlooking form of mosques with an openness that would promote greater understanding beyond the community of worshippers. Arabesque facades preserve the sanctity of the main prayer hall.

is porous, enabling passers-by to life within a physical boundary.



13 EPHEMERAL SKIN The Prototype Sales Gallery (2020) in Chongqing, China, was designed for implementation at the client's various residential development sites in Chinese cities. The modular aluminium facade was conceived as an ephemeral skin that reflects

# its surroundings. 14 FUTURE LIFESTYLE

The developer wished to convey a future for housing that empowers life with technology. The Prototype Sales Gallery will remain and be integrated with the development that rises around it.





Located in Johor Bahru, Malaysia, the Cloister House (2018) is an expansive single-storey abode containing a series of courtyards. The family home is sheltered by a topographic roof of inverted

15 NOVEL HOUSESCAPE

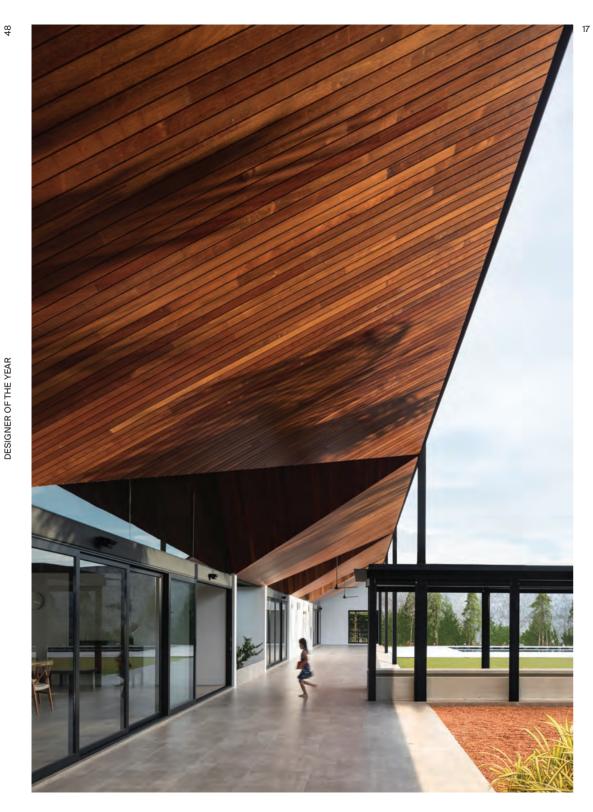
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pitches that are lined with timber on the underside.



### 16 HIDEOUT AT HOME

The matrix of courtyards delivers light, ventilation, and greenery to the innermost recesses of the Cloister House. An accessible roof terrace provides a private nook within the undulating roofscape.



You've taken on various teaching, advisory, and curatorial roles during your career. Most recently, you served on the Design Education Advisory Committee (DEAC) from 2020-2024 and contributed to strategies for embedding design into the national education system. What do such roles mean to you?

AT My role on the DEAC was an opportunity for me to contribute in some way to the future of design, in terms of shaping young minds. An agenda that I went in with was to raise awareness of the importance of design, not just with respect to designers or architects, but for everyone else.

I see design intelligence as an essential skill for everyone in order for any society or economy to survive in the future. Design intelligence means there's a certain sense of criticality and an ability to analyse a situation. Before you have a design proposition, you understand the context and the problem statement. You understand what to change. That aspect of understanding, analysis, and criticality is universally applicable across all professions and areas of society.

Whoever you are, if you have design intelligence, you will be equipped to make a judgment based on a critical appraisal of problems. You don't need to be professionally trained as a designer. That's the point. It's an ability to see the world not in black and white, but to recognise that options are possible. I think cultivating this skill should be embedded in all the core subjects at school.

With AI and climate considerations, life will become more challenging in future. If design intelligence is embedded, then everyone in society will have the capacity to deal with issues and solve problems. As I told my family, I saw my role on the DEAC as my obligation for the future of my kids, as well as the nation.

From carbon challenges to city resilience to the impact of AI and more, the range of considerations being taken into account by architects is expanding. What advice would you give to Singapore's next generation of architects in terms of charting and fulfilling their professional missions?

AT It's true that the practice is becoming tougher, because there are more issues, more requirements, and more expectations than in the past. It can be distracting. My advice is to cultivate excitement about the challenges and remain focused as well. While engaging with these issues, do so in a way that your design will contribute beyond a rudimentary fulfilment of the brief. Engage with the issues through what you love: Architecture.

Despite technological evolutions, one thing that won't change is human nature. So, architecture and design discourse should always be grounded on readings of the past and the present, while looking to the future.

Al is becoming amazingly convenient and superior to human capability in many instances. It can make the process of creative production much easier, more expedient, and enables you to resolve complex issues and problems that you hadn't dreamed of touching in the past. Criticality and empathy make up the human agency that's left, and for the time being at least, machine thinking will not be able to grasp these as immediately as we can. With that human agency, we can use AI tools in a creative way. It's advice I give to myself as well!

### 17 ROAM FREE

The owners of the Cloister House sought an environment with enough space for their children to run, and for the extended family to gather.

DESIGNER OF THE YEAR

# **GABRIEL TAN**

The designers who have worked with globally renowned furniture and product brands Herman Miller (USA) and B&B Italia (Italy) include titans of the design world from the past and present. Alongside the likes of Charles and Ray Eames, Isamu Noguchi, Michael Anastassiades, and Patricia Urquiola, there is a sole Singaporean: Gabriel Tan.

Herman Miller and B&B Italia both released furniture designed by Tan in 2023. Just two decades earlier, he was fresh out of navy training and finding his feet in the recently established industrial design course at NUS. Poring over books on Noguchi and the Eames, mainstays of the Herman Miller catalogue, he never imagined he'd one day design for a brand that produced their work.

The fact that he has done so, and much more, is testament not only to his creative vision and design skill, but also a raft of attitudinal qualities that have shaped a successful design career in Singapore and beyond. Tan is characterised by his impressive stamina, entrepreneurialism, and professionalism, all of which are stoked by a burning curiosity for shaping meaningful and sustainable design outcomes.

When reflecting on his career path, Tan speaks with much gratitude for the decade he spent as a co-founding Design Partner of furniture, product, and lighting design studio Outofstock. The studio was established during the final year of his studies in 2006 with co-founders Wendy Chua, Gustavo Maggio, and Sebastian Alberdi. For 10 lively years, Outofstock was a springboard for learning the ropes together while gaining international exposure and building industry relationships.

Tan now wears multiple hats. He is the Principal of Gabriel Tan Studio, established in Singapore in 2016. The studio focuses on industrial design and works with Singaporean and international brands. He is also the Design Director of Antimatter, a residential and hospitality interior design studio he set up in the same year.

Further afield, he has been the Creative Director of Japanese furniture brand Ariake since 2016. In 2018, he co-founded craft-oriented design brand Origin Made with his wife Cherie Er. The Porto-based brand preserves the artisanal traditions of Portugal by fusing them with contemporary design sensibilities.

Tan and his family relocated to Porto in 2020, but he returns to Singapore regularly. Being based in the two cities enables him to draw influences from Asia and Europe. Unsurprisingly, his design practice explores cultural intersections, seeking new ways to interpret tradition, craft, and technology.

Today's emerging Singaporean designers will, without doubt, look to Tan for inspiration as one of their own. He is someone who has achieved international success and developed fruitful business opportunities, all while producing designs of exceedingly high quality.



GABRIEL TAN
 Principal, Gabriel Tan Studio and Studio Antimatter;
 Co-founder, Origin Made

### JURY CITATION

Gabriel Tan's work exemplifies the highest standards of craft, innovation, and an entrepreneurial spirit on the global stage. A self-made designer with a focused and internationally recognised portfolio, Tan has successfully bridged cultures and disciplines, collaborating with leading brands such as Herman Miller, B&B Italia, and Ariake.

His deep engagement with traditional crafting – from Japanese timber to Portuguese artisanship – demonstrates a profound respect for heritage while pushing the boundaries of contemporary design. Despite being based in Portugal, Tan maintains a presence in Singapore, where his contributions to the design industry serve as an inspiration to emerging talent.

His journey, from co-founding Outofstock to establishing his own brand, Origin Made, showcases his vision and resourcefulness in building a design practice that is both commercially successful and culturally significant. With a strong body of work recognised internationally, he has made a significant mark everywhere he has been, flying the Singapore flag high on the global stage.

Tan represents the very essence of a global Singaporean - a designer whose work speaks to international audiences while remaining deeply connected to his roots, making him a deserving award recipient and a role model for future generations.

### NOMINATOR CITATION

**Tony Chambers** Founder and Director, TC & Friends

I have been aware of Gabriel Tan's work since he graduated from NUS in 2007, and I've known him personally since around 2016. In that time, I have been fortunate to witness how this talented designer has combined his creative drive and flair with an entrepreneurial spirit and smart business acumen to become one of the key names to watch on the global design stage.

Gabriel's innovative and sustainability-focused approach to design and manufacturing, along with his tireless work ethic and boundless curiosity, has endeared him to all areas of the profession, from the clients he works for to the teams who work for him. His positive impact on the design profession is hugely significant.

I think Gabriel would be a worthy recipient of the President\*s Design Award 2025 for the reasons outlined above, but also because he is one of the very best ambassadors for Singapore design.





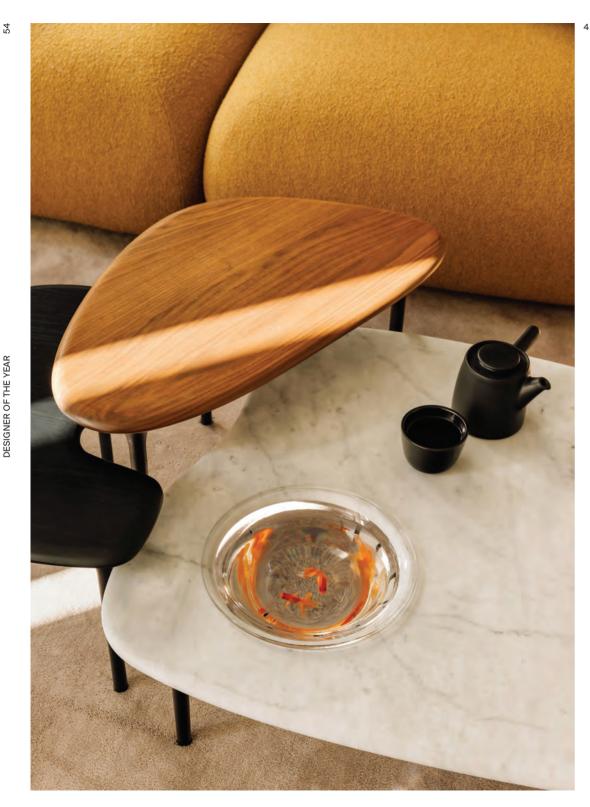
of boxing gloves as well as rolled

### 3 ROLL WITH IT

Japanese futons.

The back of Luva can be rolled down to make a fist-like shape suited for chatting and working, or rolled up to form a more supportive backrest for relaxed lounging. It is pictured with Tan's Cyclade Tables, also released by Herman Miller in 2023.





You decided to pursue a career in design while serving in the Republic of Singapore Navy. In the midst of training and duties, what was the spark that kindled your interest in studying industrial design? GABRIEL TAN (GT)

I took a naval scholarship, which meant I would be a Navy Combat Officer for five years. While I was training, I went to borrow some books from the National Library, and I stumbled upon the design section. I was fascinated by books about designers like Philippe Starck and their work in furniture, objects, and lighting.

At the same time. I saw an advertisement in the newspaper for the new industrial design programme that had just been started by the Department of Architecture at NUS. It was such a coincidence, and I wanted to apply for it.

I had already been accepted into a business administration course. But when I wanted to switch to industrial design, the people from Naval Human Resources told me it wasn't possible because it was a new programme and they didn't know how long it would take to be approved. After a lot of discussion, they agreed to release me from my contract.

So right from the beginning, even before I started studying design, it was a fight to get there. That made me value the profession more because there had been obstacles in my way.

In 2006, during the final year of your studies, you co-founded the studio Outofstock with three friends. You worked together successfully for a decade and received the P\*DA in 2010 and 2015. How did that early experience prepare you for the career trajectory to come?

GT When we started Outofstock, we thought we would continue working together throughout our careers. It was great dividing the work, brainstorming, and iterating things together. Formal education only prepares you for your career up to a certain point, and that was especially the case for furniture design because it wasn't something the university specialised in.

To gain experience in this field, there was a lot of peer learning, visiting factories, and learning from the people who were actually producing furniture. The four of us were growing together and helping each other improve in terms of experience and confidence in the industry.

After 10 years, it was time to take the next step, but we all wanted to go in different directions. Some of us wanted to do more research and take on deeper projects. I personally wanted to do more furniture and product design. So, we decided to go our separate ways.

It was not easy in the beginning, especially in 2016, when I had to start again on my own. But it was an opportunity to reset my clients as well, to go for totally new ones. The experience of having already been in the industry for 10 years and working with good companies in Europe gave me the confidence that I could do it again.

### 4 NOD TO NOGUCHI

The Cyclade Tables emulate the form of Pangea and were conceptualised as islands that can be clustered or used separately. Each table is distinct in terms of height, tabletop shape, and material. The sculptural forms are a nod to the designs of Isamu Noguchi





### 5 SERENE SILHOUETTES

The Quiet Lines collection of bedroom furniture, including the writing desk and screen pictured, were released by B&B Italia in 2023. Curved, padded surfaces emphasise tactility and comfort while dampening sound when objects are placed on them. The pieces were designed for easy disassembly and repair.

6 DEEP INDIGO Tan designed the Ariake Chair for Ariake as one of the new brand's first products. Released in 2017, it helped set the vision for Ariake's design character, balancing delicateness and strength while emphasising wood joinery details. Under Tan's creative direction, Ariake introduced distinctive wood finishes including Japanese sumi (ink) and aizome (indigo dyeing).

### 7 DELICATE DIVISION

The Shoji Screen was released by Ariake in 2018. It can be used as a spatial divider or folded into a coat rack. Its wooden components are steam bent. The hinges, set flush within the verticals, are made with elastic canvas straps.



DESIGNER OF THE YEAR

8



# 8 GENTLE CURVES The design of the Skyladder Shelves for Ariake (released in 2018) was inspired by the fireworks installations of Chinese artist Cai Guo-Qiang and the rope ladders suspended from hot air balloons. Japan's Saga Prefecture, where Ariake is based, holds a hot air

balloon festival annually

In the early years, what impact did exhibiting in Europe have on how your career developed?

GT I got to know a lot of people during those early years when we were showing in Milan and when we subsequently travelled to different fairs together. If I hadn't spent those early years with Outofstock, I wouldn't have met this global circle of designers and companies that we encountered along the way. Even if we didn't collaborate back then, it helped that I could approach these people after I started my own studio.

You know, not everybody ends up pursuing their own studio. Some designer friends of ours went in-house in different industries. Some became creative directors, some became product development managers, others became independent designers. We've helped each other over the years.

You set off on your own path with the establishment of Gabriel Tan Studio and Antimatter in Singapore in 2016. What interests did you want to pursue?

GT I have always been interested in tradition

and technology. That includes preserving what is great from the old world, like culture, craft, heritage, and traditions, but at the same time working with the latest developments in materials and manufacturing technology. I wanted to take on a new perspective on tradition and technology. That could mean reinterpreting craft traditions using new formats of production or finding an application for new technologies through design.

In some ways, I see the craft traditions of the world as belonging to all of us. They don't belong to just one country. It is our duty to preserve them, no matter where they originated from. That brought me to Portugal because I felt like there was a lot of potential here in the craft industries.

In Singapore, we never really had this. I've worked with some local craftspeople like the J. Meyers Company, who are leatherworkers. We did some nice collaborations. I'm still working with Turn Handles, which is a door handle brand established in Singapore. But I went overseas because I felt like I needed to be further stimulated and pushed to grow.

Ariake, a Japanese furniture brand founded by two woodworking factories in Saga Prefecture, was one of your earliest clients. You were the first designer to work with them and your role as Creative Director involved building the brand from the ground up. How did that connection come about? Why were you keen to pursue this role?

GT They were showing at the International Furniture Fair Singapore in 2016. They were one of the only Japanese exhibitors there. The furniture was very finely crafted and exotic, but it didn't seem like something you could use in a contemporary home. I was attracted by how well it was made, and I was very curious.

So, I spoke to them at the Fair and showed them my work, and they were interested in collaborating somehow. There were two factories sharing the stand. They'd been trying to export for years without much success, and they viewed Singapore as the first stop for export because of its proximity to Japan.

They invited me to visit their factories, so I booked a ticket to Japan at my own expense, and we had a discussion about whether my studio could design for both factories. They suggested I design two products. I was very excited at the prospect of having two clients immediately after starting my own studio. But then I questioned if that would really benefit them. The answer was probably not. So, I took a night to think about it.

We had another meeting in the factories the next day, and I told them I thought they needed something bigger. If they had just two of my products in their catalogue, it would probably not make an impact because you wouldn't feel much change to their offerings. They needed a new collection of at least 10 products to begin with, adding three or four products every year until it grew to a sizeable catalogue. They'd need a new website, new photography, maybe even a new name. I suggested they establish a brand that both of them could own.

They agreed and I managed to get this off the ground with a tiny budget by inviting some designers I knew to get involved. They all said yes, and that's how we started. I also invited a graphic designer and photographer, so we'd have a melting pot of creatives from a number of different countries coming together. One of the

designers I invited was Japanese. The idea was that we could all give our own take on Japanese design through the eyes of the world.

I learned a lot through that project, and it reinforced my feeling that we should always challenge the brief given to us as designers. Designing the process is often more important than designing the product itself.

What first drew your attention to Portugal, where you established your own brand, Origin Made? Your family's decision to relocate there was an incredible investment in an entrepreneurial vision. Was it an easy decision?

GT It was not. Life in Singapore was super comfortable. We were a dual-income family. My wife, Cherie, had a really good job and big responsibilities. But she wanted to do something creative for herself. So, when I floated the idea of moving, she was open to considering it.

We considered various places, but in the end, we chose Portugal because the craft and furniture industries here were still very much alive. We could build our own brand that Cherie would run as CEO, and I would creatively direct using the knowledge and experience I'd gained working with other companies in the past.

There is a humble craft culture here.

People tend to not see as much value in their craft, as compared to their counterparts in Japan or Italy, for example. When we were looking at Portugal in 2017, there was this feeling that it was underrated and under-promoted. There are a lot more projects promoting crafts in Portugal today.

We moved here in 2020, but I'd been working on Origin Made since 2018, visiting suppliers and finding the right partners. I spent time convincing makers that what they're doing really has value, and that we can make something good together. We finally launched the brand in 2019.



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### 9 HALF MOON

Origin Made released the Meia Lua Armchair in 2023. Meia lua is the Portuguese term for "half moon", a reference to the crescent-shaped three-legged chairs of the 1950s that inspired the armchair's design.

### 10 TIMELESS STANCE

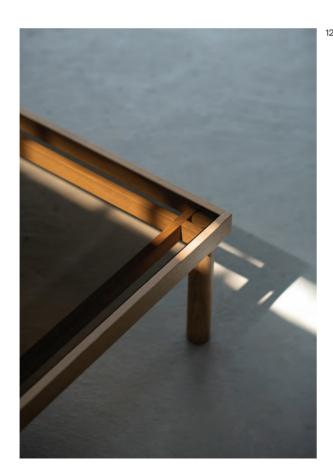
The Coliseu Pedestals are functional sculptures. Released by Origin Made in 2022, their design was inspired by the amphitheatres of ancient Rome. They are crafted with wood and travertine, forming a seamless concave surface.



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11



11 CRAFT TRADITIONS

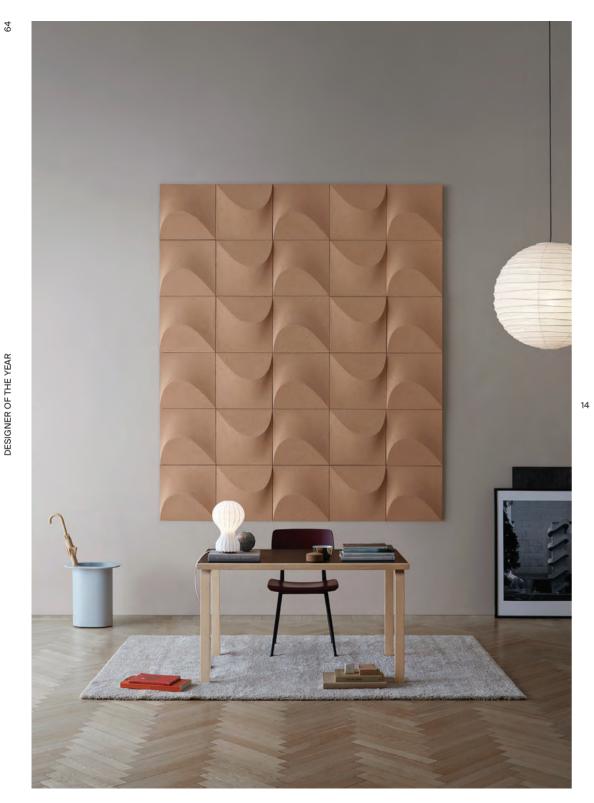
Designed for ikebana flower arranging, the Charred Vases (Origin Made, 2020) are unique ceramic forms fired with the traditional Portuguese technique of barro preto ("black pottery"). Smothering the ceramic with earth during firing produces a non-homogenous texture of black, grey, and earth tones.

12 STRUCTURAL REVEAL
Taruki means "roof rafter" in
Japanese, and the Taruki Coffee
Table for Ariake (released in 2022)
offers a reinterpretation of traditional
Japanese roof joinery. The inset
smoked-glass tabletop reveals
the structure of the table as the
key visual element.



13 LIGHT TOUCH

Visual lightness was the goal for the Rin Lounge Chair, released by Ariake in 2020. The Japanese word rin means "dignity and elegance", and the form of the Rin chair emphasises compact upholstered planes that seem to hover above the floor.



Cross-cultural explorations and the integration of established craft traditions with contemporary expressions are important design drivers for vou. Why?

GT Consumers generally have a certain perception of the value of things. They might look at a basket and think it is worth \$50, even though the hours spent weaving it might be worth much more than that. So, the craftsperson sells the product for \$50 because that's the maximum the market will pay. This is the problem. Craft is dying because makers know they won't recover the value of the hours they invest.

Through design, we can introduce a different expression of craft, so people feel it is new and unique. The challenge for us is then to make sure the craftsperson receives a fair value for the number of hours they put in. That challenge is what keeps us going. It isn't easy, but it's what can keep craft alive and sustainable.

How do you ensure meaningful outcomes through new expressions?

GT We don't take shortcuts. For example, we work with the traditional Portuguese clay firing technique called barro preto (black pottery). It uses an earth kiln, so you get an iridescence and rawness that you don't get if you use an electric kiln. There are companies here that are doing modern barro preto using electric kilns, but the effect is completely uniform and homogeneous. We could probably make a much bigger profit and produce it faster if we did that too. But by doing it the old way, we keep the tradition alive.

### 14 SOUND DUNES

Waste material from the production of wine corks at a Portuguese factory is transformed into acoustic Sahara Wall Panels by Swedish brand Abstracta. The sculptural panels, released in 2019, can be arranged in many ways to create a variety of patterns.

Gabriel Tan Studio has also designed for globally renowned furniture brands including Herman Miller, B&B Italia, and Design Within Reach. What do you think it is about your approach to design, and yourself, that nurtures such coveted opportunities?

GT People say they enjoy working with us because we're professional, we're quick, and we deliver products with high quality. It's not just about the final design, but everything from the initial sketches to the three-dimensional files. We don't just give them a hand sketch and leave the rest for them to figure out. That makes it much easier for companies to collaborate with us. I think it's all about having the right attitude to work, being super professional, and working fast to deliver.

I didn't go to an A-list university in Europe and even though I went through a very good programme, it has not aligned with the things I'm doing now. It was skewed toward working in consumer electronics or medical design. So, I really had to fight to achieve my goals. I needed to gain knowledge over the years in order to reach a level that would even interest these companies.

This is something to be proud of, but I still want to grow and learn more as a designer. I want to work with the best in lighting, outdoor, and other fields that I am not involved in as much today.

What do you hope to bring to the lives of the people who use your designs?

GT It is important that our designs bring comfort, or better social interactions, or better awareness of sustainability questions. We try to bring something different to the table such that it's not a banal experience of a product, but feels unique and satisfying in different ways.

For example, the Sahara Wall Panel we designed for the Swedish brand Abstracta is made using cork waste from wine stoppers. They show people that even recycled or upcycled materials can be contemporary and sit comfortably in a high-end environment.

With the Luva Modular Sofa Group we designed for Herman Miller, we wanted to design the most comfortable sofa on the market. We felt we achieved that through a lot of research and development, alongside many steps of prototyping, to ensure that it is comfortable in both open and closed positions. Considering the directions design is taking globally, what advice would you offer to young Singaporean designers who are just starting out?

GT As Singaporean designers, we don't have any cultural baggage. We can explore any topic we want because there is no expectation of what designers from Singapore should design. We're not like the Scandinavians, who are often bound by expectations of minimalistic expression or sustainability-focused design. A Japanese designer trying to do something super decorative will find it very hard to position themselves because there's an expectation of something Zen.

As a young designer from Singapore, you can really follow your own calling and try to find a position in the industry that makes sense to you. But it's important to understand the exposure needed and the learning curve to get there. Things are not going to happen right away.

When I first started exhibiting at Salone Satellite in Milan, I wondered why our stuff was not getting produced in the first two years. It took a lot to come back to show again in the third year, when I had no results prior. The truth is, it's like the experience of sports people. Some people are early bloomers, some are late bloomers, and you cannot assume that late bloomers have no talent.

Often, the talent is there because people take time to put hard work into it. Beyond the glossy magazine profiles on designers who have made it, there are countless hours of investment that these people have made in themselves to reach that point. So, my advice would be to think in terms of decades rather than years.



The Softlands Collection of outdoor furniture for Design Within Reach was released in 2024. Tan's goal was to create "soft islands" that would feel like private getaways. The rounded, sheltering shapes and low, lounge-like seats convey an aesthetic of comfort.



* DESIGN	OF	THE	YEAR

# DESIGN OF THE YEAR

# 21 CARPENTER

### IMPACT AREAS

- **Enabling Economic Transformation**
- Raising Quality of Life
- Advancing Singapore Brand, Culture, and Community
- Making Ground-breaking **Design Achievements**

The past breathes into the present at 21 Carpenter. This boutique hotel on the fringe of Chinatown consists of four carefully conserved shophouses dating back to 1936, and a striking new block that cantilevers over the heritage buildings. The new extension is a Jengalike form of stacked cubic volumes that reveal and frame elements of the old building. The perforated facade of the new block incorporates the sentiments of migrant workers from years gone by in the form of phrases of reflection and longing for home.

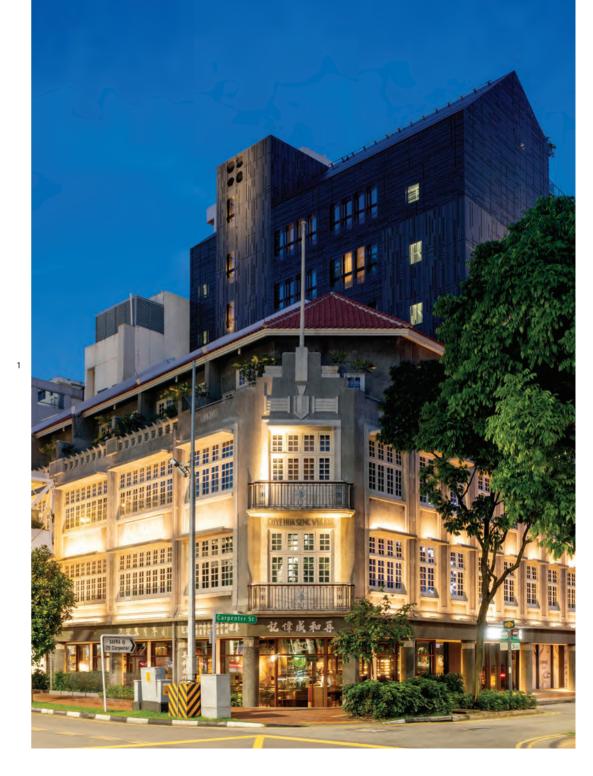
The shophouses were built as the headquarters of the Chye Hua Seng Wee Kee remittance company. Through detailed research into the National Archives of Singapore, WOHA Architects (WOHA) uncovered the history of the heritage shophouses and their context, which informed a rich design approach.

Perhaps the most fascinating of the discoveries was a collection of poetically composed remittance letters that had accompanied the financial transactions - a moving record of the lived experiences of Chinese migrant workers. By incorporating segments of these letters into the design, WOHA builds an emotional connection to the past for today's travellers.

Having only been in the hands of one family, the shophouses were almost fully intact when purchased by the developer. This is unusual for heritage buildings in Singapore, and the surviving features presented unique opportunities for the new design.

At the same time, in keeping with WOHA's core values, opportunities for sustainability were thoroughly investigated. As a result, 21 Carpenter combines passive strategies, such as sun shading, natural ventilation, greenery, and daylighting, with active components such as photovoltaic panels and hybrid cooling to lower the building's energy consumption and enhance the guest's experience of the tropics.

The ambitious approach extended to efforts to maximise the building's utility for the community. The creation of a ground-floor hospitality venue, which serves its neighbourhood as well as hotel guests, contributes to the ongoing resilience of the building. The shophouses continue their life as a living part of the district.



ILLUMINATING THE PAST The facade lighting highlights the different architectural languages of the conserved and new blocks. It draws attention to the ornate details of the shophouses, whereas the new extension is softly washed by light in a way that emphasises its planar surfaces.

DESIGN ARCHITECT FIRM: WOHA Architects Pte Ltd Richard Hassell. Phua Hong Wei. Fu Yingzi. Rainbow Lee. Mappaudang Ridwan Saleh, Christina Ong, Chong Siew Way

MECHANICAL AND ELECTRICAL ENGINEER: Bescon Consulting Engineers Pte

CIVIL AND STRUCTURAL ENGINEER: Ramboll Singapore Pte Ltd

QUANTITY SURVEYOR: WT Partnership (S) Pte Ltd

PROJECT MANAGER: Jones Lang Lasalle Property Consultants Pte Ltd

LIGHTING CONSULTANT: Lighting Planners Associates (S) Pte Ltd

SIGNAGE CONSULTANT: Radical Design Partnership Pte Ltd

ACOUSTIC CONSULTANT: Alpha Acoustics Engineering Pte Ltd

CONSERVATION CONSULTANT: Studio Lapis

ARTWORK CONSULTANT: The Artling

IT CONSULTANT: RED Technologies (S) Pte Ltd

MAIN CONTRACTOR: Sunray Woodcraft Construction Pte Ltd

CLIENT: 8M Real Estate Pte Ltd

#### JURY CITATION

21 Carpenter is a well-crafted boutique hotel that interweaves and juxtaposes the contemporary rear block with four conserved shophouses in a cohesive way that honours its history. The elegant articulation of its five-storev extension floats above the heritage structure, contrasting with the charming shophouses beneath. Its chamfered corner creates a terrace that brings air and daylight into the existing building.

As one moves through the conserved shophouse, the carefully positioned skylights frame glimpses of the modern extension above, creating a subtle interplay between the old and new. In the new extension, heritage elements of the old building are revealed and reframed, unveiling new viewpoints and understanding of the building's past as a remittance house. Throughout the building, there is a strong sense of storytelling that reflects the building's heritage. One can find glimpses of history such as the Chinese labourers' inscriptions from their remittance letters on the perforation of the facade screens.

The jury commends the team's design finesse, evident at every level of the project - from its bold massing and sculptural form to the refined detailing of interiors and material articulation.

#### NOMINATOR CITATION

Sun Mi Moon

Executive Director, Asset & Development Management 8M Real Estate Pte Ltd

It is with great pride that I write to endorse 21 Carpenter for the prestigious President\*s Design Award 2025. As a real estate developer invested in the conservation and celebration of Singapore's architecture heritage, I believe in the transformative impact that thoughtful conservation projects can have for our community and neighbourhood. 21 Carpenter stands as a remarkable example of this.

WOHA's design for 21 Carpenter serves as a showcase of how a conservation project can successfully harmonise the past with its present and future. It strives to preserve the essence of Singapore's heritage, as well as the physical built elements of a shophouse, while embracing the new. Physically and figuratively, its history and conserved wing sit as the foundation that inspired and lifted the design of the new wing. This idea is present at smaller scales as well. Walking through 21 Carpenter, you can see the sensitive restoration work that reveals the beautiful ageing of the original Shanghai plaster. And just above are the floating facade panels to help manage solar heat gain. There's an almost magical moment where you cross over from the conserved block to the new block, and there isn't a clear threshold or a signal on when and how it happens.

21 Carpenter is also a showcase of Singapore design excellence. WOHA's contribution to Singapore's urban landscape and its design industry is well known. Richard Hassell and his team's passion and dedication for excellence made my experience working on this project

particularly enriching. This collaboration between our team, as the owner-developer and Richard's team, was a true partnership. It was filled with active dialogue and mutual respect. Throughout the five years of design and the difficult construction phase, we were able to have open discussions. Looking at how 21 Carpenter turned out, I am ever more appreciative of the design team's guidance through many hard decisions.

Seeing a quiet and sleepy corner of Carpenter Street transform back into what must have been a buzzing and dynamic street has been rewarding. We are confident of its future success. 21 Carpenter deserves the President\*s Design Award for its achievement of celebrating Singapore's architecture heritage through design excellence. It will set a new standard for conservation projects globally.

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The word "authenticity" is often used in discussions about heritage architecture, adaptive reuse projects, and hospitality experiences. What was vour thinking around this term in the context of designing 21 Carpenter? RICHARD HASSELL (RH)

There are all kinds of authenticity and we explored a few different types. One type is technical heritage authenticity, which refers to the original form of the building and the evidence of how it's been used over time. We were lucky that the old building had been covered with paint quite early on in its life, so the original Shanghai plaster was in pretty good condition underneath. We worked with Studio Lapis, our conservation consultant. to gently remove the paint and we discovered three different tones of Shanghai plaster. Even the windows are mostly original because the overhangs sheltered the timber frames from the rain.

The main corner of the building had stayed with the old family, but they'd rented out other parts of it, so there'd been various signs attached to it at different points. We were keen to leave these traces of past tenants. We left the holes in the facade where they'd hammered in wooden pegs to fix signs. We wanted to show the marks of age and not make the building look brand new again.

As an architect, I also like spatial authenticity. This is another type of authenticity we explored. I'm often disappointed in shophouse reuse projects where the interior space gets all chopped up and made into small rooms. You don't get a sense of the tall and deep shophouse form. We decided that the rooms at 21 Carpenter would always follow the party wall locations, so the windows would fit nicely in each space. There's a geometric and architectural authenticity to this.

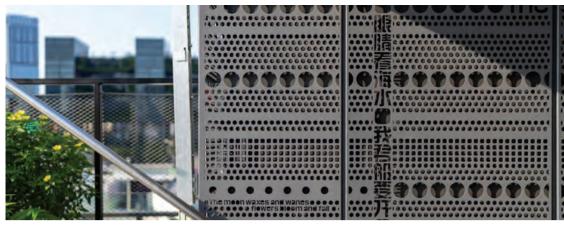
When you do a shophouse extension with a larger block at the back, you also tend to lose the understanding of the shophouse courtyard. So, we designed the lobby as a kind of courtyard that's glazed and internal. You can look up and see the back facade of the front block. the eaves, and light coming over the roof.

Finally, this building was an opportunity to explore a kind of authenticity of connection with people from the past. We wanted to create an emotional connection between the hotel guests and the original users of the building, the migrant workers who were sending money and letters back home. This idea of a connection across 90 years to other travellers to Singapore who were missing home led to the concept for the facade artwork.

We selected phrases from the remittance letters to create this emotional resonance. These weren't the raw words of the workers themselves, as we found out that they engaged classically trained letter writers in Chinatown. I love the idea of the workers' sentiments being framed through the words of the great classic poets of Chinese literature. Even now, you can feel the emotions carried across the decades.







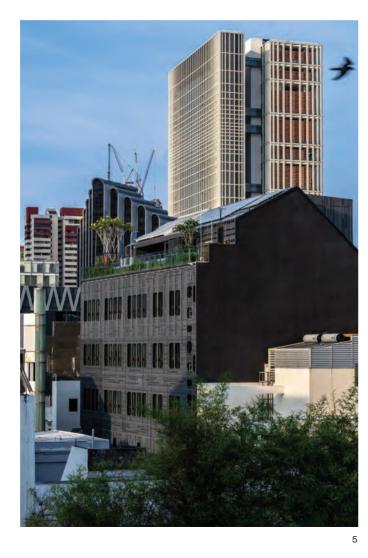
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#### 3 POETIC FRAGMENTS

The aluminium facade is an artwork that translates text into patterns of horizontal and vertical perforations. These were inspired by the inscriptions on historic buildings in Chinatown, as well as the letters sent by the remittance house that originally occupied the shophouses.

- 4 LINKS TO HISTORY
  WOHA's research revealed the
  historic prevalence of text in the
  built environment of Chinatown,
  as well as the practice of engaging
  classically trained writers in the
  neighbourhood to compose poetic
  letters for family members.
- The greenery at 21 Carpenter contributes to pockets of rooftop vegetation in densely built-up Chinatown. Ar. Richard Hassell has observed that the neighbourhood's network of elevated gardens attracts birds, which move from one to another as part of a daily routine.



"21 Carpenter is about a kind of heritage experience where it doesn't feel like you're playing make-believe, pretending you're back in the past."





- 6 CURRENCY AND SENTIMENT
  The remittance letters accompanying
  the wages sent home by labourers
  included poems that spoke of
  a longing for home and family.
- 7 FRAGMENTS OF TEXT
  A conceptual model created by
  WOHA conveys the intent for
  21 Carpenter to be a vessel
  for textual communication.

What other value did you see in communicating text as a narrative on the facade of 21 Carpenter?

RH When I was looking at old pictures of Chinatown, I realised that Singapore, like Hong Kong in those days, had signage everywhere. Chinatown was a textual environment. The idea of text was interesting for 21 Carpenter because we wanted something for the new block that is obviously contemporary, but still has materiality, denseness, and texture that's harmonious with the Shanghai plaster and mouldings of the old building.

The perforated facade came from the idea of wrapping the new block in text. We were also worried about it overwhelming the old building because it's a lot taller. We wanted to make it seem weightless, very thin and folded like origami, so it appears to float. That would also allow the old building to have gravitas.

Instead of seeing the heritage requirements of the existing building as restrictive, WOHA embraced them as a stimulus for creativity and innovation. Which parts of the design outcome are you most satisfied with in that regard?

RH It was a nice building to begin with, so that made it very easy. It had such interesting features, like the windows, which informed our idea to keep the room bays. They're large, almost wall-sized windows, but they're framed with wood, which is unusual. In the 1930s, there was a transition underway to steel-framed windows, but here they were still made of wood. They form a wall of glass composed of typical smaller windows. The buildings of the 1940s became quite different because a steel frame could make a whole window wall.

Every room has great light, air, and views, which is unusual for a shophouse project. Often you get, say, four great rooms facing the street, and then 20 awful rooms, some of which either have no windows, or simply overlook the air conditioners at the rear. I think our rooms are all good. We were driven by an urge to conserve more than we had to, and to celebrate the original experience of the building, rather than just treating it as a fancy facade stuck in front of an ordinary hotel.

How do the ideas of legibility and authenticity play out further in the internal experience of the building? What unites the experience of the guest rooms in the old and new blocks?

RH Solving the problems of the old rooms set the tone for the new rooms. Our idea was that whether you stayed in the old or new block, you had a consistent experience. We designed contemporary interpretations of 1930s Chinese furniture, referencing modern and art deco teak pieces. We reused all the wooden floors in the old building and kept them as we found them. They had nail holes and broken edges, which we filled with epoxy. We then gave the new block a recycled oak floor.

The windows in the new block are proportioned similarly to those in the old block. In all the bathrooms, we used frosted fluted glass, which has a 1930s feel. The corridor carpet and bedheads also feature abstracted calligraphy.

We recycled the timber joists found throughout the old building. They're used for the door handle and window frames in the restaurant, the reception desk, the lobby floor, and the handrails at the ramps in the five-foot way. They're such beautiful pieces of wood: 100-year-old Chengal in perfect condition.

The relatively untouched state of the conserved shophouses was a boon and a bane, revealing delightful opportunities and considerable challenges as the project progressed. What are the most notable examples?

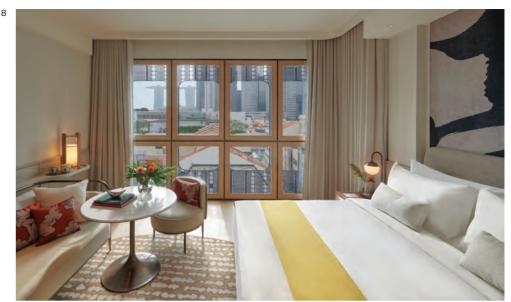
RH On paper, the building had a concrete frame, so as we designed it, we anticipated being able to knock down some internal walls. Then, once we were on site, the engineer said, "Hang on a minute. This is a very strange structure." Even though they had investigated a typical column and a beam and they looked in decent condition individually, it turned out that the concrete structure as a whole was not rigidly tied together as you would expect in a modern concrete building.

Again, this was because of that transition in technology from brick and timber to concrete. The 1930s engineers were obviously not so comfortable with concrete, so they designed it like wood.

We had to stiffen the structure by wrapping the old concrete skeleton in steel. Every beam was cradled and picked up on a steel beam, which connected a new steel column that extended all the way down to new piles and foundations. These had to straddle the old piles without adding more load. Our columns tripled in size and we lost a bit of headroom. We then carefully set the steel structure into the thickness of the perimeter brick wall so that the external facade retained its original thickness.

These were all technical challenges, but they were quite significant, because in a hotel you're always working at the scale of small objects and finding ways to tuck things in wherever possible.

- COMFORTABLY COOL All guest rooms use an innovative hybrid cooling system, which combines air conditioning with low-speed fans to create comfort and reduce energy consumption. Bedheads feature calligraphic fragments, continuing the textual theme.
- SPATIAL PRESERVATION In the heritage block, the 5.7 m grid of the shophouses was preserved internally. This has enabled every room to benefit from its own window, or multiple windows in the case of suites

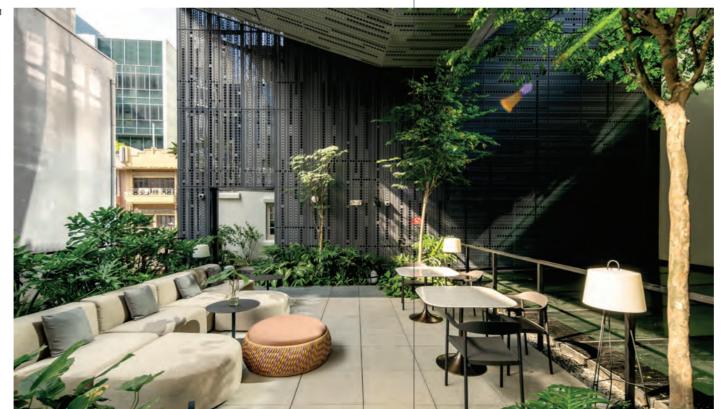




IMPACT FACT

Despite its small footprint, the hotel infuses greenery into multiple areas. The urban site is now greener than it has ever been.





10 ART OF LOUNGING

The hotel features artworks by
Singaporean artists throughout,
including in the rooftop pool lounge,
which doubles as an event space.

11 BOTANICAL HERITAGE
The garden terrace opens up to the adjacent laneway. The planting scheme includes gambir, pepper, and nutmeg. These link the terrace to the building's original visitors, many of whom were labourers who grew, packed, and shipped these commodities.

In sustainability terms, how do 20th and 21st century design strategies align at 21 Carpenter?

RH The old building was designed for cross-ventilation and ceiling fans, not air conditioning. Nowadays, tourists who come to Singapore say, "It's so cold inside the buildings. I got sick on the second day from going back and forth between the hot, humid air and the cold interiors." We wanted to try out a hybrid cooling solution that we had previously developed with Transsolar, a climate consultant working in the area of thermal comfort, for the BRAC University project in Bangladesh.

We explained to our client that if they set the air conditioning to 26 °C and used a fan, the fan would make it feel like 24 °C. It would save energy and reduce how sick people feel because there's less temperature variation. The client agreed to do it. We're now using the same technique in another hotel we're designing. I think opinions around air conditioning have changed, which is a great advancement.

The greenery you've incorporated into the building has its own stories to tell, including the team's painstaking process of sourcing a Gambir plant from Malaysia. How do you envision the greenery contributing to the district?

RH We've done a couple of projects with greenery on North Canal Road, as well as PARKROYAL COLLECTION Pickering and our rooftop at the WOHA studio on Hongkong Street. There are quite a few shophouses and other buildings around us that have added greenery. It's quite interesting that even Chinatown, which has a hundred percent site coverage, is becoming green. Biodiversity increases significantly just having these small pockets of plants in the area.

Sunbirds visit our rooftop garden at WOHA and make nests. We see a variety of birds flying from rooftop to rooftop. To them, it's just their neighbourhood. They have a daily routine: Check out the flowers on our rooftop at 10am, and have a little bath at 21 Carpenter when the sprinklers go off in the morning. It's very nice when wild creatures move in based on what you've done.

RH The developer, 8M Real Estate, really wanted the restaurant to be a place where everyone in the neighbourhood can work, bring their clients. and get to meet each other. There was a great vision of it being the neighbourhood bistro or coffee shop, and it's really worked. It has started a community.

From a design point of view, we thought it was important to expose this activity to the street so people know it's there. We brought the open kitchen out to the first shophouse bay, so you can see the chef preparing things with care and skill. We put the bar in a pivotal position at the corner. We also made lanterns and lamps that we placed around the restaurant to draw people in. All these things are design aspects of a central idea that this is a place with low barriers to entry. It's a place for the neighbourhood to come together.

Do you think there's enough talk about emotion in connection with architecture?

RH No, I don't think there is. It is one way of making people really connect to a building. A lot of people feel that architecture is big business. It seems very technical and mysterious to people outside the profession. But because it's a capsule of human life, I think it's filled with emotion. It endures, so it immediately becomes about the past, past emotions, and stories of where people come from.

Even when we talk about sustainability, I think about it in terms of environmental grief. If the building appears to be, in some small way, reversing a trend of loss and destruction, that makes people feel quite emotional about it as well.

21 Carpenter has won design awards, attracted much media coverage, earned positive guest reviews, and been incorporated into heritage tour circuits. What does all of this tell you about the things that today's travellers and local communities value?

RH It comes back to the guestion of authenticity. 21 Carpenter is about a kind of heritage experience where it doesn't feel like you're playing make-believe, pretending you're back in the past. It's not a stuffy heritage experience because it never was that kind of place. It was a place of business, a node in a financial network across the world. Our take on it was that it should feel like it's a useful space for the modern-day traveller.

When you stand on the roof terrace and look out to the Singapore River, you can see the Oversea-Chinese Banking Corporation (OCBC) and United Overseas Bank (UOB) towers. This remittance house, through a series of mergers and acquisitions, ended up being part of OCBC. So, this little building is part of the story of how Singapore became a financial hub. From small beginnings, big things can grow.

The building's narrative of connecting you to migrant workers makes you think, "Here I am in 2025, another person trying to build my life through travelling and business, and I'm just part of a long story of people making their way in the world through this unique little corner of Asia."

#### 12 DINING ACROSS ERAS Kee's Neo-Bistro and Bar (Kee's) has a fully glazed shopfront that reveals the activity within. Original Chengal wood beams were upcycled into furniture and interior features throughout the hotel, including several touchpoints within Kee's.

#### 13 TIME'S HORIZON A rooftop infinity pool offers views of Singapore's central business district and beyond. The view is a reminder of the city state's impressive growth into a global financial centre.







#### 14 BRIGHT ASPECT

The lobby is a skylit double-height social space that alludes to traditional shophouse courtyard spaces. The interior design features a contemporary interpretation of 1930s Chinese art deco.



Mappaudang Ridwan Saleh, Ar. Fu Yingzi, Ar. Richard Hassell, and Rainbow Lee.

WOHA Architects was founded by Ar. Wong Mun Summ and Ar. Richard Hassell in 1994. The Singapore-based practice is focused on researching and innovating integrated architectural and urban solutions to tackle the problems of the 21st century such as climate change, population growth, and rapidly increasing urbanisation.

WOHA's projects are living systems that connect to the city as a whole. With every project, the practice aims to create a matrix of interconnected human-scaled environments that foster community, enable stewardship of nature, generate biocentric beauty, activate ecosystem services, and build resilience. WOHA applies their systems thinking approach to architecture and urbanism in their building design as well as their regenerative masterplans.

The practice has received a number of international awards such as the Aga Khan Award, RIBA Lubetkin Prize, International High-Rise Award, CTBUH Urban Habitat and Best Mixed-Use Building, CTBUH Best Tall Building Worldwide, and World Architecture Festival World Building of the Year. WOHA has also received numerous P\*DA accolades since 2006. The firm currently has projects under construction in Singapore, Australia, and other countries in South Asia.

Hassell graduated from the University of Western Australia (UWA) in 1989 and was awarded Master of Architecture from The Royal Melbourne Institute of Technology (RMIT) University in 2002. He has lectured at many universities, had served as an Adjunct Professor at UWA, and was appointed the Seidler Chair in the Practice of Architecture at the University of New South Wales in Sydney.

Hassell has always been drawn to the intersection of architecture, art, history, and science, four disciplines that offer different but complementary ways of understanding the world. Science explains how the natural world works and opens pathways to sustainability, technology, and deeper engagement with nature. History tells the story of how we arrived here. Art captures the cultural currents of our time. When brought together through architecture, these perspectives allow us to express who we are, where we come from, and how we see the world.

This holistic view shapes Hassell's approach to design, where form follows systems: social, economic, ecological, cultural, and technological.

# DESIGN OF THE YEAR

### **BIRD PARADISE**

#### IMPACT AREAS

- \* Enabling Economic Transformation
- \* Raising Quality of Life
- \* Advancing Singapore Brand, Culture, and Community
- \* Making Ground-breaking Design Achievements

Moving thousands of birds from the former Jurong Bird Park to the new Bird Paradise at the Mandai Wildlife Reserve was an enormous undertaking. It was second only to the immense task of coalescing many layers of multidisciplinary knowledge and considerations into the design of an attraction that would reimagine the possibilities for bird parks.

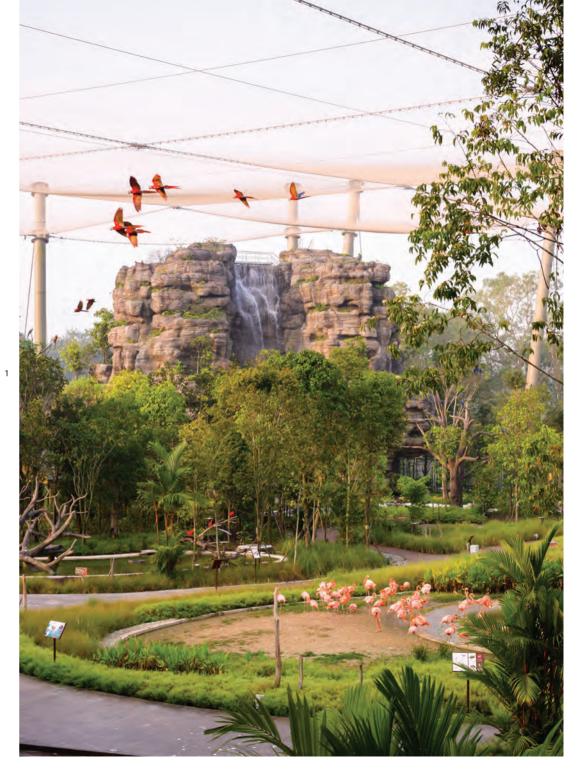
The development of Bird Paradise was part of a larger rejuvenation project by Mandai Wildlife Group, which is seeing the addition of new features to Mandai Wildlife Reserve in Singapore's north. The 17-hectare Bird Paradise was the first public feature to open and welcomed more than 600,000 local and international visitors in its first six months of operations in 2023.

Bird Paradise's immersive and naturalistic environments clearly have significant visitor appeal. Mixed-species habitats were developed in eight large walk-through aviaries, each of which reflects a different biome from around the world. Two additional zones cater to penguins and highly threatened species. The habitats are collectively home to 3,500 birds from 400 species, of which 24 percent are threatened with extinction.

Managing the complex web of science and design that underpins Bird Paradise was the job of Mandai Wildlife Group's in-house Attractions Development team, a multidisciplinary group with expertise encompassing areas like biology, architecture, and scenography. The team worked closely with key consultant RSP Architects Planners & Engineers (RSP), who led the architecture and master planning of the site.

The immersive character of Bird Paradise, alongside its impetuses of environmental stewardship and avian wellbeing, makes it an exemplary bird park. Gone are the traditional cages and enclosures that used to define bird parks. Instead, the naturalistic settings give visitors a glimpse of how birds typically behave and interact with their environments in the wild.

Behind the scenes, state-of-the-art facilities for birds such as the Avian Hospital, Avian Nutrition Centre, and Breeding and Research Centre enable staff to safely and efficiently carry out the important work of caring for birds and assuring their perpetuation for generations to come.



#### 1 FLIGHT PATH

Hong Leong Foundation Crimson Wetlands is the only aviary at Bird Paradise that is entirely beamless within, enabling unobstructed flight paths. Its landscape reflects coastal wetland habitats of Latin America. DESIGNER:
Mandai Wildlife Group
Marc Cremades, Rucha Khanderia,
Tsai Chung Jay, Tatsuki Nakamura,
Tan Seng Seng, Keryn Ng,
Dr Nicole Tay, Dr Juan Cornejo

DESIGN ARCHITECT FIRM: RSP Architects Planners & Engineers (Pte) Ltd Seah Chee Kien, Suen Wee Kwok, Gabriel Chen, Chan Ai Hup, Samantha Wong, Ashley Yong, Teong Mee Chen, Teo Nam Siang, Charlene Lee, Kurt Lloyd Babet

LANDSCAPE ARCHITECTS: Ramboll Studio Dreiseitl Aecom Singapore Pte Ltd

CIVIL AND STRUCTURAL ENGINEER: Aecom Singapore Pte Ltd

MECHANICAL AND
ELECTRICAL ENGINEER:
Surbana Jurong Consultants Pte Ltd

LARGE AVIARY STRUCTURE DESIGN: Tensys Engineers Pte Ltd

CAPACITY CONSULTANT:
Orca Consulting

PEDESTRIAN MODELLING: Vertix Asia-Pacific Pte Ltd

SIGNAGE AND WAYFINDING:
Acacia Design Consultants Pte Ltd

SUSTAINABILITY STUDIES: Atelier 10 Pte Ltd

#### JURY CITATION

Bird Paradise offers a world-class, immersive experience that redefines urban zoos and animal conservation. With a strong focus on bird conservation, it creates a rich and engaging journey, particularly for families with young children. The design was carefully conceived and executed, resulting in a seamless and interactive experience where visitors can connect closely with nature. Through the observation of and engagement with birds in a way that feels natural and dynamic, visitors gain a deeper understanding of avian species and their ecosystems.

The integration of wildlife, landscape, and visitor engagement presents an innovative model for conservation, pointing towards the future of animal preservation in urban settings. The experience at Bird Paradise is both entertaining and thought-provoking. By blending education, interaction, and carefully designed spaces, the project offers a forward-thinking vision for the role of zoos and wildlife experiences in modern cities.

#### NOMINATOR CITATION

Professor Leo Tan
Professor Emeritus of Science, NUS

Bird Paradise is an outstanding example of how urban environments can integrate nature appreciation with advanced design, while prioritising environmental and animal welfare.

At its core, Bird Paradise is dedicated not only to avian conservation but also to enriching the community by providing an avenue to connect with wildlife in today's highly urban environment. Its design features expansive walk-through aviaries that offer a unique, immersive experience, allowing visitors to appreciate the beauty and diversity of birds in a natural and engaging setting.

As a key development principle, efforts were made to preserve trees of conservation and ecological value. These trees were identified to be conserved and incorporated into park designs where possible. For instance, the Rwanda Nyungwe Forest Heart of Africa aviary, which is inspired by the African tropical forests and woodlands, retains mature tree clusters. This approach also helps create a multilayered rainforest experience whilst providing shade, for both birds and visitors, as well as food for the avian residents.

The park's habitat designs are not just visually stunning but also crucial for the wellbeing of the birds. The larger aviaries provide ample space for flight and promote natural social interactions within larger flocks. Multispecies arrangements encourage interspecies interactions and behavioural diversity, enhancing both the birds' welfare and the guest experience. Aviaries such as the Hong Leong Foundation Crimson Wetlands and Kuok Group Wings of Asia allow guests to marvel at flocks of birds and be immersed in their lively cacophony.

The Ocean Network Express Penguin Cove is another highlight. Spanning 3,000 sqm, three times the size of the previous exhibit at

LIFE SUPPORT SYSTEM DESIGN (PENGUIN EXHIBIT): Aquionics Design and Development Sdn Bhd

THEMING:
Kingsmen International
Pico Art International

PLAYGROUND: Carve NL

INTERPRETIVE: SPACElogic Pte Ltd

AV AND ACOUSTIC:
CCW Associates Pte Ltd

LIGHTING:
Lighting Planners Associates

QUANTITY SURVEYOR: Arcadis Singapore Pte Ltd

FIRE SAFETY:
Ignesis Consultants Pte Ltd

WINGED SANCTUARY AVIARY: Passage Projects

INTERIOR DESIGN (OFFICE AND BACK OF HOUSE): RSP Architects Planners & Engineers (Pte) Ltd

INTERIOR DESIGN (F&B AND RETAIL AREAS): Kingsmen International

INTERIOR DESIGN (TRANSITION BUILDINGS): SPACElogic Pte Ltd

CLIENT: Mandai Wildlife Group Jurong Bird Park, it features two saltwater acrylic tanks with a depth of 7 m. This design supports the birds' natural behaviours both on land and in water, improving penguin welfare and offering guests a captivating view of their diving behaviours, a feature not previously available. This thoughtful approach extends to all aspects of the park, where each design element has been carefully considered to support the physical and psychological wellbeing of its avian inhabitants.

Another impressive aspect of the park is its embedded sustainability design. The Penguin Cove, for example, includes innovations such as energy-efficient air conditioning and solar panels, earning it the Building and Construction Authority's Green Mark Platinum certification for Non-Residential Buildings.

The park has unique and innovative features integrated in its overall design. Elements such as transitions/hubs, which provide entry and exit points to the large aviaries, also serve two other key functions: They display educational and fun content about avian features such as feathers and nests and, by virtue of being airconditioned spaces, provide much-needed respite from the weather for the guests. This illustrates how the design has been developed to provide new outcomes for guest experience and comfort.

Bird Paradise also plays a vital role in education and community engagement. Its development provided an opportunity for the team to redefine the concept of a bird park, ensuring it remains relevant to its mission of zoo-based conservation. Messaging about conservation is integrated throughout the park, promoting respect and advocacy through ethical wildlife experiences. Since its opening, Bird Paradise has welcomed numerous school groups, fostering connections to nature. It has also created opportunities for Mandai Wildlife Group to collaborate with educators in developing programmes that enhance students' understanding of wildlife conservation and environmental stewardship.

Bird Paradise's thoughtful design, commitment to sustainability, and focus on education underscore its role in wildlife conservation. By celebrating birds and bird life, and offering engaging educational experiences for visitors, Bird Paradise exemplifies excellence in design and enriches Singapore's urban environment while promoting a deeper appreciation of the natural world.

DESIGN OF THE YEAR

People are increasingly aware of the precarity of natural systems in the current era. Given that awareness, how have visitors' perceptions and expectations of zoos changed in recent years? What do people seek from a zoo experience nowadays? **RUCHA KHANDERIA (RK)** 

We've seen a significant shift in what visitors seek at wildlife parks. They see zoos as centres for education, conservation, and ethical animal care. At the same time, they look for authentic and meaningful experiences with which they can educate their children.

Visitors want to understand the broader context of species, their natural habitats, their roles, and the threats they face in the wild. Educational programmes and behind-thescenes tours resonate these days because they show how some of the animals are looked after and treated. Hands-on activities where visitors can get involved are also increasingly popular.

For Bird Paradise, we had a unique opportunity to engage experts from various fields and completely reimagine what a modern bird park could be. We had the opportunity to do away with the traditional taxonomy-based displays and focus on holistic environmental education instead.

#### SUEN WEE KWOK (WK)

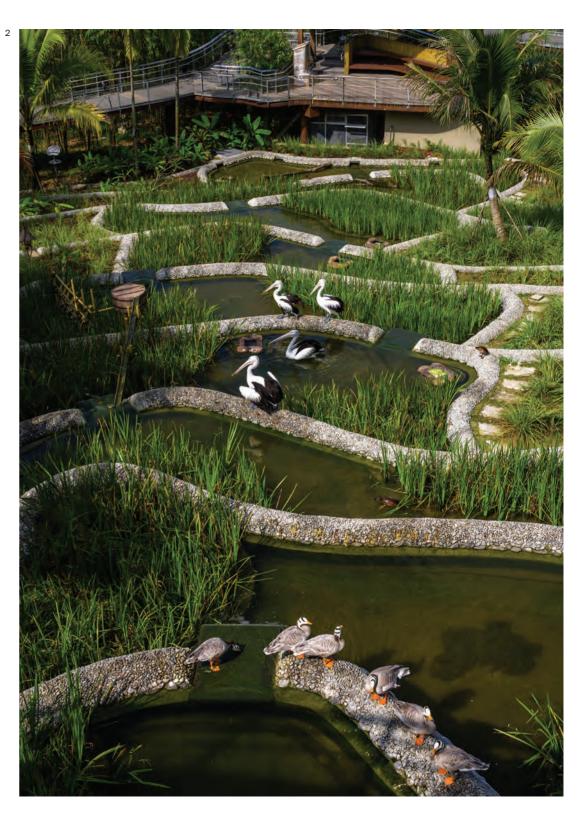
As architects and urban planners, there was another impetus for us to consider. Nowadays, visitors expect a lot more spaces for public engagement, even before they enter the attraction. We needed to provide non-ticketed areas where the public can enjoy nature.

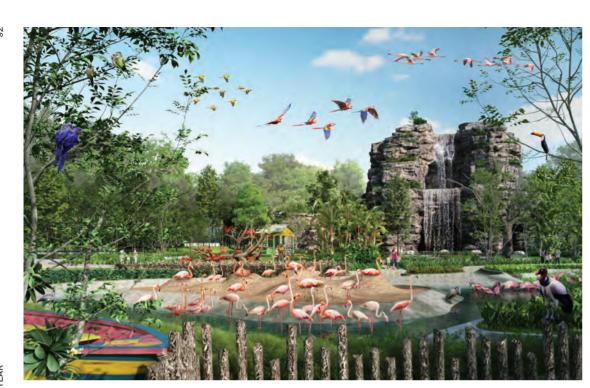
In what other ways do these evolving expectations change the design of zoos? How has Mandai Wildlife Group been responding at its properties?

- RK At Bird Paradise, each habitat is inspired by real-world biomes, and visitors feel like they are stepping into real ecosystems where the birds live, not walking past enclosures. Every aviary or habitat was themed after a particular place. We conducted research all over the world, studying the micro-environments of various places that we would begin to recreate. When people visit Bird Paradise, they feel as though they are part of the animals' environments. That was the broad vision of the park.
- WK We worked closely with the attraction designers because they are the experts in curating the bird habitats. But from the point of view of the visitor's experience, the immediacy of up-close observations of the species was very important. Most zoos, as we found through our studies, have a fair amount of distance between the exhibit and the visitor. What is unique about Bird Paradise, and in fact, all of Singapore's wildlife parks, is that you can come up quite close and observe the species at close proximity. You are immersed in their world; it's not them in your world.
- RK Another changing expectation of visitors is inclusivity. People expect places to cater to diverse backgrounds and abilities. So our pathways, for example, are designed to meet universal design standards. There are gentle gradients and stopping areas that allow for engagement with the birds.



A terraced rice field shapes the landscape at the Kuok Group Wings of Asia aviary, which pays homage to Southeast Asian agricultural landscapes. Architecture inspired by traditional buildings in Thailand and Bali has been integrated into the habitat.





#### 3 LAND AND WATER

A preconstruction illustration of the Hong Leong Foundation Crimson Wetlands provides a flavour of the colourful wetland scene to come.

#### 4 REST STOP

Thematic pavilions, transition buildings, and viewing decks throughout the park serve as rest stops with plenty of seating where visitors can relax and recharge.

#### 5 NATURALISTIC HABITATS Bird Paradise incorporates eight walk-through aviaries, a penguin habitat, and a zone dedicated to birds of high conservation value.

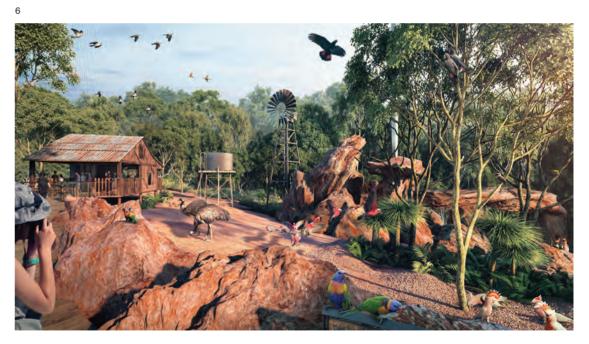
#### 6 MAKING A SCENE

The Shaw Foundation Australian Outback was imagined in this illustration as a dry forest environment with thematic elements such as a windmill and a water tank.

Each aviary reflects a different biome.







Birds use their expansive habitats fully – flying, perching, foraging, and socialising - which indicates low stress and high environmental enrichment.

Bird Paradise is located near the Central Catchment Nature Reserve (CCNR) on land that has had various uses. What were some of the most important findings of your preliminary environmental impact assessment (EIA), and what was the effect on the master planning of the site?

RK We conducted an extensive EIA for the entire Mandai precinct. A key finding was that there were a lot of pathways for native birds as well as small fauna throughout the precinct. A key gesture of the overall Mandai master plan was therefore to connect the northern and southern parts of the CCNR with a bridge above a live road, allowing native animals to cross safely.

In the area where this wildlife bridge lands within the Bird Paradise site, we left a buffer zone that's 45-to-50 m wide. That's about 3 ha of land that we set aside as a nature buffer in direct response to the EIA in terms of maintaining animal connectivity.

We preserved large clusters of trees and, because we are very close to the reservoir, the drainage networks were designed to ensure no wastewater from our operations flowed into Upper Seletar Reservoir and the CCNR. We also limited our hours of construction to 8am to 6pm.

WK The EIA was commissioned in 2014, prior to our engagement. At that time, very few EIAs were being done. This was the first to be made public in Singapore. We took a few guiding principles from it.

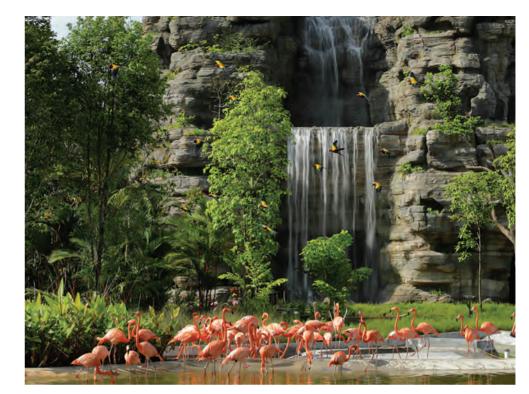
Firstly, we wanted to stitch all the green areas on the Bird Paradise site together because they were quite fragmented. There was a disused orchid garden and villages. We placed the more intensively built areas, such as the back-of-house zones and the penguin exhibit, on the areas that had already seen the most human impact. Overall, we aimed for a minimal building footprint.

Secondly, we wanted to integrate the attractions into the natural surroundings, meaning that the clearance of vegetation should be minimised to accommodate our development.

Thirdly, given the number of attractions in the entire Mandai master plan, we wanted to decentralise the crowd to avoid congestion and stress on the environment.

RK While designing the habitats, we tried to snake the walkways around the existing clusters of trees so we were able to retain them. In some places, we went for suspension bridges because we wanted to bring people closer to the large trees, but avoid impact on the undergrowth. Throughout the park, the common areas that are outside the aviaries are designed to be eco-corridors for native birds and small fauna.

One of our key achievements was retaining one of the largest trees on the site - a Ficus benjamina with a 20-metre-wide canopy. The birds in the Rwanda Nyungwe Forest Heart of Africa aviary use it for nesting, refuge, and as a food source.



- 7 FLOW OF LIFE The waterfall within the Hong Leong Foundation Crimson Wetlands pays tribute to the iconic waterfall at the former Jurong Bird Park. It uses recycled water.
- 8 SPLASH OF COLOUR A flock of roseate spoonbills dots the landscape of reeds, waterlilies, sedges, and trees in crimson blooms at the Hong Leong Foundation Crimson Wetlands



Why is experience a good pathway to education about ecology and animals? What creates a meaningful learning experience in the context of Bird Paradise and how have learning opportunities been maximised?

RK Experience is one of the most powerful tools for education because people engage in an emotional way, not just in an intellectual way. When visitors walk through a misty rainforest or a wetland, they see birds in their natural context and hear the sounds of the environment. This creates visceral memories and emotional connections that inspire curiosity and sentiment. It can bring people into the larger story of conservation.

Learning can happen through different layers. We have made sure that each landscape environment feels authentic and allows opportunities for kids to engage in tactile play. We also curated elements for visitor discovery. For example, in the Hong Leong Foundation Crimson Wetlands we recreated the kind of clay wall where scarlet macaws typically feed in nature. They actually lack certain minerals in their diet, which they get from the clay. When visitors see lots of scarlet macaws feeding on that clay wall, it creates curiosity and inspires learning.

In a traditional zoo, the entry and exit points of the aviaries would typically be mesh doubledoor portals. At Bird Paradise, we created learning hubs at these transition points. They are designed as small buildings that contain showcases about various bird features – for example, the diversity of feathers and eggs, nest architecture, birdsong melodies, and courtships. They also provide respite from the hot sun.

WK While you are immersed in these habitats and enjoying the exhibits, you do not realise that the comfort level is very, very high. As you walk through them, you feel cool, you feel comfortable, you are able to walk free of hazards, and the information provided along the way is curated to a very high degree. Nothing is left to chance. We call this "the design of the invisible hand". Bird Paradise is successful in that regard.





9 MAKING A SPECTACLE A sheltered 2,000-seat amphitheatre hosts avian presentations that showcase the flight and natural behaviours of birds. Hearingenhancement facilities provide for an inclusive experience.

#### 10 DIVE AND GLIDE The Ocean Network Express Penguin Cove features two seven-metredeep saltwater acrylic tanks that offer an unobstructed underwater view of the penguins.

11 SOUTHERN LIGHTS Lighting in the Ocean Network Express Penguin Cove was designed to mimic the day and night conditions of the Sub-Antarctic Falkland Islands and complement the penguins' breeding cycles. A domed sky features a projection of the Aurora Australis



From zoologists to arborists, scenographers to architects, the creation of Bird Paradise involved the expertise of many disciplines. Could you provide a window into the process of integrating the many

considerations through design?

"Design, science, and nature have come together to tell

the larger story about wildlife conservation."

RK In addition to RSP, we had a suite of consultants alongside our in-house Attractions Development team. There was a very extensive engagement process with our consultants. During the design phase, we held a lot of workshops and design reviews. RSP, being the lead architect, was a key player.

We then went into a process of engagement with all the different operations teams, our Board of Directors, and various stakeholder agencies. The stakeholder engagement process was also very extensive because we needed to ensure that the vision for Bird Paradise integrated all of the associated real-world challenges and opportunities. There were a lot of expectations to meet.

WK But everything began with the master planning. Mandai is very big, so choosing the correct site was the first challenge. That's where the experts from the Attractions Development team were very important, because they knew what kinds of environments their bird species needed.

Insights from the ecologists and landscape architects were layered on to determine what could be retained or supplemented on the site.

Developing the design from the architecture and master planning point of view, we worked out the spatial demands of the human visitors, the vehicular needs, the human circulation, the back of house, fire safety, universal access, and construction feasibility, among others. The engineers worked on the structure, water and electrical supply, air conditioning, security monitoring, and even the animal CCTV surveillance. The lighting design was planned so the entire park dims at night and the animals can rest.

All these considerations were worked in and layered onto the attractions planned out by the Bird Paradise team. In terms of the type of project and the number of consultants, this was a once in a lifetime experience. Not many design consultants out there can claim that they have done a bird park. It was a very niche project. RK The ultimate masters were always the EIA and our environmental commitments. It was not an easy process to integrate all the various threads. Sometimes there were differing views,

and the design needed to "arbitrate" in a way.

What are key considerations for the wellbeing of birds in a bird park environment, and how does the design of Bird Paradise support the wellbeing of its avian residents?

RK The design allows for a high standard of animal care and safety. The large aviaries enable the free movement of the birds inside those environments. That's one aspect. Species compatibility is another. But it's fundamental to provide as natural of an environment as possible.

The Ocean Network Express Penguin Cove is one of the largest saltwater exhibits in the world. In other penguin exhibits, you typically see penguins on land, but they are actually seabirds. They spend most of their life underwater, so it was very important for us to provide a large saltwater environment. Not only is it the right environment for them, but it also shows visitors how they behave underwater. On land they waddle, but in the water they are so graceful! It's almost like they are flying.

The lighting was designed to simulate the Subantarctic. Maintaining the correct photoperiod helps the penguins with their breeding cycle. Through talking with the operators of other high-quality penguin exhibits around the world, we discovered that there is a certain spectrum of amber light that penguins perceive as dark that would still allow us to carry out our operations.

The photoperiod has been very carefully designed; it allows for sunrise, high noon, and sunset conditions throughout the day, and even features a projection of the Aurora Australis at certain times of the year. It's been successful. We welcomed the first few babies to the penguin colony recently. The birds are feeding and interacting well - these are all indicators of wellbeing

WK Animals will behave like animals. They won't land in front of you just so you can take a picture. Everything, therefore, had to be considered carefully. The amount of care and consideration required when designing for animals is, I would say, two or three times higher than when designing for humans. People will know how to use a space or structure that you design for them. But you can't tell a bird how to use a verandah or perch. Birds are a very exclusive client.

The public has flocked to Bird Paradise. In its first year of operation, there were over one million visitors. What has surprised you most about how people interact with the venue?

WK When we led the P\*DA jury through their site visit, everybody quickly began to convey the sense of wonder that you often see in tourists. I think that's the magic of Bird Paradise. It's as though you are having a childlike experience again. That's the most surprising thing I have noticed about the visitors. They slow down and engage with the spaces deeply. They observe the birds' behaviours, and they spend longer than we anticipated. It tells us that when we design in a way that invites exploration and wonder, people respond with curiosity and care.

Bird Paradise has received awards in the fields of landscape, universal design, water reuse, and steel structures. The Ocean Network Express Penguin Cove achieved the Building and Construction Authority's Green Mark Platinum rating for its energy-saving measures. What aspect of Bird Paradise are you most proud of?

- RK It's very gratifying to see that the design has been well received. I think we are most proud of how it integrates animal welfare, guest experience, and ecological responsibility. Design, science, and nature have come together to tell the larger story about wildlife conservation.
- WK From the architectural point of view, I'm proud of the guiet intent behind the design and the way it influences without being seen. As you walk through the park as a visitor, you can enjoy it without knowing all the hard work that has gone on behind the scenes.

#### ABOUT THE DESIGNER





Mandai Wildlife Group is the steward of the Mandai Wildlife Reserve, a unique wildlife and nature destination in Singapore. With the ambition of creating a new generation of wildlife parks in Singapore, the Group established an in-house Attractions Development team. This multidisciplinary team brings together expertise in biology, master planning, architecture, and landscape design, as well as thematic and scenography design.

Rucha Khanderia is the Head of Design (Bird Paradise) within the Attraction Design team at Mandai Wildlife Group. She led both the in-house and consultant teams in the design and development of Bird Paradise. An architect and master planner by training, she has over two decades of experience delivering projects around the world. She obtained her Bachelor of Architecture from South Gujarat University and her Master of Architecture and Urban Design from Kent State University.

Headquartered in Singapore, RSP Architects Planners & Engineers is a global multidisciplinary architectural and interior design company, with almost seven decades of experience. The team of 1,000 people across 13 markets has successfully completed over 2,500 projects, creating spaces that prioritise people, community, and environment. RSP has received numerous P\*DA Design of the Year accolades over the years in recognition of its work on projects including CapitaSpring, Jewel Changi Airport, The Pinnacle@Duxton, Henderson Waves, and LASALLE College of the Arts.

Ar. Suen Wee Kwok is the Executive Director and lead design architect of RSP with 20 years of experience. His portfolio of awardwinning projects focuses on the education, mixed-use, and civic sectors. He believes that architecture should lift the human spirit and connect emotionally with users as they navigate through spaces. He was the key designer of LASALLE College of the Arts, which received the P\*DA in 2008. Suen graduated with a Bachelor of Arts (Architecture Studies) and Master of Architecture from NUS.

## DESIGN OF THE YEAR

### **DELTA SPORT CENTRE**

#### IMPACT AREAS

- Raising Quality of Life
- \* Advancing Singapore Brand, Culture, and Community

Since 1979, the Delta Sports Complex – now known as Delta Sport Centre – had served the communities of Redhill and its surrounds while also hosting professional and international competitions. The unassuming modernist-inspired architecture, originally designed by the HDB, stoically persisted even as the newly opened East-West Line of the MRT network obscured its street presence in the late 1980s.

Local residents continued to enjoy the sports amenities like facilities for swimming, hockey, and badminton. However, given the changing demographic in the area and the relocation of professional sports matches to other locations, Sport Singapore recognised the need for improvements to the Delta Sports Complex.

The firm appointed to design the new alterations and additions, Red Bean Architects (RBA), saw much greater potential than what was outlined in the brief. Alongside the chance to thoroughly enhance the experience of the Complex, RBA saw the project as a prime opportunity to showcase the potential of a thoughtful approach to adaptive reuse.

RBA wished to respect the old buildings, even without the presence of official heritage protections, but without being confined by a single-minded approach to preservation. In RBA's view, responding to community needs meant not being afraid to update the buildings. Crucial to their intervention, however, was the belief that the strength of the original architecture should still be discernible after the change. The buildings should not look entirely new.

Another of RBA's critical insights was their consideration of the site as a piece in an urban puzzle. The studio's incising of perimeter openings and the addition of an elevated linkway stretching across the site were instrumental in connecting the disparate parts of the Complex and stitching it to its surrounds.

Additions, such as a new elevated gym above the teaching pool, were balanced with subtractions like the removal of under-utilised tiered seating. Bearing a now-characteristic deep red colour, Delta Sport Centre establishes a new presence facing the Redhill estate. The project demonstrates that recognising, celebrating, and thoughtfully reusing our architectural heritage, no matter how modest, can yield numerous benefits.





DESIGN ARCHITECT FIRM: Red Bean Architects LLP Teo Yee Chin. Zeeson Teoh Sau Wei

CIVIL AND STRUCTURAL ENGINEER: C P Lim & Partners LLP

LANDSCAPE CONSULTANT: Chig Landscape Architecture

MECHANICAL AND **ELECTRICAL ENGINEER:** Unipac Consulting Engineers LLP

**QUANTITY SURVEYOR: BCM Consultants Pte Ltd** 

MAIN CONTRACTOR: Hua Keong Industries Pte Ltd

CLIENT: **Sport Singapore** 

#### JURY CITATION

Delta Sport Centre is a successful adaptive reuse project that creates impactful outcomes for its surrounding communities by retaining and re-using existing structures with small, deliberate design interventions. One of the key interventions is a second-storey thoroughfare that connects the development seamlessly with its surroundings. Linking the sport centre directly to existing overhead bridges, the nearby MRT station, and the bus stop, this distinctive thoroughfare is clear and well-managed, serving as a connecting node for residents living at opposite sides of the sport centre.

Sports facilities such as the swimming pools, hockey stadium, and badminton hall, which were previously operated separately, have been brought together into one cohesive complex. The jury applauds the architect for the thoughtful design which cleverly stitches and enhances the urban fabric with an engaging sport centre in response to the changing social and physical contexts.

NOMINATOR CITATION Teng Geok Seng Partner, C P Lim & Partners

I am delighted to provide this reference for Red Bean Architects in their bid for the President\*s Design Award Design of the Year, for Delta Sport Centre. I had the privilege of working closely with the Red Bean team as the structural engineer on this project.

I still remember the old Delta Sports Complex, that we were all familiar with, before the rejuvenation was done. Over the years, the facilities became outdated and many people started to use newer facilities elsewhere instead. The construction of Redhill MRT also cut Delta Sports Complex off from the surrounding neighbourhood.

With the rejuvenation, one of the key changes Red Bean Architects made was the effective introduction of the new "One Active Bridge", bringing people from Tiong Bahru Road across to Alexandra Road and vice versa. Delta Sports Complex has transformed to become not only a central activity hub for sports, but also a key thorough fare for connectivity within the neighbourhood. It has provided residents with not just a renewed sports facility, but also better accessibility within the neighbourhood, enhancing and bringing greater convenience to their daily lives.

Aside from Delta Sport Centre's positive impact on residents' lives, this project has also set a new standard for the adaptive reuse of old and outdated buildings in Singapore. It proves that many of such old buildings do not need to be demolished and can be innovatively transformed through strategic adaptations. The best way to be sustainable should be to reduce unnecessary reconstruction and to consume fewer resources.

This project deserves the Design of the Year accolade because of its exemplary use of simple moves to create impactful outcomes for the community. The thoughtful interventions have breathed new life into an obsolete sports facility, transformed it into a new landmark, and impacted the use of the surrounding neighbourhood. It stands as a model for future projects.

DESIGN OF THE YEAR

How has the character of the former Delta Sports Complex evolved along with the changing needs of its users and the nation?

#### TEO YEE CHIN (YC)

Delta Sports Complex was built in 1979 and underwent a fairly major Addition and Alteration (A&A) process in 1991. Back in 1979, Singapore was still quite a young nation and the estates around the building were not as mature as we see today with their ageing demographics.

Back then, the new sports facility was state-of-the-art. It was a competition venue. Aside from the pool facilities, there was a hockey pitch and badminton hall with spectator seats quite well provided for. Astroturf was installed in 1991 and the hockey pitch was used for national tournaments. The Women's National Team won gold there in the 1993 SEA Games.

Now, there are better, newer, and more advanced facilities such as Singapore Sports Hub. Delta Sports Complex evolved into a familiar community space and took on a different character. Since it's nestled within housing estates, there's always been a good pool of users.

Part of what you have achieved through the adaptive reuse of this set of buildings and facilities is the creation of a new sense of identity and place for the site. Was identity a driver of your design? Did you wish to bring a landmark character to the site?

YC We didn't set out thinking, "What's the identity of this project?" That usually comes later.

We always start with spatial quality and functionality. However, we also always have emotional attachments to buildings and places. I used to play hockey at Delta Sports Complex as a schoolboy. My memories of going there gave me a very personal connection to the place. I think this helped us to bring a very empathetic attitude to designing this place. I also had knowledge of how people used to navigate through the building.

#### ZEESON TEOH (ZT)

I define the identity of a building as its presence within its context. Since we rejuvenated Delta Sports Complex, I'd say its presence has become more developed. To me, the community around Redhill now has something that is much more connected to their area. I hear people on the ground refer to Delta Sport Centre as "the red block buildings". This creates conversation, which is great.

YC The three parts of the Complex – the swimming facilitites, the hockey stadium and the badminton hall – are now more integrated. Our hope is that this integration as one complex allows the surrounding communities to connect around it. If you view Delta Sport Centre from Alexandra Road now, you can probably mentally link it to the Tiong Bahru side. I don't think that used to be the case.

I don't know if I would use the term "landmark". I think we just wanted people to be able to see it and know how to access it, when even that was difficult previously.

2 NEIGHBOURHOOD PRESENCE The gym block appears to hover above the rising MRT viaduct alongside Tiong Bahru Road. The horizontality of this community space provides a counterpoint to the verticality of the surrounding residential towers. Spatial transformation and the enhancement of amenity and access are impressive outcomes of RBA's work here. Could you describe the urban stitches you made across the site?

ZT From a macro point of view, the first thing we wanted was to create connections with the surrounding context. We created the link bridge that connects with a public overhead bridge on the Tiong Bahru side. From there, it links to the hockey pitch at the heart of the complex and through to the Alexandra side at the other end. There's more public housing on the Tiong Bahru side and more private housing on the Alexandra side. The bridge and linkway stitch them together.

We also tried to dissolve the hard boundaries along the east and west. Previously, Delta Sports Complex was more gated, in a sense. You could only enter from the Alexandra side or the Tiong Bahru side. In our new proposal, we suggested removing all the fences and introducing more physical and visual entry points.

Now, Delta Sport Centre is more porous and boundaryless. You can even see people wearing slippers taking an evening stroll through the Centre. With the idea of stitching it to the surrounding context, the whole sports complex has become a community space catering to sports users as well as residents from the neighbouring areas.

These urban stitches were less about dramatic interventions and more about considerate incisions. We tried to connect across roads, remove obstructions, and create more layering of circulation so people can engage with the site in a way that's natural, intuitive, and inclusive.

YC The site presented certain opportunities. Given the levels of the hockey bleachers and the badminton hall, it made sense to connect them with a bridge. That led to the idea of building a gym over the teaching pool. From there, the thought of connecting to the existing overhead bridge became really exciting. We took inspiration from what was already there and extrapolated it. We brought a more ambitious urban outlook to the project, whereas the brief was primarily focused on functional upgrades for the facilities.

Did you face any barriers to your efforts to increase the porosity of the site's edges and forge more connections with surrounding infrastructure?

YC The eastern edge of the site, which faces the old Henderson Crescent flats, was previously the hardest edge because of the hockey field. Hockey can be a dangerous sport because the ball is small and very hard, so the fences need to be tall. The hockey fence used to double up as the boundary fence, so pedestrians couldn't filter through.

We moved the tall fence inwards to the edge of the minimum buffer space around the playing field, according to regulations. That allowed us to remove the boundary from the edge of the site.





#### 3 OPEN AND CONNECTED

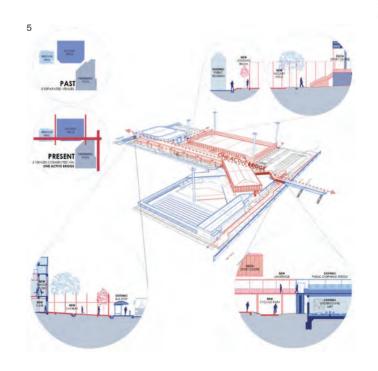
The facade of the indoor hall block was opened up with new glazing. The adjacent driveway and parking area were paved to form a traffic-free route to the nearby bus stop.

#### 4 FITNESS OF FORM

The main entrance and drop-off zone is framed by the elevated gym block. The elevated promenade connects to the adjacent pedestrian bridge that crosses Tiong Bahru Road.

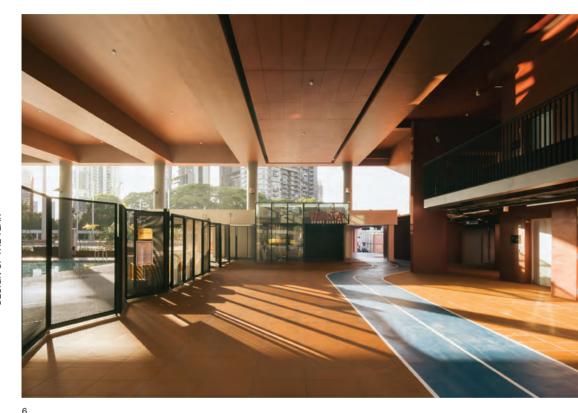
#### 5 STITCHED TOGETHER

Drawings indicate how the existing buildings and facilities are stitched together by new circulation routes that also connect with the surrounding neighbourhood



IIVIPACT FACT

A new elevated thoroughfare links the swimming pool, hockey pitch, and indoor sports hall to become one integrated complex.



6 SHELTERED ASPECT
The gym block shelters a teaching pool as well as the route to the entrance reception. A jogging track meanders through this double-volume space below the second-storey promenade.



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Diving blocks with eye-catching numbers set in mosaic tiles were preserved at the swimming pool. They forge an obvious link to the decades-long history of Delta Sport Centre.

#### 8 UNHINDERED SPACE

The zig-zag motif returns in the indoor hall, which is primarily used for badminton games. Some stepped seating was removed to provide space for two more badminton courts, a dance studio, and a cafe.

#### 9 LIGHT MOVES

The new dance studio benefits from a new full-height glass facade looking out to Alexandra Road. Mature trees here were retained to provide shade and character.







10 SELECTIVE SUBTRACTIONS The removal of walls around the staircase at the indoor hall allowed the architects to articulate contrasts between solids and voids, revealing diagonal features in the existing building.

In making subtractions to the existing architecture, what guided your decision-making alongside programmatic needs? Given that heritage protections were not a consideration, did you find yourselves making value judgements about the existing forms? What were your guiding parameters?

YC We had the freedom to make those judgments and I was happy to be the person who had the prerogative to do so. I don't believe that all buildings need to be handled like jewels. The people using them can change, and the surroundings change with them. I feel that we need to keep our eyes peeled, to see what new things need to be done, so that a building can adapt to the changing conditions while retaining its familiarity.

Here, one of our guiding parameters was spatial quality. For example, we explored the possibility of removing some floor slabs to make double-volume spaces within the structural constraints. Visibility and accessibility were also important considerations. For instance. we decided to take out a brick infill wall that faced Alexandra Road. It used to be just a blank facade, which was such a waste because it was facing the main road. It was guite an easy decision to glaze it. All these very basic moves made a big impact.

We saw a lot more of the existing architectural qualities once we started peeling lavers away. We were able to articulate certain features like the detailing of the reinforcedconcrete parapet of the staircase facing Alexandra Road; it has these articulated indents that gelled well with the rest of the architecture. The diagonals worked well with the giant V-shaped spouts, so we saw the opportunity to open that stairwell up to reveal them.

11 PROMENADE WITH VIEWS What was previously the top step of the concrete stadium seating has been reimagined as an elevated promenade that connects the swimming complex to the indoor hall. It overlooks the courts below

ZT The rear of the indoor hall used to be very monolithic. We had a vision of that rear building being a key entry point for the Henderson Crescent side. The simple gesture of opening the facade up and removing slabs to create a double-volume space made everything look more welcoming. A lot of our design gestures were about doing as little as possible, but making it very effective.

What was the thought process behind selecting the striking red paint colour?

YC Bukit Merah means "red hill" and the site did have red earth. There was a brickwork factory nearby, in Queensway, which used the local clay to make bricks. We decided to play it up by using a brick colour. If you look around the site, some of the HDB blocks there do the same.

What have you observed about how people are using Delta Sport Centre? Are the new patterns of use as you hoped or expected? Have new favourite community spaces become apparent?

ZT We have observed a noticeable increase in use. Previously, there was no jogging track. It was part of the brief to include one, but we expanded it and created a jogging track that runs across almost the entire site. Every time I'm there, I see different people using it – including seniors wearing slippers and strolling there. It's not just serious runners. I think that's great because it really shows that we managed to integrate the Centre with the surrounding community.

The bridge spine was the most successful community space that we created on the site. People use that space as a thoroughfare, as a meeting point, and even as a place to pause and linger because you can stand there and watch the games below. It's not just a walking space; it's a community space that we indirectly created.

YC Previously, most activities happened inside the buildings. The change now, is that because we opened things up and created these linkages, the circulation animates the space. It becomes a character of the architecture.



"I don't believe that all buildings need to be handled like jewels. The people using them can change, and the surroundings change with them."

#### 12 LIGHT BOX

The gym block replaces what was formerly a shelter above a wading pool. Its sunshading fins establish a rhythm across the facade.

#### 13 CHANNELLED ALONG

The concrete stadium seating was reimagined as an elevated promenade that connects the swimming complex to the indoor hall. Chains direct rainwater from prominent V-shaped spouts to drains below.

#### 14 RIGHT ANGLE

The angled concrete sunshading fins are set at a 45° angle, facing east or west depending on which facade they are on. The glazed panels are installed perpendicular to them.





What message do you hope community members take from the reinvented architecture?

- YC Well, the architectural community would take a different message away than the community of people who use the building in their everyday lives. That message would be that not everything needs to be torn down. Familiarity is meaningful to residents. The removal of a building that has stood beside them for a very long time can be a noticeable change in their environment. I feel strongly about this and I hope the professional community can take inspiration from this example.
- ZT When I first started working in architecture, I thought A&A was very challenging and that it was difficult to add value. Going through the process of this Delta project, seeing how it's been built, and finding outcomes, made me realise that there's actually a lot of value you can add. You can rethink everything.

These A&A projects, especially at this time, really help send a message that all buildings can work well if they're approached in the correct manner. It's the intervention that's important. Balancing the existing with the new intervention is crucial to making projects meaningful. It's not just a matter of retaining everything. YC You need the creativity of the architect to do this kind of project because it's very intricate. You have to go in and see what the opportunities are, see what you can do in each micro situation. Then you have to think across scales.

With regard to the message that the residents might receive from the architecture, I hope they see that it's now more of a connecting space for different members of the community. There are high-end condominiums and public housing blocks around the Delta Sport Centre. I hope it enables all the residents to come together and meet each other. I hope they realise that this kind of building can also be a community space. I hope they can see the possibilities of architecture.

#### 15 COLOUR FIELD

The zig-zag motif also features on the paving and planter around the swimming pools, providing a striking view from above.



(L-R) Ar. Teo Yee Chin and Ar. Zeeson Teoh Sau Wei

> Red Bean Architects LLP was established in 2009 by Ar. Teo Yee Chin as a sole proprietorship, and converted to an LLP in 2020 with Ar. Zeeson Teoh as Partner. RBA's portfolio includes private residential houses and interiors; public projects in the civic, educational, and institutional domains; and adaptive reuse projects.

> RBA takes a humble, technical, and deeply contextual approach to the design of buildings, seeking to understand the wider social, cultural, and urban context of each project to anchor them in place. While appreciative of history and heritage, RBA believes the evolution of society and the city demands that buildings adapt and respond to stav relevant.

Teo, Managing Partner of RBA, is an architect and geographer. He graduated from architecture at NUS in 1996 before obtaining his Master of Architecture from Harvard Graduate School of Design in 2003. He completed his PhD studies in geography at NUS in 2025, focusing on the fields of agri-food networks, political ecology, and political geography.

Critical writing about the city is an important complement to Teo's creative practice. From 2017 to 2020, he was Chief Editor of the journal The Singapore Architect. Increasingly, he looks at design as a matter of simply seeing and understanding the conditions that constrain us, then finding a way of overcoming them.

Teoh, Partner of RBA, studied architecture at RMIT University and achieved his master's degree in 2012. He joined RBA in 2013. He has experience in designing and managing private landed residential projects, ranging from terrace houses to good class bungalows, as well as public projects.

Teoh draws deep meaning from working on the adaptive reuse of civic architecture. Creatively reinterpreting these spaces to preserve the city's history, while meeting evolving needs, is a privilege that allows him to contribute to the community through architecture.

## KARTACAM 2

#### IMPACT AREAS

DESIGN OF THE YEAR

- \* Enabling Economic Transformation
- \* Raising Quality of Life
- \* Advancing Singapore Brand,
   Culture, and Community
- \* Making Ground-breaking Design Achievements

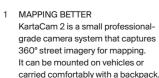
Anyone who has explored the cities of Southeast Asia on foot is likely to have ventured off the busy major roads. This inevitably means navigating back alleys and narrow thoroughfares that don't show up on the map because traditional mapmaking methods, using four-wheeled vehicles, can't reach them. It's a particularly Southeast Asian problem.

For delivery drivers in the region, many of whom use motorbikes and scooters, accessing these narrow alleyways can cut minutes from a journey. Over time, that can translate into considerably more income. Grab saw the opportunity to build on its existing mapping and service infrastructure to document the unmapped. It developed what may be the world's smallest and lightest Al-powered mapmaking camera system.

With a versatile mounting base, KartaCam 2 can be easily and quickly attached to two- and four-wheeled vehicles or worn on the body with a backpack. It captures 360° high-resolution street imagery and performs real-time image analysis and object detection directly from the device. The embedded technology improves upon earlier KartaCam models' position accuracy and signal stability. To benefit a diverse population of drivers across the region, the camera pairs with a mobile application that was designed with all levels of mobile literacy in mind.

Achieving Grab's vision for the product's size, weight, and output quality stretched the capabilities of the design and engineering teams and the outcome was worth the effort. According to Grab, not only does KartaCam 2 address the specific issues of Southeast Asian drivers, it is 10 times cheaper than traditional cameras on the market, which can cost US\$ 25,000 per unit.

Grab uses KartaCam 2 in eight countries in Southeast Asia. As it enables delivery drivers to work more efficiently, it also establishes a new income stream for them. When Grab drivers sign up as mappers, they gain access to the KartaCam 2 equipment as well as training on how to use it to boost their earnings while building map data for all.





12

DESIGNER. Grab Low Ko Wee, Ellen Chen Tingving, Wu Sivi. Hou Shuangguan. Song Guodong

CLIENT: Grab

#### JURY CITATION

The KartaCam 2 is built on a strong existing business model, featuring exceptional design that addresses a specific Southeast Asian challenge. The innovation refines existing technology, making it smaller, more affordable, and portable. By leveraging Grab's network, it creates detailed maps of hard-to-reach areas, meeting the essential needs of everyday navigation for drivers.

The system integrates mapping within Grab's ecosystem, allowing drivers and delivery personnel to earn by contributing to the mapping process. This not only benefits local communities within Southeast Asia but also brings significant value to other international markets. It is a well-executed, simple solution to a complex problem, improving livelihoods and creating broad social and economic impact.

#### NOMINATOR CITATION

Bismo Aziiz

Senior Program Manager, Geo, Grab

KartaCam 2 represents a revolutionary step forward for Grab, enhancing business operations and delivering transformative benefits to driver-partners. This innovative system leverages cutting-edge technology, including AI, 4G connectivity, dual-band GPS for stable signals, and edge computing, making it 10 times more cost-effective than traditional camera systems. By integrating these advancements, KartaCam 2 has significantly improved mapping efficiency, enabling Grab to expand its infrastructure faster and at a lower cost.

For drivers, KartaCam 2 offers a seamless and user-friendly experience. The camera is lightweight, portable, and easy to install, making it adaptable for various vehicles, including cars and motorbikes, or even for handheld use. With features like a built-in mobile application, drivers can monitor their progress conveniently, while continuous charging during data collection ensures uninterrupted usage throughout the day. Its waterproof design ensures reliability even in adverse weather conditions, offering drivers peace of mind. KartaCam 2 also created unique and memorable experiences for drivers during mapping activities, such as being chased by children who mistook them for vloggers. The portable design enables motorbike drivers to access small alleys for mapping, enhancing coverage in hard-to-reach areas.

KartaCam 2 has also empowered drivers economically, providing them with opportunities to improve their livelihoods through mapping activities. By earning additional income, drivers can support their families and achieve financial stability. Online training programmes further streamline the process, eliminating the need for travel, and enabling faster deployment across cities.

One heartwarming example is that of Acong, a driver-partner in Jakarta. Through KartaCam 2, Acong was able to pay off his debts and positively impact his family, showcasing the life-changing potential of the project. He expressed his gratitude by customising his motorbike with the Grab logo.

Looking ahead, Grab is exploring exciting innovations for KartaCam 2 such as LiDAR (Light Detection and Ranging) technology for indoor mapping. This development will enable drivers and passengers to navigate indoor locations more efficiently, marking a significant leap in mapping capabilities. Additionally, future AI implementations will include image recognition and detection, allowing the system to identify points of interest, potholes, broken roads, traffic signs, and more. These advancements will create immense value for Grab's business partners while enhancing safety and operational efficiency.

KartaCam 2 is not just a technological marvel, it is a testament to Grab's commitment to innovation, economic empowerment, and community development. Its groundbreaking design, developed entirely in-house in Singapore, demonstrates unparalleled ingenuity at a fraction of the cost of traditional systems. Furthermore, initiatives like "Delivering Tengah!", launched on 13 June 2024, illustrate how KartaCam 2 contributes to community development by improving access to essential services in Singapore's newest HDB town. By enhancing mobility and delivery services, KartaCam 2 has helped millions of merchants and drivers improve their livelihoods. Many drivers have shared stories of how KartaCam's platform has enabled them to pay for significant expenses, such as their children's university fees or debt repayments.

KartaCam 2 is more than a product; it is a story of innovation, empowerment, and impact. It has transformed lives, improved business operations, and demonstrated the power of technology to drive meaningful change. For these reasons, KartaCam 2 deserves recognition as a groundbreaking achievement that continues to shape the future of Grab and its community.

Prior to the development of KartaCam 2, how did Grab procure its mapping data in Southeast Asia? What were the shortcomings? Why did Grab take the step of developing its own hardware and software for mapping?

#### LOW KO WEE (KW)

We initially started out using third-party map services and bought some off-the-shelf cameras for street-level imagery. We had spreadsheets to manage the allocation of drivers to particular areas and streets for the collection of imagery. It was quite labour intensive. The street images were then used to create maps in order to improve the service quality of both the Grab superapp and our driver app.

The collection of street images was previously done with helmet-mounted cameras. Some of the roads in Southeast Asia don't have smooth paving, and bumps resulted in blurry images. That means you'd have to go and record it again. Also, the drivers would have to manually remove the SD (secure digital) cards from the cameras and bring them to the operations team to transfer the files. The files would then need to be uploaded to the cloud for processing.

#### ELLEN CHEN (EC)

We realised that using better and purpose-built hardware and software was crucial. KartaCam 2 has made significant improvements to the workflow and the efficiency of map creation. We proactively developed our own hardware and software and used crowdsourcing for map creation. We could do this because we have our own network of two-wheeled vehicle drivers who can access the small alleys and blocked roads that you often find in Southeast Asia.

In broad terms, what areas of innovation allowed for the reduction of size and price compared to competitors' products? In what other ways does KartaCam 2 outperform its competitors?

- KW We innovated in multiple areas and the true distinction of KartaCam 2 lies in its integrated map-making solution. There are three critical elements. Firstly, there's the hardware for high-resolution images and geospatial data collection. Secondly, there are the intuitive software interfaces designed for operational efficiency. Thirdly, there's the seamless system integration, which allows an uninterrupted data flow throughout the mapping workflow.
- EC Grab's proprietary navigation software is a crucial part of the solution, because it handles route guidance for drivers. It removes the psychological burden of figuring out the shortest route when collecting street imagery. This means they can concentrate fully on driving without the concern of unfamiliar roads.
- KW Beyond technical capabilities, innovation really comes down to the people on the team as well. Our IoT (Internet of Things) team has strong capabilities in the fields of mechanical engineering, electronics, and software development. All of this expertise came together, enabling us to optimise the product size and affordability, while keeping it super powerful.

What were some challenges you faced during the development of KartaCam 2?

KW There were many! From a design perspective, the goal was really to simplify the image-collection workflow and free up the driver's mental bandwidth while collecting street imagery. The considerations went far beyond the user interface. The team needed to understand the user-journey pain points during mapping.

For instance, the camera design needed to be flexible enough to fit most motorbikes and robust enough when mounted to endure potholes without being damaged. It also needed to be specifically engineered to operate reliably in hot conditions for extended periods without failure. These were all challenges that had to be overcome.





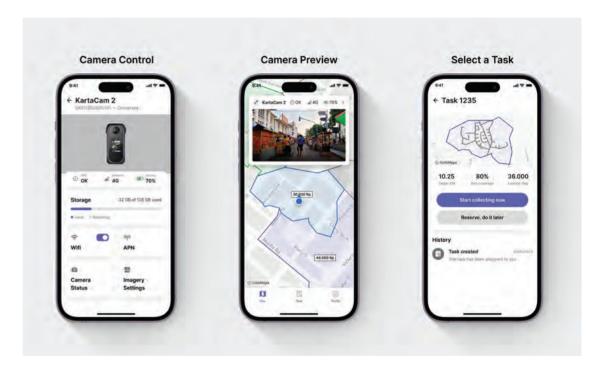


4

- 3 THE NECESSITIES
  The camera's minimal aesthetic
  was applied holistically. The hidden
  display and light-emitting diodes
  illuminate only when there's a need
  to communicate information.
- 4 TURN BY TURN
  The mobile application pairs with
  the camera unit via Bluetooth.
  The integration of hardware and
  software enables mappers to
  collect street imagery efficiently
  with the support of a navigation
  system developed in-house.



"With better maps, we've seen significant improvements in the earnings of transport and delivery drivers because the platform is much more efficient."



5

5 TAP AND GO
The mobile application puts job
management and camera control
at the driver's fingertips. It allows the
driver to control camera functions,
preview the camera position, and
plan a mapping route by selecting
a task from the map.

What does KartaCam 2 say about Grab's design language and philosophy?

KW From the start, the goal was always to solve user problems and deliver value. In terms of design, we have a core belief in turning complexity into simpler and better experiences. This doesn't mean reduction. It means starting with a deep understanding of systems, user needs, and technical constraints. After that, we carefully remove anything that doesn't serve the user.

How does Grab's design language and philosophy translate from interface to hardware?

EC We always emphasise the seamless integration of hardware and software because this is how we achieve an intuitive and frictionless user experience across our devices and mobile application. So, across KartaCam 2 and the mobile application, there's consistency in the user-interface behaviour and visual elements like icons.

How did you choreograph the design process to enable deep collaboration between engineers and designers? Was this integrated design process new to Grab? What was learned along the way?

- KW The magic often happens when designers are not working in silos, but in discussion. We did a lot of problem solving with the designers and engineers in the early phase of the product development. There can be some tension, because everyone brings expertise in different areas to the table, but we were able to find alignment on the best possible outcome.
- EC During the product planning phase, one of our key goals was to gather user feedback from testing on the road as early as possible. We created working prototypes for drivers to interact with and give feedback on. This iterative approach allowed us to refine the design based on real user input from around Southeast Asia before we finalised the design.
- KW Working cross-functionally wasn't new to Grab, but there was a higher level of complexity in the testing and iteration of KartaCam 2 because of the combination of hardware and software. We conducted regular design jams and reviews, multiple rounds of usability testing, as well as the on-the-ground immersion with the drivers.

From the start, we set a high bar for the team: create the smallest product in its category and go beyond merely solving problems to deliver something that would be delightful to use. The process reinforced why our designers should view hardware and software as a unified product. If we lack a holistic perspective, blind spots can emerge late in development, limiting our ability to make meaningful hardware changes after we receive user feedback.

What discoveries were made during user testing in different Southeast Asian contexts? How did Grab drivers contribute to and collaborate with the project team on the refinement of the design? KW Regarding the hardware, we made some

important discoveries while testing an earlier version of the mounting system. A lot of our drivers use scooters, which have their petrol tanks under the seat rather than at the front of the bike. That meant our drivers spent a considerable amount of time removing the camera mount when refuelling only to set it up again.

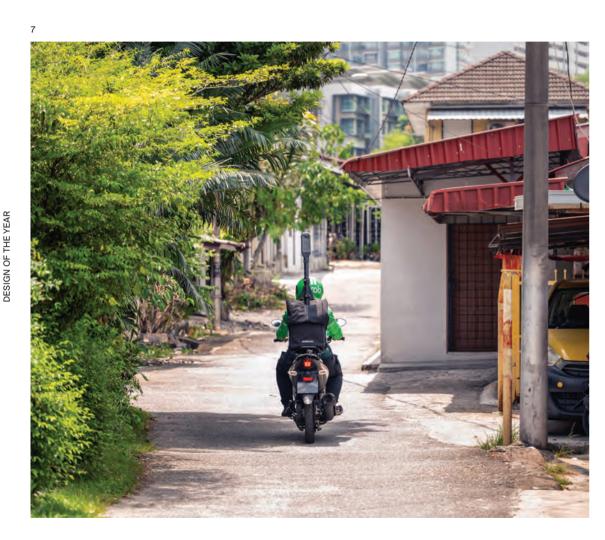
We also discovered that the weight of the old mount made it difficult to manoeuvre through narrow alleys. Side mirrors were getting damaged. People also shared how the heat in Indonesia was so intense that it caused the camera to shut down, leading to driver downtime. We thus needed to integrate a means of cooling the camera.

EC Our female drivers have an average height of 150 cm, and we learned that they had difficulties viewing the camera and adjusting the shooting angle after mounting it on their bikes. We also learned that drivers preferred to dismount the camera when they entered indoor locations because of the risk of theft. These discoveries all resulted in refinements to the design.



6 MULTIPLE MODES Its versatile mounting base makes KartaCam 2 compatible with a variety of mapping modes, including on foot, two- and fourwheeled vehicles.

The camera can be mounted on motorbikes quickly, reducing setup time from 30 minutes to just five minutes compared to the older design.



#### 7 LOCAL NUANCES Grab aimed to design a hyperlocal camera that would work effectively in Southeast Asia, considering nuances such as narrow roads navigable only by motorbikes, as well as varying levels of mobile literacy.

How did you manage the issue of affordability across economies in Southeast Asia? Are Grab drivers able to hire KartaCam 2?

KW Grab drivers do not have to buy the cameras from us if they sign up as mappers. Grab provides all the necessary tools and training to help them map Southeast Asia. Some drivers prefer mapping over deliveries because it allows them to fully manage their own schedule while still earning an expected income.

KartaCam 2 has enabled the mapping of the new HDB town of Tengah in Singapore. What was the problem it addressed there?

KW The new Tengah town is huge, with 42,000 homes. The residents were making reports about transport and delivery issues. For example, when they ordered a Grab car, the driver would park somewhere else and they'd have to walk to a pick-up point. The issue was that the roads were unmapped and this was impacting people's daily lives. The GrabMaps team assisted by mapping the new estate to help address these challenges.

Will there always be a use case for KartaCam 2? EC Roads in Southeast Asia can change quite dramatically. KartaCam 2 is not only used for the initial creation of the map, but also its long-term maintenance. The street imagery we collect can be used for other purposes, such as enabling government bodies to locate potholes through an online portal

Can KartaCam 2 be used for other purposes?

KartaCam 2 offers a lot of versatility in terms of its use. The technology within KartaCam 2 could be manifested in other products such as as KartaDashCam. focusing on safety. KartaCam 2 itself can be upgraded with LiDAR capabilities for high-definition mapping.

and enabling workers to be dispatched to the correct location to repair the road.

What are some of the positive effects - financial or otherwise - that KartaCam 2 has had on Grab's network of drivers?

KW With better maps, we've seen significant improvements in the earnings of transport and delivery drivers because the platform is much more efficient. We've achieved better routing for drivers when picking up passengers or delivering food, which helps reduce road congestion and results in fuel savings. Also, Grab's consumer app can now offer drivers a diverse selection of points of interest as destinations for bookings.

KartaCam 2 has provided another revenue stream for Grab through its purchase by other organisations elsewhere in the world. What are some of its applications?

KW Similar to how Grab used to rely on third-party mapping, our clients use it to build maps for their own platforms. It allows them to have better map accuracy, which can lead to faster and more cost-effective real-time fulfilment.





- 8 ECONOMIC IMPACT KartaCam 2 opens up opportunities for drivers to increase their earnings through mapping. The improved navigation enabled by the mapping process leads to a higher number of completed transport and delivery jobs.
- 9 WEATHER-PROOF DESIGN Concealed cabling creates a minimalist appearance and protects wires from environmental damage, moisture, and water. The waterproof and dustproof backpack integrates a power bank for charging.





Ellen Chen Tingying and Low Ko Wee.

The Geo Product Design team at Grab is part of Grab's broader Design wing. The team specialises in shaping the user interface and experience of the Grab consumer app, as well as IoT products for enterprise solutions. Its north star is designing for simplicity, efficiency, and safety, so every user interaction feels intuitive, purposeful, and empowering.

The team takes the approach of combining Grab's design principles with deep on-the-ground immersion to understand local challenges. This allows the translation of complex problems into simple, effective solutions that improve operational efficiency for drivers and partners.

Low Ko Wee is Senior Design Manager, Geo, at Grab. He leads the product design experience across Grab Maps and IoT products, shaping both industrial design and mobile interfaces for the Grab consumer superapp and the driver app. These platforms serve millions of people in Southeast Asia.

Ellen Chen Tingying is Lead Product Designer, Geo, at Grab. Her background is in both digital and IoT product design. She is strongly focused on achieving intuitive, user-centred designs.

Low, Chen, and their team were the recipients of a Red Dot Design Award in 2024 for KartaCam 2. Low was a recipient of the P\*DA Design of the Year accolade in 2014 for his role in the Electrolux team that designed the Ouyi Refrigerator.

## SCHOOL OF TOMORROW

#### IMPACT AREAS

- \* Raising Quality of Life\* Advancing Singapore Brand,
- \* Advancing Singapore Branc Culture, and Community
- \* Making Ground-breaking Design Achievements

Do you know your cassava plastic from your beeswax? How about the real-world applications of dog fur, or your personal carbon footprint measured in tonnes of  $CO_2$  per year? You would if you attended School of Tomorrow – a sustainability exhibition like no other.

Commissioned for Singapore Design Week 2023, designed by Kinetic Singapore (Kinetic), and first staged at Selegie Arts Centre, this unconventional exhibition introduced visitors to critical environmental issues through a school setting with classes spanning 10 subjects. From the sciences to the humanities, social studies to home economics, each class was given a surprising sustainability twist.

To combat the fatigue and overwhelm that can arise from discussions of sustainability, *School of Tomorrow* presented both the issues and a variety of positive responses from around the world. Traditional education tools and materials were replaced with sustainable alternatives. Bioplastics abounded in the biology classroom. A skateboard made from salvaged fishing nets sat in the physical education lockers. Mycelium made an appearance in the science lab.

The nostalgic school setting and engaging approach were critical to the strategy of inviting visitors to explore, rather than be dictated to or spoon-fed. The experience encompassed the entire building, complete with areas such as a library and a sick bay where "Earth" convalesced. Gallery ushers wore the school uniform and snacks, including cricket protein bars, were displayed on the canteen shelves.

Internalising the lessons, as the team at Kinetic realised, is the most effective way to make them stick. As such, *School of Tomorrow* encouraged a thorough immersion in the school experience. The meticulously crafted setting and programme were given as much thought and attention as the important content presented in the exhibition.

The high visitorship and social media engagement numbers were followed by numerous local and international enquiries about spin-off showcases, and the exhibition eventually enjoyed a second run in Singapore in 2024. School of Tomorrow attracted visitors of all ages, including preschoolers, and demonstrated that even the most difficult subjects can find resonance.





#### DESIGNER:

Kinetic Singapore Gian Jonathan, Astri Nursalim, Pann Lim, Catherine Phua, Steven Koswara, Norman Tan, Creshelle Padilla, Leng Soh, Fely Anne Ang, Gracia Lim, Bani Zafran, Lyla Soh, Shaun Vladimir Lee, Olivia Chan, Chunyong Tan, Francesca Fernandez, Jaey Sim

PROGRAMMER:

CLIENT:
DesignSingapore Council

#### JURY CITATION

School of Tomorrow goes beyond a conventional showcase of sustainability – it creates an engaging, inclusive, and thought-provoking learning environment. Rather than simply curating a collection of sustainable design practices, Kinetic took things a step further by building a school, ensuring their sustainability ethos was embedded in every aspect of the exhibition's execution.

Their approach is playful, light-hearted, and accessible, making complex issues of sustainability more engaging for audiences of all ages, and stimulating deeper reflection on our impact on the planet. The exhibition is commendable not just for its message but also for the way it embodies its principles, demonstrating resourcefulness and careful attention to detail despite limited resources.

Kinetic's ability to blend play, humour, and critical thinking into their work allows them to connect with audiences beyond traditional activism or design statements. This work is a testament to the power of design in shaping conversations about sustainability.

#### NOMINATOR CITATION

David Lee Siew Bing Lecturer, Design Communication, School of Design Communication, LASALLE College of the Arts

The *School of Tomorrow* exhibition, held at Selegie Arts Centre during Singapore Design Week 2023, was a pioneering initiative that underscored the critical role of education in driving sustainable change. This exhibition transcended traditional learning environments by reimagining core school subjects through the lens of sustainability, creating an impactful and immersive experience for the local community. Through innovative displays and interactive learning, *School of Tomorrow* educated, inspired, and empowered visitors – especially students – to understand and address pressing environmental challenges.

By blending the familiar framework of classroom education with cutting-edge sustainability concepts, the exhibition effectively engaged and transformed its audience's perspectives. The exhibition's nostalgic art direction was more than just a visual treat; it was a deliberate choice to connect deeply with the audience, evoking memories of school days, while challenging them to envision a future where sustainability is at the core of every lesson. From eco-friendly alternatives to plastic in biology class to a reimagined periodic table in chemistry, *School of Tomorrow* inspired visitors to reconsider their impact on the planet, making the lessons learned both memorable and transformative. The interplay of past and future not only captivated but also encouraged reflection on how far we've come and where we need to go.

Curated by Pann Lim and his team at Kinetic Singapore, the exhibition was not just about imparting knowledge but also about igniting a journey of learning that would resonate long after visitors left. As Lim put it, "School of Tomorrow starts by planting the seed of

sustainability ... the students are the ones who determine the kind of tomorrow we will see."

For the local creative community, *School of Tomorrow* served as an inspiring call to action. Situated a stone's throw away from LASALLE College of the Arts, Nanyang Academy of Fine Arts, and the School of the Arts, the site-specific exhibition transformed the mundane into the extraordinary, encouraging students to internalise lessons on sustainability in a way that was both engaging and accessible. By making complex environmental issues relatable through familiar educational frameworks, the exhibition empowered the next generation to take an active role in shaping a sustainable future.

In its ability to blend artistic nostalgia with forward-thinking design, while deeply impacting the local community, *School of Tomorrow* stands as a shining example of what design can achieve. It is a worthy contender for the President\*s Design Award Design of the Year, exemplifying how thoughtful creative direction can inspire meaningful change at both a local and global level.

"We posted different content on social media, such as a quiz or homework that people could do. It served as an extension of the exhibition itself."

Grappling with climate anxiety is a challenge that can't be understated, especially for the young. Using wit and play proved very effective for communicating serious sustainability messages at School of Tomorrow, but this strategy came with the risk of trivialising serious problems. How did you strike the right balance? ASTRI NURSALIM (AN)

The approach came from the graphic we developed for the exhibition. We wanted it to look bright and cheerful, which tallies with the overall message of School of Tomorrow. Rather than being preachy and scaring people with warnings of a grim future, we wanted the overall messaging to be hopeful. We wanted people to not only learn about the issues, but to see the solutions from our partners as well, so they would walk out of the exhibition feeling like they can contribute in many ways.

#### GIAN JONATHAN (GJ)

Being in the visual communications industry, we were mindful about how we packaged School of Tomorrow. We needed to make environmental issues approachable so people would be willing to go in and interact with the exhibition. Although we added so-called packaging, the content was very real. We presented the problems as they are. We also presented current solutions as the small steps that we can take to tackle those issues.

#### PANN LIM (PL)

Fun and light-hearted doesn't mean frivolous. It's about engaging people. The topic of sustainability is discussed over and over again and people might think, "Oh, it's that same story again." If we gave it a new spin that people would find engaging, they'd want to find out more.

What made a nostalgic school environment a suitable setting for the exhibition content? How did you cater to different age groups among visitors?

- GJ School is something most people can relate to. Using school as a vehicle tied in very well with the overall concept, because it created an opportunity for learning about climate and environmental issues. We kept all the subjects vou'd expect at school, but with a twist. In mathematics class, for example, you would learn how to calculate your carbon footprint and what you could do to offset it. It was familiar, but also not familiar.
- PL The first hurdle is making people stop to read. Then the rest will follow. We did not design School of Tomorrow as a place of teaching. Instead, we wanted to engage students on a journey of learning, because change can only come about when we internalise the lessons.



- 2 ELEMENTS OF WASTE The chemistry lab featured "The Periodic Table of Tomorrow" and presented 45 new elements that encouraged a rethinking of waste streams. Among the elements were "Ha" (Human Hair), "Tr" (Tree Bark), and "Df" (Dog Fur).
- 3 CHAMPIONING CHANGE In the social studies classroom, attention was focused on a television that played videos from the United Nations Environment Programme. They featured young champions of the environment and their activities around the world



Kinetic received enquiries from local teachers and principals about bringing the exhibition to their schools, as well as expressions of interest from as far afield as Manila, Bangkok, and London.



5 CREATIVITY IN COLOUR In the art classroom, visitors were encouraged to try their hand at painting with inks made from botanical waste such as fallen leaves and flowers. Some of the raw materials and ink-making tools

#### 6 PATIENT ZERO

were exhibited.

Planet Earth wallowed in the sick bay, fighting a fever. On the wall, a medical poster identified the most common causes of this affliction: agriculture, livestock farming, deforestation, transportation, and manufacturing.





4 THE PLASTIC PROBLEM Biology class was a lesson in plastic pollution. Anatomical models stuffed with plastic waste referenced the impact on human and animal bodies through contaminated food chains. Eco-friendly alternatives were displayed on desks.



4



AN The [Not-Sol Convenience Store gave us a base of knowledge about how people are tackling issues. When we built that showcase, we had different touchpoints such as the jingle, the uniforms, and the various parts of the store. It was good groundwork for thinking about the different touchpoints the school could have.

You previously tackled engagement with

that earlier showcase?

sustainability topics in the exhibition The [Not-So]

Convenience Store, which received a P\*DA in 2020.

When designing School of Tomorrow, how did you

build on your experience of engaging visitors with

PL It comes back to the methodology of how we presented the project. The exterior format came first, The [Not-Sol Convenience Store: firstly, what a name! Why is a convenience store inconvenient? That was the hook, and the whole design direction followed in the style of a convenience store. That premise already made it engaging.

Likewise, for School of Tomorrow, the school format was a vehicle for us to push the sustainability message. If you were to present a project about sustainability with the word "green" in the title, people would be more likely to think it might be boring. We looked for platforms that were more engaging. Once people go in and connect with the concept, you have engaged your audience.

There were also the more granular considerations. How do you lead visitors from Room A to B to C? How do you create a different experience in each room? How do you put a twist on the different curriculum subjects? Once people walk in, they need to feel that they're within the experience, that they're really in a school.

On top of that, we had very knowledgeable gallery sitters. We received a lot of feedback about this. They were all young people. We gave them a catalogue to read about the subject matter, but all of them went on and did further research. I overheard some of them talking to the visitors about their personal experiences as well. This is a topic close to their heart, so they wanted to put more into it. Actually, everyone who was involved in the project read up and contributed to our collective findings. None of us were trained in this subject but we all shared information.

- How long did you spend researching the content of School of Tomorrow? What was your research process like?
- AN We started out by conceptualising the different subjects and deciding what each class would be about. Then we spent around six months conducting research online and talking to people who offer various solutions to environmental problems, such as new materials. The whole Kinetic team was involved. We then went back to the content to consider whether there were other ways of structuring it.
- PL Yes, a key question was, "How do we present the content in a classroom format without being too boring?"
- GJ People shared valuable insights about the challenges associated with these new kinds of materials. While all of these materials are good, they sometimes lack aesthetic appeal. Not everything looks so nice. I recall one of the producers saying, "We have a good material, but designers are not using it in a way that makes it seem desirable." Hence, they could not scale.
- AN We made merchandise for the second edition of School of Tomorrow so people could see the materials applied to products. Visitors could purchase the products to take home with them. Of course, we added our design touch too.
- PL We allowed people to touch the exhibits, so they could find out what cassava or seaweed plastic feel like. Some of those plastics are pretty fragile because they are still being researched and they haven't achieved strength and durability yet. We had to replace them every two or three days. But we took this approach because we know that tactility is important.

In another part of the exhibition, people could participate by placing wireless tracking tokens on a chart to calculate their overall carbon footprint. In another area, we had textile replacements, such as pineapple fabric, that people could touch. I think that tactility contributed a lot to the overall experience.

We are part of this ongoing process of understanding the materials. Because they are new materials, they might not have undergone very rigorous testing yet. We are happy to be part of the process and learn along the way.

- and a sinking map of at-risk coastlines.
- ECOLOGICAL OVERSHOOT Astronomy was on the agenda in the physics classroom. There, a model of the solar system contained three and a half Earths, an indication of humanity's catastrophic overconsumption of the planet's resources.

The geography class appeared to

The message of climate change was

have been disrupted by flooding.

conveyed by partially submerged furniture, water-stained worksheets.

7 LESSON IN DISASTER



How sustainable was the exhibition itself? Tell us about the sourcing and afterlife of the materials and displays. Where is the exhibition content now?

- AN We tried to make it as sustainable as we could. Almost all the props were second-hand.
- PL We also borrowed items from friends. We would only buy something new in circumstances where we couldn't find it second-hand.
- AN For some items, we couldn't find a viable alternative to a less sustainable material, so we took responsibility for their afterlife. After the second edition of School of Tomorrow, a preschool took the Styrofoam planets from our physics classroom to use as decorations. We had a public Google form to allow people to adopt items from the exhibition, and almost everything was taken.

After the exhibition closed, we reused some of the materials in our office. So now, when we host clients, we can show them a real-life application. The table and shelves in our conference room are examples.

PL The other thing we tried to do was reduce energy consumption. We followed the National Environment Agency's guideline for air conditioning. We set the temperature for the exhibition at 25 °C, which is one or two degrees warmer than most people are used to. Some people mentioned that the place was not very cold, but we explained it as part of the exhibition narrative.

For the second edition, we needed to build more panels, so we worked with a builder who has projects within the photography and film industry. They came back afterwards to collect the panels so they could use them as backdrops.

9 LEARNING JOURNEY
A school is not complete without
a library and bookshop. School of
Tomorrow encouraged ongoing
learning with a selection of library
books focused on climate and
sustainability issues. Products
included a school bag made from
recycled fabric.



Was the social media life of *School of Tomorrow* a significant component of your thinking when you were designing the exhibition? Why? What were some of your strategies for developing equilibrium between the in-person and on-screen experiences?

GJ Yes, it was a significant component.

We identified social media as one of the channels for attracting people to the exhibition because it has wide reach and we could strategise different types of content to target different audience groups. We posted different content on social media, such as a quiz or homework that people could do. It served as an extension of the exhibition itself.

We did consider the photography aspect when we were designing the space. For example, we positioned a chair in the biology classroom so that visitors could take a photo of themselves studying there. We wanted to encourage people to spread the word. Of course, nowadays, if people enjoy something, they'll share it on social media. So, we prepared our exhibition space to be social media-ready.

"We wanted to engage students on a journey of learning, because change can only come about when we internalise the lessons."

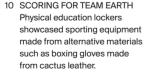
What were some of the most memorable interactions and experiences you observed at the exhibition?

- GJ I really enjoyed seeing a group of preschoolers come to visit. You're never too young to start learning. They had fun discovering new things, like how insects are an alternative source of protein. Experiences like eating bugs are really memorable.
- AN One of the preschools I hosted at the exhibition was the one that my child attends. It was very heartwarming for me to see their excitement and happy reactions to School of Tomorrow.

  Later on, when I went down to the preschool, the kids remembered me and called me "Mother Earth"! They wanted to tell me about all the solutions they remembered from the exhibition, like cassava plastic and mushrooms. I feel like we managed to speak to the future generations.
- PL What was most memorable for me was when someone from Bangkok came to see the exhibition after discovering it on social media. She was already enthusiastic about the topic and she wanted to find out more. I was happy to see this kind of traction.

School of Tomorrow had a second run in Singapore, and you've received enquiries about displays in local schools and in cities abroad. What can you reveal about these enquiries and the outcomes that might manifest?

AN We've received a lot of enquiries, which has been really heartening. One of the major stumbling blocks is that the enquiries often come from countries where labour is cheaper, so it's hard to balance costs. We hope to eventually move School of Tomorrow to an online space. We just want to keep it alive so it can continue to serve as a platform for education about these issues.











#### 12 CHALLENGING TASTEBUDS The recycled plastic shelves in the school canteen were stocked with snacks ranging from mushroom jerky to roasted larvae, protein bars made from crickets, and more. Supporting information turned the display into a learning opportunity.

#### ABOUT THE DESIGNER





Of all the adjectives to describe Kinetic Singapore, "indie" would probably sum them up best. It reflects not only their status as a fully independent creative agency but also their quirky house style. Their refusal to be boxed in sees their work span design and advertising, digital and events, and even retail and curatorial. They firmly believe in the power of surprise.

A fierce champion of the local, Kinetic has put the "little red dot" on the global design stage with over 500 awards and counting. Over the past 26 years, they have also been invited to judge at prestigious creative shows such as the D&AD Awards, Clio Awards, Webby Awards, Effie Awards, and the Singapore Creative Circle Awards. Above all, the agency counts their recognition in the P\*DA (2013, 2015, and 2020) as the highlights of their story.

Pann Lim is the Co-founder and Creative Director of Kinetic. He is a firm believer that design without an idea is a sin. Under his leadership, Kinetic was ranked fifth best design agency in the world by D&AD in 2022.

Gian Jonathan and Astri Nursalim are Partners at Kinetic.

Jonathan has helped shape some of the studio's most distinctive work, from branding and campaigns to activations and experiences. His work has been recognised internationally in the D&AD Awards, The One Show, and Cannes Lions Awards.

Nursalim has worked on projects ranging from design and advertising, to social and branding, to the spatial and experiential. Her work has received recognition at international creative shows including the D&AD Awards, Cannes Lions Awards, The One Show, Young Guns, and Tokyo Type Directors Club. She has also been recognised as Best Young Designer and Best Young Art Director at The Gong Show.

## SILVER PRIDE LION TROUPE

#### IMPACT AREAS

- Raising Quality of Life
- \* Advancing Singapore Brand, Culture, and Community
- \* Making Ground-breaking Design Achievements

One in four Singaporeans will be 65 or older by 2030. If the health and care sectors are to cope with rising demand, it's vital that people age well. Initiatives have been developed across Singapore's network of senior centres to facilitate active, healthy, and socially-connected ageing in seniors' homes and communities. But the programmes on offer don't always hit the mark in terms of attracting participants: men, especially.

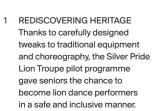
At first glance, the Silver Pride Lion Troupe, a pilot programme for a new form of active ageing, seems counterintuitive. The traditional Chinese lion dance is, after all, an art form typically associated with physical rigour. The hypothesis undergirding the pilot, however, was that a connection with cultural heritage would entice participation in a way that many conventional senior-care programmes did not. After six weeks of engagement and training with seniors from two care centres, this was proven correct.

Of the 30 seniors who trained under the programme, 23 ultimately performed in a HDB void deck at Holland Close for the then Minister for Education, Mr Chan Chun Sing, during Lunar New Year celebrations in 2024. Their rendition of the lion dance, adapted to incorporate wheel-chair mobility for the holder of the lion head, involved plenty of pride, but without any jumping, physical strain, or raucous clanging of cymbals.

The Silver Pride Lion Troupe's equipment and choreography were thoughtfully tailored to the participants' abilities and needs by a collaborative team consisting of design studio NextOfKin Creatives (NOK) and heritage consultancy Bridging Generations, with input from historic Chinese clan association Kong Chow Wui Koon. By valuing care and respect during the process of adaptation, a beloved cultural tradition was made accessible without compromising its integrity.

The programme ticked all the boxes for active ageing initiatives: physical activity, social interaction, and emotional investment in the process. The most telling marker of its success was the higher rate of male involvement when compared to other programmes at one of the participating care centres.

Regardless of race or religion, lion dance is an art form that resonates with and is deeply embedded in the memories of many Singaporeans. The success of Silver Pride Lion Troupe points to the immense potential for other forms of cultural heritage to introduce a spark of joy to our golden years.





DESIGNER: NextOfKin Creatives Rodnev Loh. Sim Hao Jie. Edmund Zhang, Nathaniel Ng. Sheryl Ang, Rayson Tan, Kelly Boon, Nafisah Abu Bakar, Muhammad Haziq Roslanv

DESIGN PARTNER: **Bridging Generations** Lynn Wong

LION DANCE CONSULTANT: Kong Chow Wui Koon

PARTNERING SOCIAL SERVICE AGENCIES: Fei Yue Community Services (Fei Yue Active Ageing Centre. Holland Close) Yong-en Care Centre (Yong-en Active Hub)

CLIENT: Lien Foundation

#### JURY CITATION

Silver Pride Lion Troupe is a groundbreaking initiative that redefines active ageing by integrating Singapore's cultural heritage into senior engagement. By adapting lion dance - a tradition deeply rooted in physicality and community – the project provides an innovative and culturally resonant way to promote physical well-being, social connection, and skill-building, particularly among hard-to-reach male seniors.

With a thoughtful and inclusive design process, including physiotherapist involvement and adaptable roles, the initiative ensures accessibility across different abilities while challenging the infantilisation of senior care. The team's sensitivity to tradition, coupled with their agility in addressing gaps, allows the project to bridge generations and formalise cultural practices in new, meaningful ways.

Beyond its immediate impact, Silver Pride Lion Troupe addresses broader societal stigmas surrounding ageing, fostering a sense of belonging and empowerment among participants. Its communitydriven approach and scalable model offer potential for replication both locally and internationally, making it a powerful and culturally significant contribution to rethinking ageing in modern society.

NOMINATOR CITATION Lee Poh Wah CEO. Lien Foundation

As Singapore ages, our care economy needs to transform. The Silver Pride Lion Troupe demonstrates how this might be done. It used design to identify and unlock underutilised assets from adjacent sectors, in this case cultural heritage, in a win-win manner. It attended to the physical, emotional, and social needs of our seniors while simultaneously reinvigorating our dying cultural traditions.

Among Singapore's myriad traditions, lion dance has universal appeal. Its configuration also allows for a variety of roles to fit seniors with different residual abilities. It is associated with joy, vitality, and community: the ingredients of a good life.

Silver Pride's seemingly humble output, a troupe of amateur white-haired lion dancers performing in a HDB void deck, belies the design challenges it overcame. For designers in a multiethnic nation like Singapore, cultural heritage can be risky terrain. Good intentions don't matter; get the balance just slightly wrong and the public, if not the law, can come down hard. Past efforts to reimagine lion dance, an ancient art form cherished and guarded closely by both practitioners and the public, have not always succeeded. The very step of beginning Silver Pride, therefore, is not to be underestimated.

In the end, the project succeeded because the team practised the best principles of design: inclusion, functionality, and balance. It exercised courage with restraint, imagination with respect. As a result, the redesigned equipment and choreography were not only accepted but were embraced by all stakeholders: master practitioners,

performing seniors, social service professionals, and the heartland audience who attended its maiden performance.

Media outlets competed against each other to gain exclusive behind-the-scenes access to document the two-month training programme leading up to the performance. Coverage was generated in both mainstream and non-mainstream news media locally, as well as international media like AFP. Comments on social media were enthusiastic; many never imagined something like Silver Pride, vet they intuitively understood what the team aspired to achieve.

The team that co-created Silver Pride was diverse, comprising professionals from disparate disciplines such as industrial design, cultural heritage, and social services. The Lien Foundation helped to bring private sector companies (design studio NextOfKin Creatives and heritage consultancy Bridging Generations), a 184-year-old (at the time of writing in 2024) Chinese clan association (Kong Chow Wui Koon), and social service agencies (Fei Yue Community Services and Yong-en Care Centre) together. The team was intergenerational, with designers in their 20s and 30s working alongside lion dance master practitioners in their 70s.

For a male-dominated art form where, historically, women's participation was taboo, the project's gender representation is worth noting. The team's domain expert on lion dance was Lynn Wong, the 30-something-year-old boss of Bridging Generations. Many of the leaders and professionals at the social service agencies championing the programme were women. So too were many of the performing seniors. The project showed some of the surprising ways in which design can connect communities.

In Silver Pride, we see expressions of the unique Singapore story: there were seniors of different races and religions performing harmoniously together in a Chinese lion dance troupe; a modern city, barely 60, already learning how to treasure its history; a caring society whose younger generation is using design to help seniors in unique ways; and of course, the cute, cloth-wrapped "low-noise cymbals". Only true-blue Singaporeans know how much we hate noise.

In the end, the trojan horse was a lion. What Silver Pride demonstrates is that what is possible with lion dance may also be feasible with other aspects of our cultural inheritance: food, music, and craft from across races and religions. For this, we hope the President\*s Design Award 2025 jury will offer its recognition and support of the team's work.

What inspired NOK to embark on this seniorfocused, self-initiated project alongside its daily commercial practice? What issues were you determined to address? RODNEY LOH (RL)

We have always been interested in projects about Singapore's heritage. In the commercial world, most of our clients' projects are for electronics, user interface and experience, and innovation. But a few local projects, such as a lantern project with the National Heritage Board, strengthened our belief in using heritage as a form of innovation.

One of our former colleagues, Sim Hao Jie, took part in a design competition in which he reinterpreted a Monkey God statue. That got us connected with Ng Tze Yong. He was from the effigy-making company that organised the competition and also worked at the philanthropic organisation, the Lien Foundation. Tze Yong suggested we look at developing a heritage-related project.

We were thinking about many different pillars of heritage: arts and culture, food, places of worship, and museums. At NOK, we had also been incubating seeds of ideas around intergenerational considerations, active ageing, and even intimacy for seniors. We shared a bunch of ideas with the Lien Foundation. The idea of lion dance was raised by Tze Yong while we were discussing wushu (martial arts) in general. We thought it could be a good way to explore heritage innovation.

- 2 LOW SOUND, HIGH SPIRITS Chua Ai Geok, 71, played cymbals modified with felt covers that preserve tactile feedback while reducing noise. The adaptation responds to Singapore's dense urban environment and protects sensitive ears.
- 3 CULTURE OF INCLUSION The incorporation of a wheelchair allowed both ambulant and nonambulant participants to take part in lion dances. Lion dance sequences were adapted with integrity to tradition.

How did Bridging Generations become involved? Lynn, what potential did you see in the idea of teaching lion dance to seniors? LYNN WONG (LW)

I'd been in the heritage industry for over two decades, and I'd previously met Tze Yong. I'd also been doing a lot of volunteer work with senior care centres around Singapore, in volunteer management roles. Through that, I was in tune with the opportunities and challenges at these centres.

One of the very salient points I discovered is that, often, seniors are seen as beneficiaries. They are seen as receiving handouts, and that can be very degrading. In looking at the gaps, we realised that, even though Singapore is putting a lot of money into setting up active ageing centres (AACs) in the neighbourhoods for seniors to age in place, a lot of the programmes infantilise seniors.

I'm also a lion dancer and martial arts practitioner. Lion dance is a very versatile art form, offering a variety of different roles that I thought the seniors could take up. I could see how it could be even more empowering, regardless of someone's physical abilities, if we incorporated a wheelchair.

After being connected by Tze Yong, NOK and Bridging Generations made many visits to AACs. We found out first-hand that social isolation, especially among senior men, is a very real problem. The AACs have no issues attracting women to their programmes, but men tend to be more shy. Lion dance seemed like a very good starting point for attracting men to the AACs.

"The project shows how we have made something historic not only relevant, but able to solve the pressing issues of today."









- 4 CROSS-DISCIPLINARY DESIGN
  Designers Nathaniel Ng (left),
  Edmund Zhang (right), and the
  NOK team worked with heritage
  consultant Lynn Wong (centre) of
  Bridging Generations on the project
- 5 ASSESS AND REFINE
  Designer Sim Hao Jie (right) gathered feedback from a senior participant at Fei Yue Active Ageing Centre (Holland Close) during early user testing. The design process involved making ergonomic and mechanical refinements to a traditional lion head.
- 6 FITNESS AND MOBILITY
  Wong and Sim consulted with
  wellness coach Jian Hong (right) at
  Yong-en Active Hub (Bukit Merah),
  exploring strength and dexterity
  training movements that could
  be integrated into lion dance
  rehearsal sessions.



The evolution of beloved forms of cultural heritage can be sensitive. Did you encounter resistance to the idea of modifying the traditional lion dance routine for seniors? At the outset, how did you convert naysayers?

LW Usually, people think of lion dance as jumping from pole to pole. We needed to achieve a mindset change. The seniors' family members might think, "No, Mum, you'll break a leg."

The AACs would wonder if it was safe enough. The practitioners themselves also had to be on board for this project. In Singapore, there have been previous attempts to innovate lion dance that weren't well-received.

I happen to be part of a troupe that has a lineage back to the legendary martial artist Wong Fei Hong. One of his third-generation disciples is a veteran of the troupe, and he currently uses a wheelchair. It really helped to bring on board such a respected practitioner. It enhanced the whole story and helped the seniors challenge their own self-limiting beliefs.

- RL We held an onboarding session at the Kong Chow Wui Koon clan association for seniors from the AACs. Lynn prepared a delicious lunch for them and we took a tour of the clan house. We looked at all the vintage lion dance kits and swords. I think that tour brought back a lot of memories for the seniors. Witnessing their passion during that onboarding session gave us the first sign of validation that we were on the right track.
- LW That session was crucial to recruiting the seniors because, back then, even the AACs wondered if there would be enough sign-ups for our programme. People still held on to the stereotype of lion dance being for the young. But seeing is believing. When they saw our master perform the redesigned lion dance choreography for them using a wheelchair, they realised, "Wow, okay, if he can do it, so can I. It seems possible."

The design process involved cross-domain collaboration and direct input from seniors. Why was it important for seniors to have a role in shaping the project?

RL The first thing we did was to modify the existing lion head. We bought one off the shelf and deconstructed it to understand the key mechanisms and touch points. But we were designing it from an able-bodied point of view. Given that many seniors have reduced dexterity, we did our due diligence by making it harder for us to operate, by wearing gloves and so on. But we still needed first-hand information. We passed the lion head to the seniors so they could handle it. We discovered things that we hadn't previously accounted for such as a difficulty in grabbing the internal strings. The testing with the seniors shaped the refinement process.

It was very reassuring that everyone was keen to have a try. Our participants included a Tamil lady and a Malay lady; it was a novelty for them given how lion dance is a traditional Chinese art form. We also realised that the male seniors were interested in trying it out. That reinforced our hypothesis that lion dance is a very inclusive and active sport which is right for both men and women.

LW We involved older practitioners in the cocreation of the choreography because they brought a perspective of what the seniors would need. One of the key concerns was fall prevention. We were therefore very intentional about wanting it to be a seated programme, even if people were more ambulant. Safety was the highest priority.

It was very heartening for us, while teaching, to see how this activity was able to bridge different cultures. The seniors were all bouncing along to the beat and very energetic. We emphasised that it's a secular programme. It's ultimately part of a culture.

What were the key modifications made to the routine, costume, and instruments? What did these modifications address? How were important traditions preserved, despite the evolution?

RL We needed to make it easier to control the lion's eyes, mouth, and ears. We landed on a single pulley system that you could operate with one hand. You held the lion head with the other hand. We 3D-printed the parts and connected them with levers and strings. After a few iterations, we managed to get it right. That's why it was vital to test and validate the modifications with the seniors.

We added tennis racquet grips to the part of the frame that you hold so it became thicker and easier to grasp. The lion head frame has a large diameter, so we added cross bracing so you can also grip the inside of the head instead of the rim. We selected mesh fabric for the exterior to increase its breathability.

We added the same tennis grips to the drumsticks and designed cloth dampers for the cymbals to wrap them and reduce the sound. This made it less overwhelming for the ears. But I think one of the most important parts was creating a troupe name and t-shirts with a logo, so everyone would have a sense of belonging.

LW We adapted traditions in such a way that the choreography respected heritage and culture while also becoming more inclusive. One of the key modifications to the routine was that the seniors were seated instead of performing athletic moves. We thus focused a lot on the expressions of the lion. How would they express happiness and sadness? What does each of the movements mean? It was storytelling and physical exercise at the same time.

We wanted the training to be progressive so that the seniors could build their strength. We used hula hoops to democratise the exercise classes. Everyone who participated could hold a hula hoop. Our progressive training approach for the dancers involved adding small sandbags for weight. With these little modifications, we could build the seniors' confidence up enough to ultimately hold the lion head.

Silver Pride Lion Troupe held its showcase performance last year. What outcomes are you most proud of?

LW I'm most proud that our oldest student, 99-yearold Grandma Mah, was so happy throughout the whole event. We saw how seniors with different abilities found a role and could perform in front of 120 residents. We were able to play to everyone's strengths and found a way for everyone to feel engaged.

Uncle Chia, who is 80 years old, sat in a wheelchair to perform. It was a huge moment for him. He was almost in tears because he'd had some lion dance experience when he was younger. He never imagined himself performing again because he had injured his leg. His wife was so happy for him.

RL I saw the enthusiasm of all the seniors, regardless of whether they were Malay, Indian, or Chinese. I saw how the male seniors stepped up. We didn't need to push them into participating. The energy was very positive. There was a jovial, convivial feeling and that was very touching.

- 7 BUILDING STRENGTH In a training session at a void deck adjacent to Fei Yue Active Ageing Centre (Holland Close), Wong led seniors in seated exercises using hula hoops in place of lion heads. Weights would be added later to gradually build the arm strength needed to lift a lion head.
- ROLLING WITH IT Wong and Sim used an office chair to test the idea of wheelchair-based lion dance choreography in an early ideation session.

IMPACT FACT

The programme engaged seniors from a wide age range (63 to 99 years), as well as multiethnic seniors within the community.







9 YOUNGER DAYS Chia Chiang Teck, 80, lifted the lion head as he familiarised himself with the movements from a wheelchair. Having been a lion dancer in his youth, this moment marked his return to a cherished art form.

#### 10 SHARED PRIDE

Tan Sung Ming, 68, practiced his lion dance routine at the final rehearsal before the troupe's debut. Curious onlookers were drawn by the sound of drums and cymbals.

#### 11 PERFORMANCE DAY

For the Silver Pride Lion Troupe's debut performance, Tan danced with the lion head, supported by a member of the Kong Chow Wui Koon clan association. The cymbals were played by (L-R, back row) Mah Ying Khuan, 99; Chua Ai Geok, 71; and Nancy Choo, 68.

#### 12 IN GOOD TIME

(L-R) Choo, Chew, and Chua practicing the cymbals. They were guided by a member of Kong Chow Wui Koon.







"One of the most important parts was creating a troupe name and t-shirts with a logo, so everyone would have a sense of belonging."

How does Silver Pride Lion Troupe speak of the Singapore story?

- LW Of course, it's coincidental that the name Singapura means "Lion City" in Malay. But Silver Pride Lion Troupe showed how this Lion City can also be more inclusive and embrace people of different needs and age groups. This project really showed how heritage art forms can be a solution for a national healthcare issue and can bring the community together. We can leverage what we have to create innovations. Silver Pride Lion Troupe exemplifies that.
- RL Lynn and I were awarded the Design for Asia Award for Silver Pride Lion Troupe in Hong Kong last year. We gave a PechaKucha talk after the event and the most common feedback I heard was, "Hey! Why did the Singaporeans think of it and not the Hong Kongers?"
- LW Exactly! I was so proud!
- RL That was really quite interesting. A lot of the Chinese cultural traditions practised in Singapore originate in China, even simple rituals like having a bowl of longevity noodles with hard-boiled eggs on birthdays. When I post photos of these things on my Instagram account, my friends from China say, "That's such an old tradition. I'm surprised you still practise this in Singapore."

In China, after the Cultural Revolution. a lot of things were wiped out. So it was quite interesting and refreshing for them to see such a modern city like Singapore practising these nuances and old beliefs. Singapore is a place where we keep on innovating. We keep on pushing and wanting to punch above our weight. But often, it's all these little roots, roots of scarcity, roots of ethnicity, that allow us to punch above our weight.

That's what this lion dance project means to me as a Singaporean. We have all this cultural heritage, with all these passions, nuances, and rituals. If we forget them, then we don't have a common foundation from which to propel forward while retaining our identity as a multiracial society.

LW That's a very good point. The Kong Chow Wui Koon clan association is 185 years old. Its founding is much earlier than Singapore's independence. The project shows how we have made something historic not only relevant but also able to solve the pressing issues of today.

What do you see as the initiative's next steps? What's your vision for Silver Pride Lion Troupe? LW To scale it in Singapore, it needs to be medically

- evaluated and have its healthcare outcomes validated. That's the next phase I'm looking into. One of the key issues of implementation is having enough practitioners in order to scale. We're looking into how to leverage technology to codify intangible cultural heritage.
- RL If you could gamify the percussion on a TV screen with a drum set, that would really allow more seniors to engage.
- LW Yes, it would help to streamline the teaching process and curriculum and ultimately enable a roll-out all over Singapore.

#### ABOUT THE DESIGNER

Rayson Tan, Rodney Loh, and Edmund Zhang (NextOfKin Creatives): and Lynn Wong (Bridging Generations).



NextOfKin Creatives is a strategic design studio that uses creative thinking to push boundaries and shape the future. NOK believes design is an attitude that empowers positive outcomes.

The multidisciplinary team's key capabilities include ethnographic research, industrial design, interaction design, motion graphics and animation, digital and physical prototyping, and graphic design. NOK has worked with clients in a range of sectors and been recognised by the SG Mark, Good Design Award, iF Design Awards, Red Dot Design Awards, and DFA Design for Asia Awards - Grand Award.

Industrial designer Rodney Loh is the Founder of NOK. He is passionate about creating emotional connections through design. He believes in the power of storytelling to reframe complex issues and bring people together. He sees design as a tool to challenge norms, spark joy, and shape the world we want to live in.

Bridging Generations is a Singapore-based heritage consultancy that reimagines culture for contemporary relevance and social impact. Guided by the ethos "Respect the Past, Move the Present, Inspire the Future", its interdisciplinary expertise lies in cultural research, design thinking, experience curation, community activation, content development, publishing, and placemaking initiatives.

Bridging Generations has worked with government agencies, institutions, corporates, and community organisations to cocreate transformative experiences across diverse sectors such as education, tourism, product innovation, health, and wellness. The consultancy's notable achievements include DFA Design for Asia Awards - Grand Award, Good Design Platinum Award, UNESCO Storytelling Award, and its flagship Qixi Fest experience that attracts over 180,000 local and international visitors annually.

Lynn Wong is the Founder of Bridging Generations. From transformative programmes that tackle social isolation to immersive experiences that empower seniors, Wong's ability to bridge generations has made her a powerful voice in preserving intangible cultural heritage through creative, interdisciplinary initiatives. She studied psychology before dedicating herself to heritage work.

# SURBANA JURONG CAMPUS

#### IMPACT AREAS

DESIGN OF

- \* Enabling Economic Transformation
- \* Raising Quality of Life
- \* Advancing Singapore Brand, Culture, and Community
- Making Ground-breaking Design Achievements

As the initial flagship development of the emerging Jurong Innovation District, the Surbana Jurong Campus was an opportunity to set a precedent for office complexes in this new innovation hub in Singapore's west. Together, Safdie Architects and Surbana Jurong Consultants have created a headquarters building that's much more than a workplace.

The design expands Safdie Architects' vision, "for everyone a garden", into the office, bringing the site's natural setting into the heart of the building. That heart is a publicly accessible, naturally lit pedestrian spine, an arc that seamlessly connects with internal gardens nestled between five-to-seven-storey pavilions where Surbana Jurong's 4,000 on-site employees are united under one roof for the first time.

The greenery works in concert with external landscaping that spreads between and under the architecture, resulting in a park-like setting that can be enjoyed by both staff and the public. Safdie Architects envisions the campus serving as a new public commons, welcoming the public for services and thoroughfare.

For Surbana Jurong employees, work is not confined to the desk or cubicle. Workplaces are open and agile, and there is optimal access to light, air, and greenery. Safdie Architects envisioned the internal gardens as spaces to support greater socialisation and exchange.

Underpinning it all is a commitment to a low-energy outcome. This was achieved through both passive design and active systems, including smart building control systems that reduce the building's energy consumption substantially, compared to other code-compliant buildings.

The concept of integrating the landscape with the indoor environment catalysed a shift of perspective on what a decentralised workplace could be, a confident evolution away from the tower format of the central city. This yielded unforeseen opportunities for programmatic innovation and community space in the Surbana Jurong workplace.





DESIGN FIRM: Safdie Architects Moshe Safdie. Charu Kokate David Brooks, Jeffrev Huggins, Dan Lee, Howard Bloom Jeremy Schwartz, Karlo DeGuzman, Lee Hua Tan. Lewina Lee. Lusha Wainford, Peter Morgan, Prashanth Raiu. Reihaneh Ramezanv. Roderick Delgado, Sarah Rinehart, Sean Chew, Seunghyun Kim, Tunch Gungor, Zhuang Guo

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CIVIL AND STRUCTURAL ENGINEER: KTP Consultants Pte Ltd

MECHANICAL ENGINEER: Surbana Jurona

ELECTRICAL ENGINEER: Surbana Jurong

MAIN CONTRACTOR: **Boustead Singapore** 

LANDSCAPE DESIGNER: Surbana Jurong Consultants Pte Ltd PWP Landscape Architecture

INTERIOR DESIGNER: Safdie Architects (public spaces) B+H Architects (office blocks)

PROJECT MANAGER: SIPM Consultant Pte Ltd

SECURITY: **AETOS Technologies** and Solutions Pte Ltd

FACADE AND FIRE ENGINEER: Arup

LIGHTING CONSULTANT: Nipek Pte Ltd

ACOUSTIC AND AV ENGINEERING: Acviron Acoustics Consultants Pte Ltd

CLIENT: Surbana Jurong Capital (JID) Pte Ltd

#### JURY CITATION

Surbana Jurong Campus reconceives the traditional corporate headquarters as a campus that integrates harmoniously with the public realm. The series of office blocks are connected by a publicly accessible street-like atrium spine, featuring amenities and a direct link to the upcoming MRT station for the wider community. The design features naturally lit, sheltered courtyards that offer inviting spaces for workers and residents to gather and relax, while the tapered office block profiles channel daylight into the interiors with reduced glare.

The upper levels of the buildings are floated on pilotis to preserve the large and unique tree specimens on site, while allowing the lower vegetation to grow uninterrupted below the elevated structures. The building also employs sustainable design strategies such as solar collection, rain gardens, and bioswales. The jury commends the team for creating a meaningful office campus typology that serves both its employees and the wider community.

#### NOMINATOR CITATION

Ar. Melvin HJ Tan President, 64th Council 2024/2025, Singapore Institute of Architects

I support the nomination of Surbana Jurong Campus, designed by Safdie Architects. I visited the campus, located in the Jurong Innovation District, to attend a meeting. As I traversed the building via the second-storey circulation paths, I was struck by the orchestration of spaces and greenery along what appeared to be a groundscraper of sorts.

The architecture features pavilions of five and seven storeys arranged around a central pedestrian spine. The spine connects indoor and outdoor courtyards, communal areas, and facilities spread across different floors. Elevating the structure has allowed the ground beneath to flourish, enveloping lower-level public spaces and upper-level offices, and creating a unique treehouse-like atmosphere. This design integrates with the landscape, offering an innovative alternative to conventional, inward-facing buildings.

By deeply integrating indoor and outdoor landscaped gardens with the campus, a distinctive network of workspaces is immersed within a rich, natural environment. The campus serves as a gathering place for Surbana Jurong employees and the wider community, with programmed spaces designed to bring people together.

I also noticed the overhanging, stepping form of the office wings, which are tropical-appropriate, with the upper floors providing shade and shelter to the lower floors.

The campus represents a new typology for commercial office buildings in Singapore. It has been designed not only for the employees, but for the community at large.

I support the project in its bid for the President\*s Design Award Design of the Year 2025.

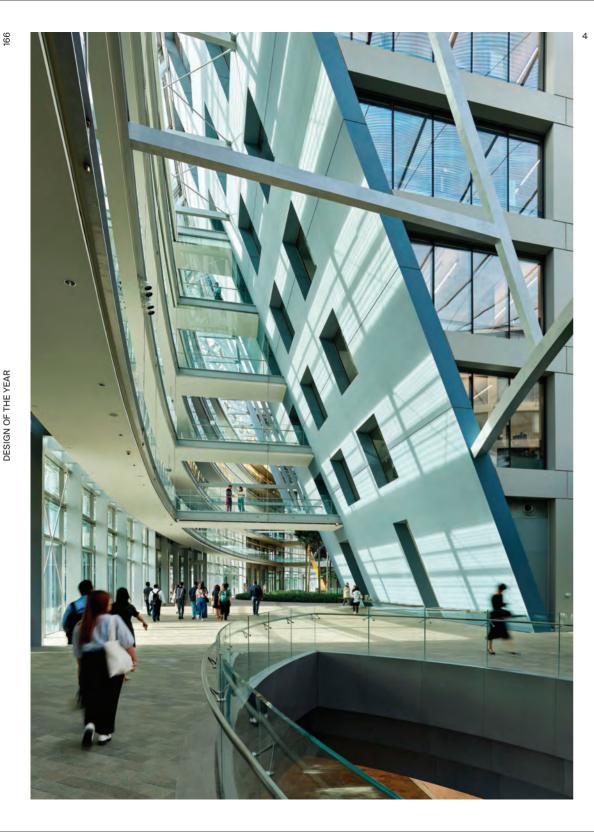


#### 2 IN SERIES

The campus unfolds across a series of 10 five- and seven-storey pavilions clustered along a central pedestrian spine. A precast system was used for the gridded facades, enabling self-shading cantilevered structures.

3 WELCOMING GESTURE The main entrance features a prominent fan-shaped canopy The cantilevered blocks allow for vegetation to grow up beneath overhangs.





The term "headquarters" typically evokes images of towers in central business districts. In this case, there was an opportunity to shape a different outcome. What were the key drivers of the campus approach? CHARU KOKATE (CK)

The site's location played a key role in shaping the direction of the project. Since it's quite far from the city centre and sits close to the Nanyang Technological University (NTU) campus, surrounded mostly by mid-rise buildings of six to seven storeys, a high-rise like those downtown didn't feel appropriate.

The client's vision was to create a home base for their various companies, so a more spread-out, campus-style development made sense. Once we introduced the idea of a campus layout - both in terms of the building and its programme - it influenced the way the client perceived the entire project.

During the briefing and conceptual design phases, how did your discussions with Surbana Jurong push the brief further? What were the unique opportunities to innovate with this project?

CK As designers, we always aim to look beyond the brief. When we study a site closely - observe it, document it, understand what surrounds it we often discover opportunities that go further than what the client initially asked for.

In this case, the most significant advantage of the site was the planned MRT station at its southern edge. That meant that the site would eventually become a thoroughfare, with people constantly moving through and around it. The project had to offer more than just the programme.

4 INTERNAL PUBLIC STREET The ground floor public pedestrian spine is open to the community 24 hours a day and was envisaged as a thoroughfare to an upcoming MRT station. It also connects visitors to publicly accessible services.

What would this site need to be if everybody converged towards the MRT station? We realised it needed to be more than an office building. We asked ourselves: How can we integrate the community with the property? How can we integrate the neighbourhood with our site? How can we connect to them? Our thinking was thus also focused on how we could design public spaces, and how Surbana Jurong could benefit from the community.

There are many NTU labs and learning centres around our site, raising the possibilities of exchange and interaction. That's why the entire first floor of the Surbana Jurong Campus was designed to be interactive spaces with gardens as well as services that would attract people: cafes, a gym, a children's centre, nursing rooms, bookable meeting rooms, and gathering spaces, for example.

The team undertook detailed mapping and analysis of the site before developing the design. What were some of the significant discoveries you made? CK It was a greenfield site that was overgrown

and not maintained. It was one of those sites in the Jurong area that was to be developed in the future. We had to understand where the good tree specimens were. We mapped the trees that could be uprooted and stored away so we could bring them back to the site after completing construction.

We also needed to understand the topography of the land. The site slopes very dramatically from the west to the east. It really made sense to integrate our project with the Jurong Eco-Garden, to which it sits immediately adjacent. We wanted to have a seamless connection.

Even though the steep slope seemed disadvantageous, we turned it into an advantage. It allowed us to have spaces on the lower levels that could get a lot of natural light and be integrated fully with the existing garden. We used the stepped, cantilevered profiles for the blocks facing the Jurong Eco-Garden to create small building footprints below. This allowed the landscape to come right in and have space to grow upwards.

#### IMPACT FACT

### The photovoltaic system yields 389 MWh per annum, the equivalent of powering 120 three-room HDB flats every year.

This project continues Safdie Architects' longstanding goal of connecting people with gardens. In what ways do the garden spaces support meaningful experiences for the community as well as Surbana Jurong staff?

CK Once we established the primary goals of the project, in addition to the client's requirements, we knew that this would be a dynamic public commons. You can't design a public space in a dark area. We knew it was going to be almost like an outdoor space: a seamless indooroutdoor space. With the Jurong Eco-Garden sitting alongside the site, it was clear that we needed to bring the gardens into our building.

The integration of nature is very important to us. Singapore is considered to be a very green city, but it doesn't have many gardens within buildings. Jewel Changi Airport, for example, is one of a kind.

The idea was, "How do you bring natural light and landscape inside?" We were thinking about how people were going to be sitting and working at the Surbana Jurong Campus for eight hours, or more, each day. How could we connect them with nature instead of taking them away from nature? So everywhere you look in the campus, from no matter where you are, you can see beautiful green spaces. It's not like being in a concrete jungle.

It was so important to preserve the existing slope, to replace all the landscape area that was lost to our building, and to merge office and garden. Somebody who's tired can sit in the garden, have a cup of coffee, and talk to other people. These ad hoc spaces support collaboration between Surbana Jurong's various teams. A structural engineer might meet with an architect in the garden. The garden is so well-used now. It's a very popular space.

The atrium spine is open 24/7 as a public pathway at ground level. As the district develops, how do you envisage this thoroughfare serving its community? CK The MRT station is not open yet, but when it is,

you will enter the Surbana Jurong building as soon as you exit the station. It's right there. We located the public amenities close to where people would access the building. Like I said, we envisioned it as a space for all: much like how people feel very comfortable walking along the public thoroughfare within Marina Bay Sands, even if they are not staying in the hotel.

Once the MRT station opens, the whole Surbana Jurong space will be very different. I foresee the public using it a lot. I think it will also be a place where students come to study. We haven't really uncovered its full potential because the MRT station is not open yet. So, right now, it's mainly being used by Surbana Jurona staff.

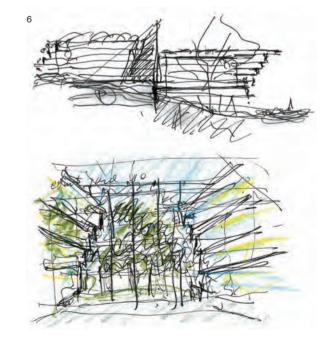
What are the most satisfying ways you've seen people use the ground-level spaces?

CK We see the staff using the garden space for meetings, for presentations, for celebrations, and for evening drinks. We've seen them using it in so many different ways. The whole spine was used during Chinese New Year. They had a lo hei (celebratory salad dish) stretching four or five blocks. All 3,000-4,000 employees were invited.

There is something very special about that space. It's peaceful and calming. It's also air conditioned in a very nice way. Only the areas where people walk and sit are cooled, not all the way up to the fifth level. It's a more sustainable approach.



- 5 GREEN CONNECTION Landscaping hugs the building between blocks. Underpinning the design is the belief that employees should have optimal access to light, air, and green space to reduce stress, encourage socialisation, and enhance creativity.
- 6 SITE CONDITION Concept sketches by Safdie Architects reveal the emphasis placed on connections between the campus architecture and the landscape.





7 LAYERED LANDSCAPE Above the pedestrian spine, bridges grant visual access to activity as direct sightlines to the gardens, which include a palm grove. Abundant natural light supports plant growth in internal courtyards.



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#### 8 GARDENS FOR ALL

The garden beds, pathways, and seating provided in the tropical grove encourage meandering and offer respite from one's workstation. This zone also accommodates both small and large gatherings.

#### PARK CHARACTER

Surbana Jurong staff have a range of private, semi-private, and public working environments, including closed offices and meeting rooms with expansive vistas.



The Surbana Jurong Campus is the first building to receive the Green Mark Platinum Super Low Energy certification. Which were the most effective strategies for minimising energy use?

CK The certification proves that both the mechanical and technical systems have been considered. Surbana Jurong Campus has one of the largest underfloor air-distribution systems that we've ever used. This underfloor cooling system is very flexible because you're not just blasting cold air from the top. Other considerations, like photovoltaic panels and electric vehicle (EV) charging, made a difference too.

In addition to that, the integration of the shading system with the facade makes a big difference to energy use. Having a fritted ETFE (ethylene tetrafluoroethylene) roof over the garden space also helped a lot.

Even though things like the quality of the space, natural light, and the connection to nature through rain gardens and bioswales are not mentioned in the Super Low Energy certification category, they make a significant difference to both the building's performance and people's experience of it.

Strategies for sustainable design and occupant wellness often work in tandem. How does the building support the health and wellbeing of the people who use it?

CK Natural light filtering through the building, seamless connection between indoor and outdoor spaces, access to nature, smaller building footprints at level one that encourage visibility and interaction – all of this directly contributes to people's overall wellbeing. It's a completely different experience from working in a typical downtown tower, where large office floors can feel isolating and impersonal, shared by a hundred people.

Here, the narrower footprint allows light to filter in from three sides, and no matter where you're sitting, you have a view of greenery. You can see colleagues walking across bridges, feel connected visually, and give your eyes a break from staring at a screen all day.

At level one, you are surrounded by trees; it feels almost like being in a treehouse. And we believe that meeting someone in a garden setting changes the dynamic – people tend to be more open, more relaxed, and positive. In contrast, dim, enclosed environments often bring out a sense of disconnection. We aimed to create a space that naturally encourages openness, interaction, and a supportive culture.

How and why was this project a good testbed for new directions in precast systems?

CK Safdie Architects has used precast in the past, in many different countries. What we pioneered here was its use for the structural system of the whole building. Here, the government is pushing for increased productivity. Precast is more efficient in many ways, because you're not pouring concrete on site and waiting for it to cure. The precast components are made off-site, brought in, and simply hoisted into place. Using precast also allows you to control the quality of construction.

We used precast concrete truss frames instead of conventional diagonal beams for the east facade. They were used for the inverted cantilevered blocks, and created self-shading terracing structures. A precast system was also used on the west facade, where it helped us derive an optimal window-to-wall ratio for energy efficiency.

Has the design changed the way Surbana Jurong works? How so?

CK The new campus has changed how the company thinks and made it much easier to collaborate. The workplace has become a more nurturing space, one that is more aligned with learning and wellbeing.

Surbana Jurong was interested in creating a workplace that would be exemplary for their clients, their future employees, and others by demonstrating their care for their staff. They wanted to provide a workspace that is unlike your typical office building. When I think about the Surbana Jurong Campus, I think of the legacy of a timeless design and the belief that architecture can shape a company's trajectory.



10 NATURAL RELATIONSHIP Surbana Jurong Campus sits adjacent to the Jurong Eco-Garden, which provides another visual aspect for office workers. Its presence encouraged the design of a campus landscape that would feel integrated with this public green space.

#### ABOUT THE DESIGNER







Roderick Delgado, Charu Kokate, Seunghvun Kim. Moshe Safdie. and Jeff Huggins.

> Safdie Architects is an architecture and urban design studio driven by a spirit of idealism and innovation. With the intense personal involvement of Moshe Safdie and the core group of Partners, the practice operates in the model of a design studio environment – research-oriented and forward-thinking, drawing upon a depth of experience to solve contemporary building challenges in imaginative and unexpected ways.

> Safdie Architects is active in a wide variety of project types, scales, and sectors in geographically and culturally diverse places. While globally active, the practice is intentional in its response to local context, maintaining a nimble and bespoke approach to delivering some of the world's most imaginative commissions. The practice has its design headquarters in Boston with offices in Jerusalem, Toronto, Shanghai, and Singapore.

> Moshe Safdie is the Founding Partner of Safdie Architects. He is an architect, urban planner, educator, theorist, and author. Over a celebrated 50-year career, he has explored the essential principles of socially responsible design through a comprehensive and humane design philosophy. His wide range of completed projects includes cultural, educational, and civic institutions; neighbourhoods and public parks; housing; mixed-use urban centres and airports; and master plans for existing communities and entirely new cities.

Charu Kokate is a Senior Partner and Director of Safdie Architects' Singapore office. Guided by purpose, she envisions architecture as a catalyst for positive change, creating ripples that extend across communities, neighbourhoods, and cities. Kokate plays a pivotal role in advancing the firm's work throughout Asia. Her portfolio features some of Singapore's most celebrated architectural achievements, including Marina Bay Sands Integrated Resort and Jewel Changi Airport - both P\*DA Design of the Year recipients.

Jeff Huggins is a Senior Partner at Safdie Architects. With an exceptional ability to unify complex technical elements into cohesive design solutions, he brings a pragmatic, stabilising, and strong leadership presence. Huggins draws on over two decades of design and leadership expertise, having been instrumental in some of the firm's most ambitious urban-scale projects.

#### **IMAGE CREDITS**

#### CHRONICLING THE EVOLUTION OF A NATION BY DESIGN

Gan Jia Jun

#### AR. ALAN TAY

 2-3, 10-11 4-6	Nabil Nazri Albert Lim Finbarr Fallon
7-8, 15-17	Fabian Ong
9, 12	Formwerkz Architects
3-14	Here Space Photography

#### GABRIEL TAN

1	Paula Holtheuer
2-4	Francisco Nogueira
5	Tommaso Sartori
6-8, 12	Sebastian Stadler
9	Gabriel Tan Studio
10	Origin Made
11	Pedro Passos
13	Jonas Bjerre-Poulsen
14	Abstracta
15	Design Within Reach

#### 21 CARPENTER

1-3, 5, 9-14	Darren Soh
4, 6-7	WOHA Architects
8	Jovian Lim
Profile	Nabil Nazri

#### BIRD PARADISE

1-11	Mandai Wildlife Group
Drofilo	Nobil Nozri

#### DELTA SPORT CENTRE

1, 8, 12-13, 15	Darren Soh
2-4, 6-7,	Finbarr Fallo

9-11, 14

Red Bean Architects

5 Profile Nabil Nazri

#### KARTACAM 2

1-9	Grab
Profile	Nabil Nazri

#### SCHOOL OF TOMORROW

1	Kinetic Singapore
2-12	Aloysius Lim
Profile	Nabil Nazri

#### SILVER PRIDE LION TROUPE

1-7, 9, 11-12	Rayson Tan
8	Edmund Zhang
10	Nathaniel Ng
Profile	Nabil Nazri

#### SURBANA JURONG CAMPUS

1-5, 7-10	i imotny Hursiey
6	Safdie Architects
Profile	Nabil Nazri, Safdie Architects

Nabil Nazri, Safdie Architects

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