



# Future proof design in commercial development

**Ms. Rose Ho**  
Project Manager, Sustainability  
Henderson Land

4:30 p.m.

G I V E



**GREEN FOR PLANET**  
Building a Green Portfolio



**VALUE FOR PEOPLE**  
Creating a Caring Culture



**INNOVATION FOR FUTURE**  
Shaping a Smarter Future



**ENDEAVOUR FOR COMMUNITY**  
Establishing a Liveable Community



**HENDERSON LAND**  
恒基兆業地產

# Future proof design in commercial development

Building Green 2023

28 September 2023

Speaker:  
Rose Ho, Project Manager – Sustainability



# Our Brand Promises

## INNOVATION

Innovation is at the heart of our design approach



## SUSTAINABILITY

We turn imagination into reality, safeguarding the planet for future generations



## PEOPLE

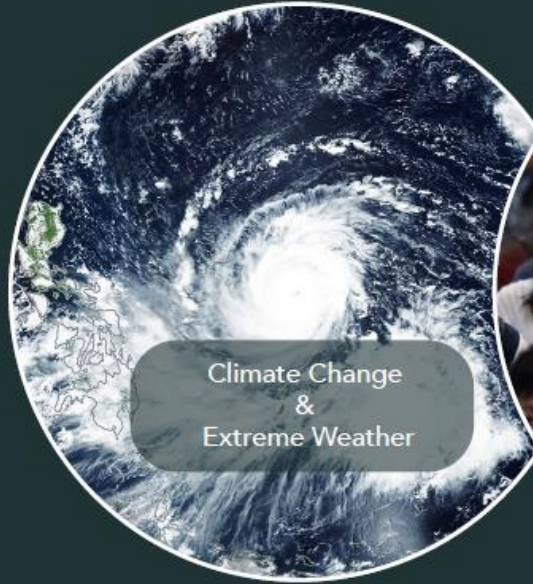
By embracing sincerity, we put people first in everything we do





# OUR VISIONS

To integrate **sustainability** into corporate business strategy to combat climate change, create a sustainable and resilient environment for the well-being of the people, community and the planet, embracing innovation for a sustainable future.



Climate Change  
&  
Extreme Weather



Human Well-being  
&  
Covid Pandemic



Quality of Living in  
Community

**Henderson Land** aspires to remain a market leader by maximising long term economic value while creating **positive social** and **environmental impacts**.



# Our Sustainability Strategy - GIVE

TRANSFORMING OUR WORLD  
The 2030 Agenda for Sustainable  
Development by United Nations



## GREEN FOR PLANET

Climate Resilience  
Environmental Impact



Won the Pioneer Award in Green Building Leadership (Developer) at Green Building Award (GBA) 2021



## INNOVATION FOR FUTURE

Social Innovation  
Technology Innovation



Social Innovation  
Urban renewal at ArtLane

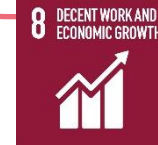


## VALUE FOR PEOPLE

Health & Wellness  
Our People, Partners & Customers



Adopt the innovative nano-photocatalytic disinfectant spray in public areas and facilities at our properties

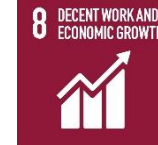


## ENDEAVOUR FOR COMMUNITY

Sustainable and Liveable  
Community



Support Government's social housing initiative





# Site 3

## New Central Harbourfront

*Supporting City-wide Carbon Transition*



*For reference only and subject to further design development*

# Sustainability, Connectivity and Liveability

- A new leisure destination where people can enjoy an escape from the bustling business district
- To enhance connectivity and walkability while vitalising the skyline through greening
- will set high standards in planning and design that proactively respond to climate change
- The gross floor area is approximately around 1,600,000 square feet
- more than 300,000 square feet of green spaces for public



*For reference only and subject to further design development*



# SETTING A NEW BENCHMARK FOR INDUSTRY

## Green & Environmentally Friendly



**BEAM Plus v1.2**  
Platinum Level  
Provisional Rating



**LEED Core & Shell**  
Platinum Level  
Pre-Certification Accreditation



**China Green Building Design Label**  
3 Star highest rating

## Healthy & Well-Being



**Hong Kong IAQ Certification Scheme**  
Excellent Class  
(Design Target)



**China Healthy Building Design Label**  
3 Star highest rating



**WELL Building Standard Core & Shell**  
Platinum Level  
Pre-Certification Accreditation

## Design Awards



**WiredScore PLATINUM**



**SmartScore PLATINUM**

## Others



**REAL ESTATE ASIA AWARDS 2021**

Office Development of the Year  
Sustainable Development of the Year



**BuildMass AWARDS 2021**  
Outstanding Future Project



**a&d AWARDS 2020**  
Gold  
Future development – Commercial



**OUTSTANDING PROPERTY AWARDS 2020**  
PLATINUM WINNER  
ARCHITECTURAL DESIGN  
2020 OPAL AWARD



**OUTSTANDING PROPERTY AWARDS 2020**  
PLATINUM WINNER  
INTERIOR DESIGN  
2020 OPAL AWARD



**PropertyGuru ASIA PROPERTY AWARDS SINGAPORE**  
Best Office Architectural Design (Asia)



**PropertyGuru ASIA PROPERTY AWARDS SINGAPORE**  
Best Office Interior Design (Hong Kong)

# The Henderson

## Smart workplace enabler



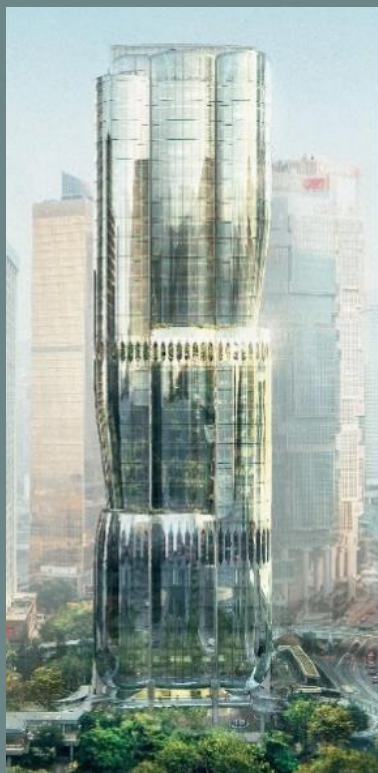
**Hong Kong Green Building Council**  
Green Building Award  
Grand Award







# The Henderson



## What's next for 2023 The Henderson

Innovative + People-Centric Technologies  
= Sustainability?

**Hospitality**

禮賓服務

**Resilience**

營運韌性

The Henderson

**Health**

身心健康

**Green**

環保建築

**Smart**

智慧方便



# FUTURE-proof Design with Smart Technologies



## The Henderson

A **people-centric office** embracing **innovations** for a **sustainable future**, embedded with **science-based** design principles and **enhanced high-tech infrastructure** for inspired changes in **workplace, people and community**;



# 1

## Holistic Driver for Paradigm Shift

# 3+

## Patented

# 7

## SDG Targets

# 19

## Key Strategies

# 57+

## Innovation Features

### GREEN

Regenerate & Lifecycle



- G1. Tri-party ESG Partnership Programme
- G2. Hybrid Ventilation
- G3. Liquid Desiccant Cooling (Patented)
- G4. Condensate Water Misted cooling

- G5. High performance façade
- G6. Urban Oasis
- G7. Highly Efficient & Circadian Lighting
- G8. Air-side Economizer
- G9. Chiller Optimization
- G10. Solar Collector & Optic Fibers
- G11. 100% Wired EV Charging Facilities
- G12. Reverse Vending Machine
- G13. Mindful Consumption of Resources (e.g. recycled/regional/EPD/HPD materials etc.)
- G14. Roof Photovoltaic

### HEALTH

Prevention & Action



- H1. Solar Responsive Ventilator (Patented)
- H2. Privileged Ventilation & Purification
- H3. Lift Sterilization Pod (Patented)
- H4. Circadian lighting enabled

- H5. Extensive IAQ Network
- H6. Maximised Daylight & View
- H7. Swiss Air
- H8. Bio-mechanical Filter
- H9. Sterilized Escalator Handrail
- H10. Water Purification System
- H11. Zero UV-proof facade
- H12. Running track and gym provision

### WELLNESS

Connections & Social



- W1. Wellness engagement program
- W2. Urban/ Aquaponic Farming

- W3. Highly Connected Footbridges
- W4. Community Facilities and Social Engagement provision
- W5. Connection Hubs
- W6. Inclusive Design
- W7. Biophilic Design

### RESILIENCE

Reliable & Re-bounce



- R1. Façade Resilience for reliability – 4-ply façade
- R2. Cyber Security and Building Security

- R3. Stormwater Management
- R4. Heat Stress Prevention
- R5. Prevention of Chiller High-cut
- R6. Maintenance of Air Quality
- R7. Reliability of Electricity Supply

### SMART

Support & Adapt



- S1. Virtual AI-supported Ambassador
- S2. Integrated Tenant App
- S3. Carbon / Wellness Token System
- S4. Intelligent Lift control system to avoid dummy stop (to be patented)
- S5. Interactive AI-enabled VVIP lift calling (to be patented)
- S6. VR-enabled Carpark Way Finding and Reservation System
- S7. Robotic Assistant



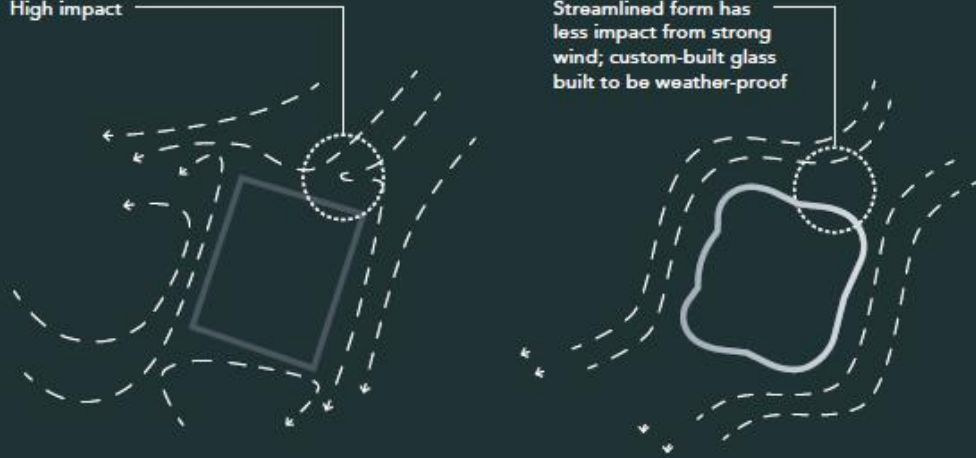
- S8. Integrated Tenant Experience Analytic Platform
- S9. Weather Totem v3.0
- S10. High/Medium Speed EV Charging
- S11. Smart Office App
- S12. BIM-enabled FM Portal
- S13. Digital Twins
- S14. Smart Waste Management
- S15. Smart Mail Delivery Services
- S16. Carbon/Wellness Token
- S17. Contactless Go



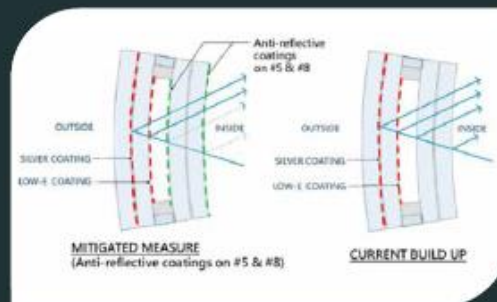
# Advancing Net Zero: Climate Resilience

## ACHIEVING TECHNOLOGICAL BREAKTHROUGHS

High impact



Hong Kong is prone to severe weather conditions such as tropical storms and typhoons that can damage buildings. **The Henderson** employs a hi-tech, 4-ply, double-curved, double insulated glass facade to withstand the powerful typhoons that impact buildings. The facade design offers maximum visibility of outdoor views whilst UV rays are blocked and the building interior is insulated against Hong Kong's summer heat.



### DESIGN TO LAST

The facade design is one of its kind both locally and internationally, made possible through newly developed manufacturing and construction techniques. Unlike typical commercial buildings, this project achieves technological breakthroughs by mobilizing international glass facade experts and manufacturers to create custom-built, CAD-aided parametric glass panels.





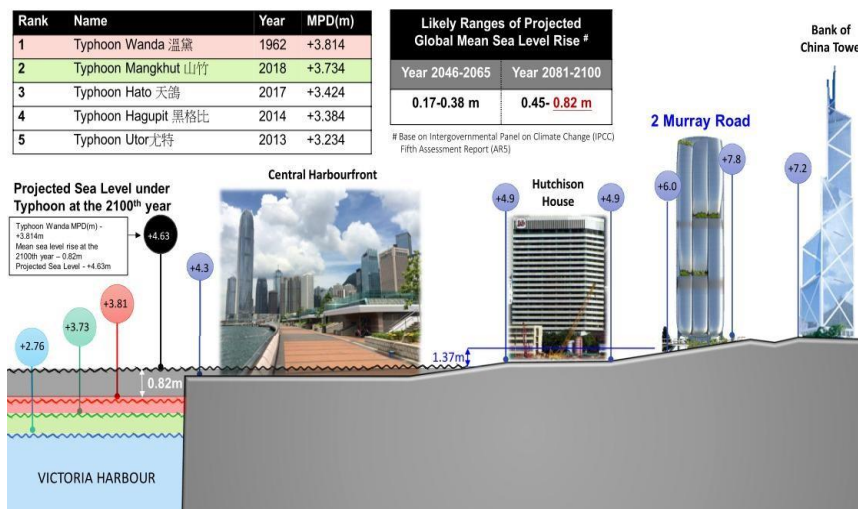
# Advancing Net Zero: Climate Resilience

## Façade Resilience



The Façade is the first of its kind in Hong Kong. It features four-ply, double-laminated, double-curved insulated glass, designed to withstand the powerful typhoons that periodically impact Hong Kong.

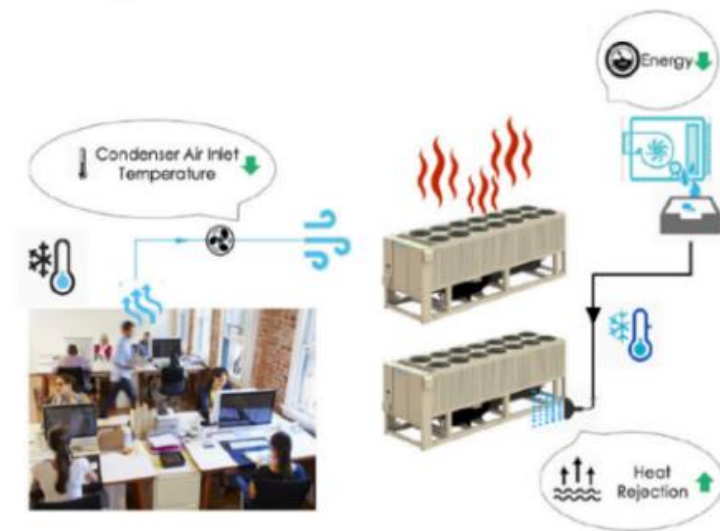
## Flood Risk Resilience



Strategic spatial planning to avoid flood impact.

Extreme weather analysis and design for suitable rainwater harvesting system, floodgates and storm water management.

## Extreme Weather Resilience



Ultra high efficiency chiller system for reducing peak electricity consumption.

AC condensate as supplementary cooling for chiller hot air rejection.



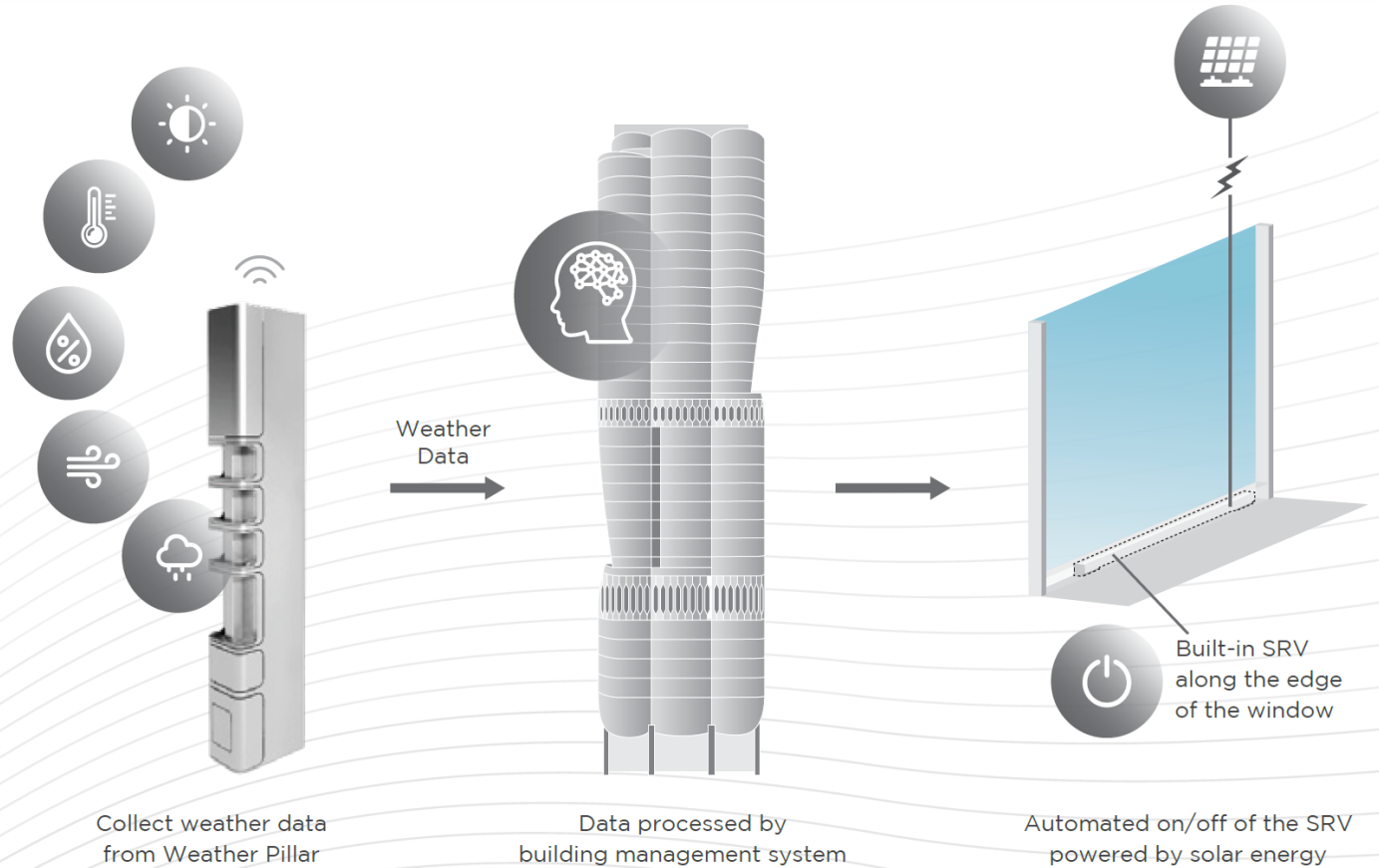
# Solar Responsive Ventilator

A Patented Design for New Level of Comfort



## The Henderson

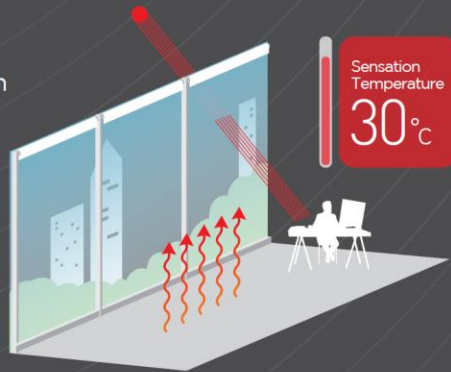
# Project-based R&D and patented technology for energy reduction and user well-being





# Project-based R&D and patented technology for energy reduction and user well-being

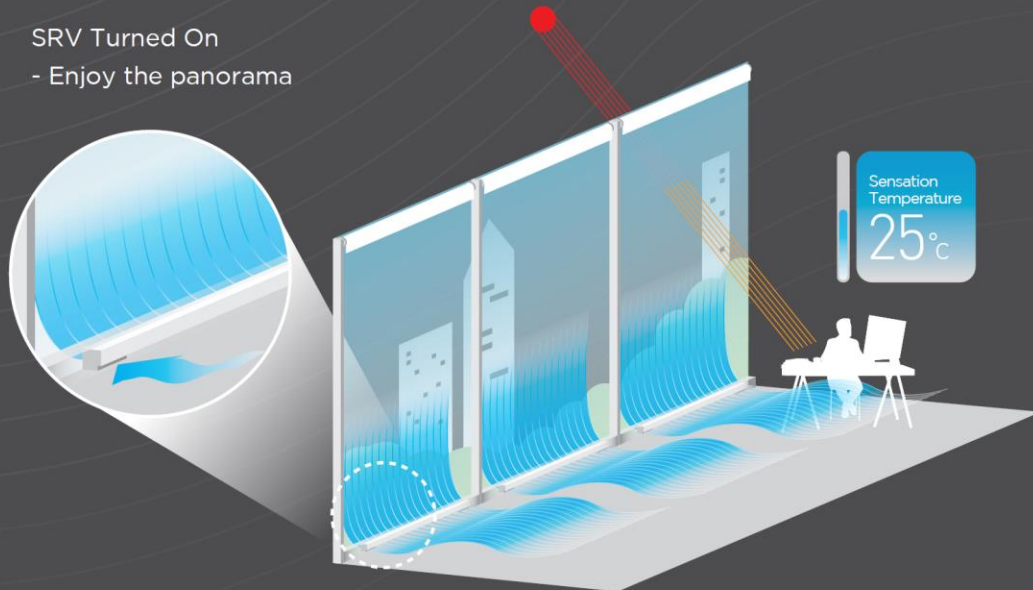
Baseline Situation



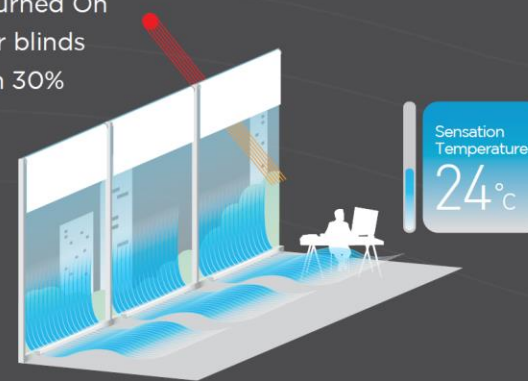
Conventional Method  
- Sacrifice the view



SRV Turned On  
- Enjoy the panorama



SRV Turned On  
- Sheer blinds down 30%





# FUTURE-proof Design with Smart Technologies

## The Henderson

### DESIGNERS & SPECIALIST CONSULTANTS

Zaha Hadid Architects



ARUP



Microsoft

LERA  
Consulting Structural Engineers



Eckersley  
O'Callaghan



## INNOVATION

### COMMUNICATIONS

IT Infrastructure  
5G  
Wifi 6  
Seamless link to Cloud

### SMART ESG

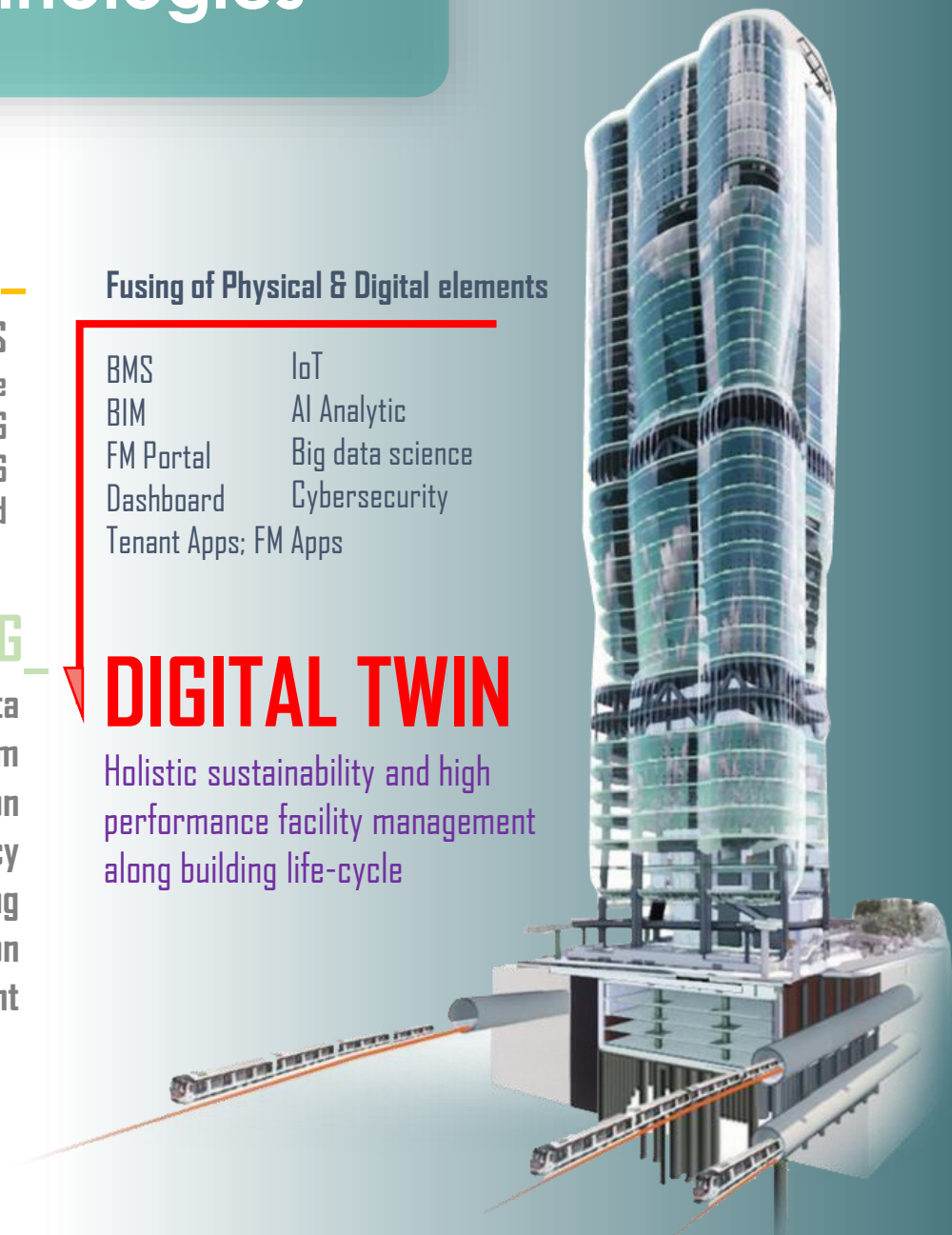
Tenant Experience Data  
Analytic Platform  
Carbon Reduction  
Energy Efficiency  
Water Saving  
Resources Optimization  
Waste Management

### Fusing of Physical & Digital elements

BMS  
BIM  
FM Portal  
Dashboard  
Tenant Apps; FM Apps  
IoT  
AI Analytic  
Big data science  
Cybersecurity

## DIGITAL TWIN

Holistic sustainability and high performance facility management along building life-cycle





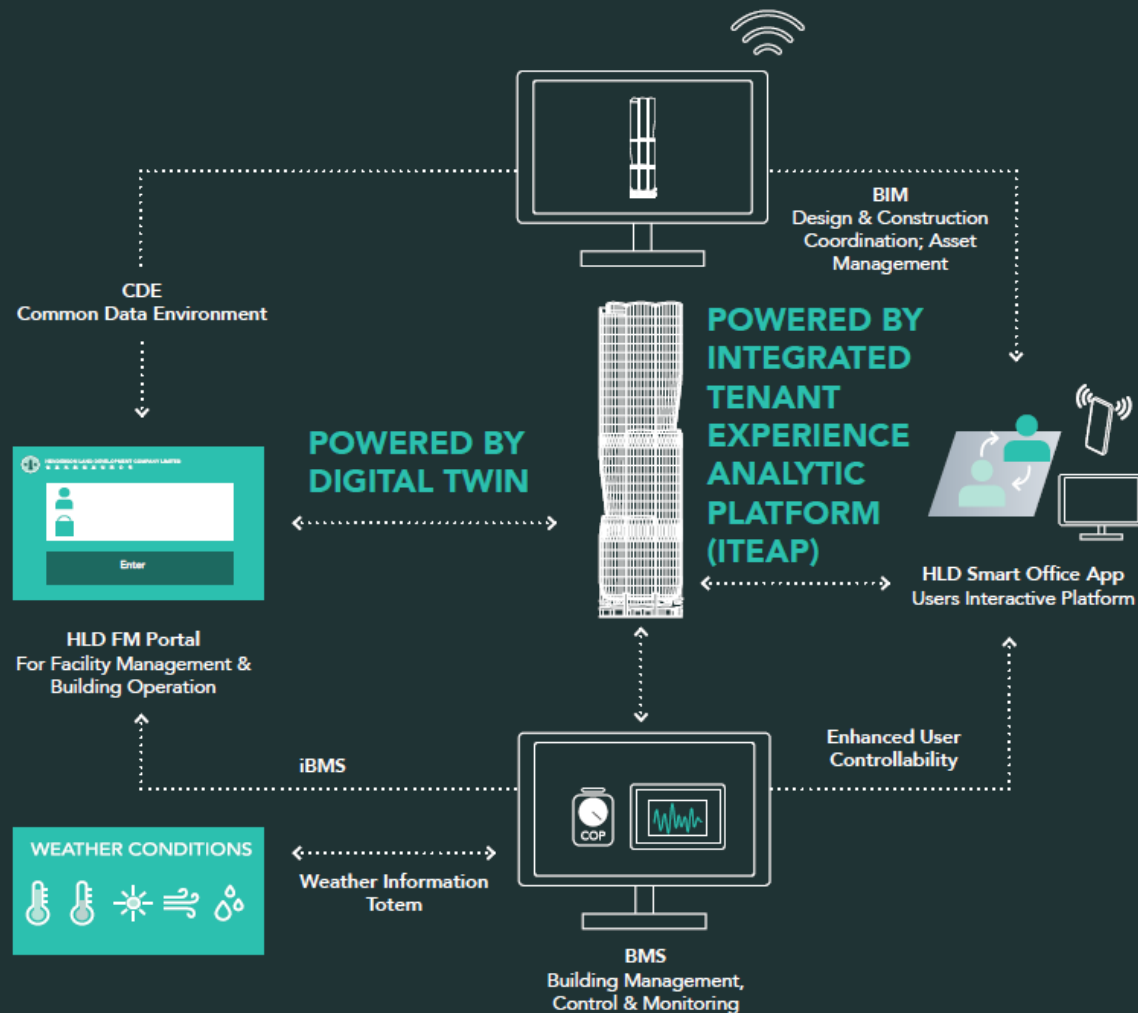


# FUTURE-proof Design with Smart Technologies

## CULTIVATE GREENER AND HEALTHIER BEHAVIOURAL CHANGE by Enhancing User Controllability and Operating Performance

A virtual smart building “twin” of the physical property will be accessible to provide tenants real-time data to determine the best ESG aspects, such as carbon and waste management.

This programme evaluates and recognises the ESG achievements with data that can be easily tracked and managed through the “Smart Office” mobile app. In turn, participants will be incentivised through a reward system. The programme encourages all participants to reinforce a sustainable culture.





# Digital Twin an integrated platform for building operation, user engagement, openBIM and GIS, asset management, ESG performance, carbon assessment, throughout the building life

## DESIGN

## CONSTRUCTION

## OPERATION

**1D**  
Control  
Parameter

Sharing of design information amongst project teams

**2D**  
Communication  
Parameter

Project communication through 2D drawings

**3D**  
Product  
Parameter

Visualization of project design, detail constructability analysis in early design stage

**6D**  
Design  
Performance

Project specific passive environmental design; Different design options analysis for decision making; Life cycle carbon analysis, building energy/ OTTV optimization

**4D**  
Time Parameter

Analysis and evaluation of construction sequence and safety measures

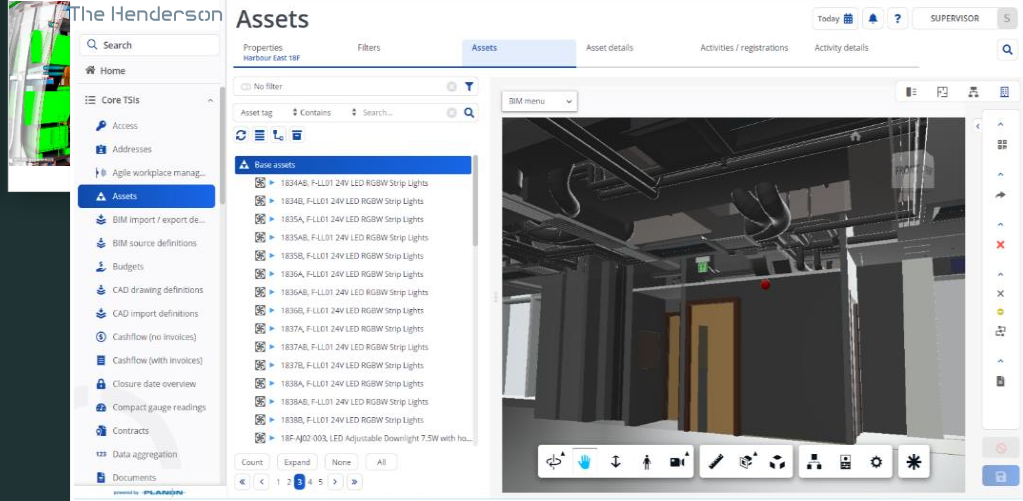
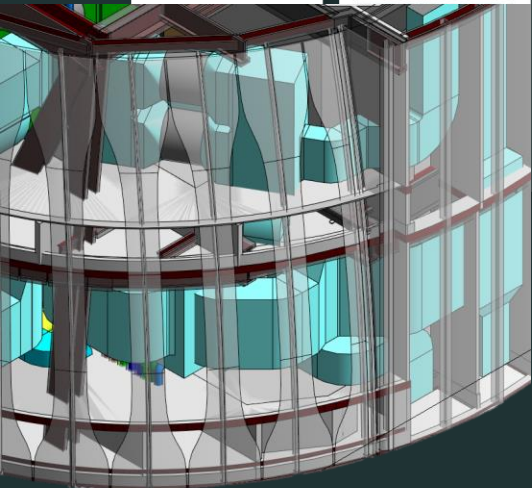
**5D**  
Cost Parameter

Budget estimate, cash flow and material delivery visualization

**7D**  
Facility  
Management

BIM-enabled BMS – FM Portal introduced for FM team to enhance the future maintenance efficiency

The Henderson



Digital-Twin



Facility  
Management  
FM Portal



Tenant  
Experience  
Data  
Analytic  
Platform



Asset  
Information  
Model AIM



Building  
Management  
System



Smart  
Building &  
IoT Sensor  
Network



Smart  
Mobile Apps

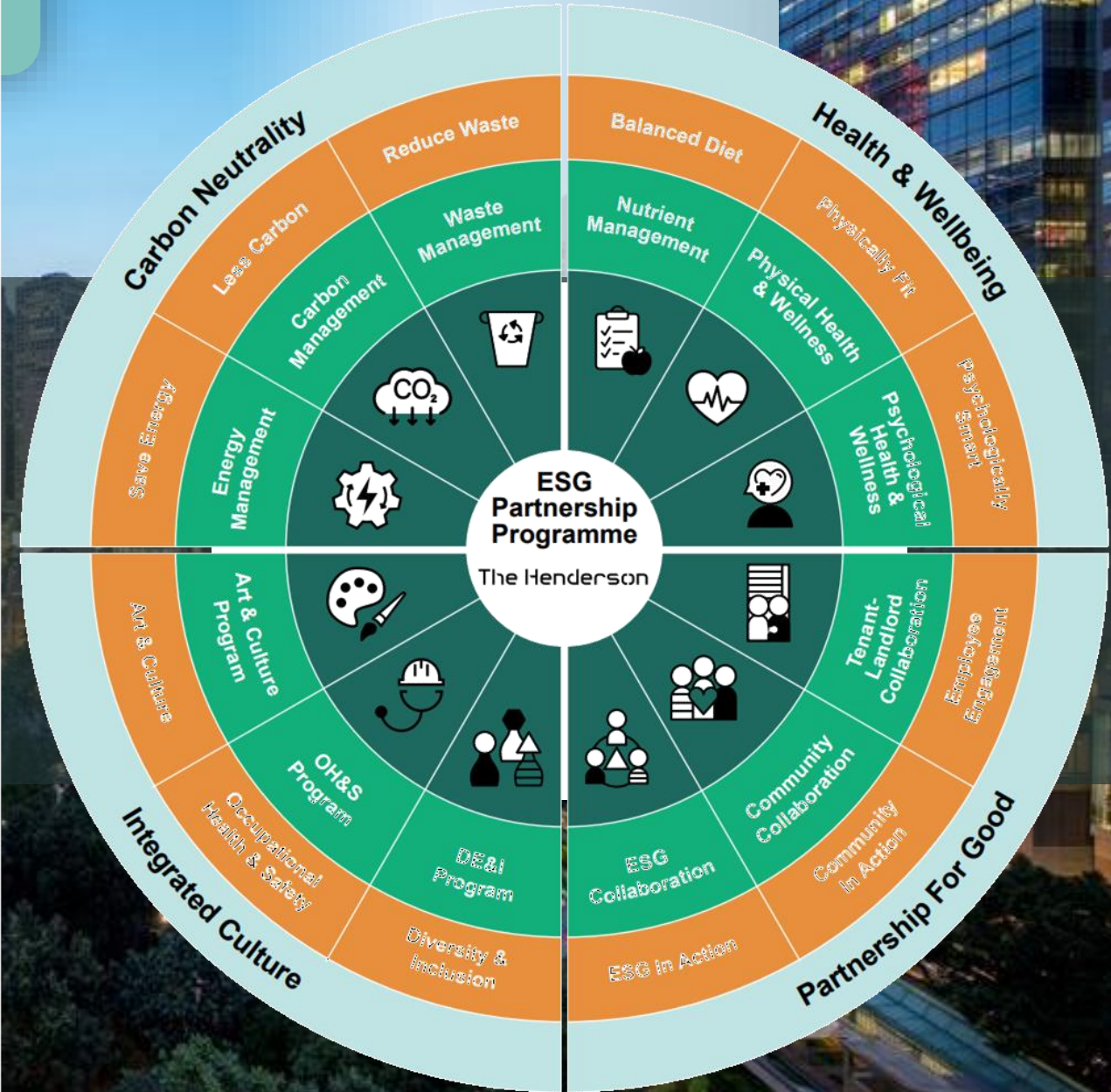




# ESG Partnership Programme

4 Core ESG Drivers

Carbon Neutrality  
Health & Wellbeing  
Integrated Culture  
Partnership for Good





# ESG Partnership Programme & Green Lease

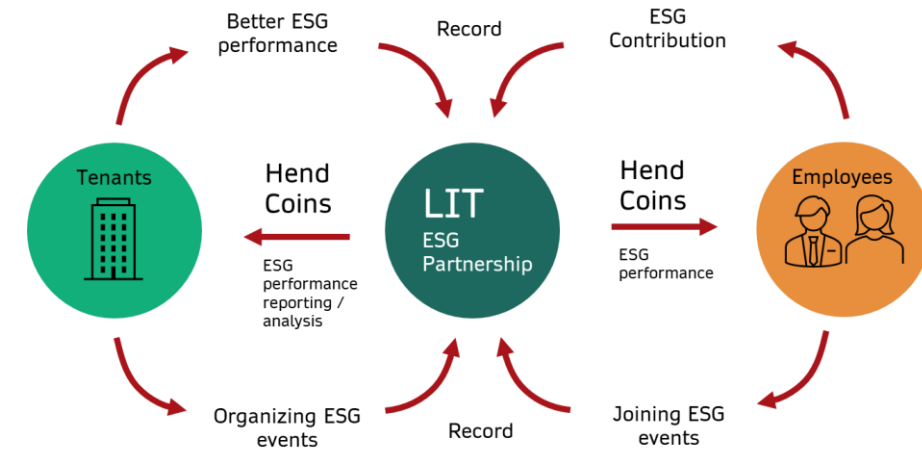
## Industry-first Landlord-Individual-Tenant (LIT) ESG Partnership Programme



- **Directly recognising their ESG achievements** with enticing rewards and incentives.
- Easily recorded and managed through the **“Smart Office” mobile app**
- One-stop platform that leverages bespoke **big data analytic system**
- Records tenants' **overall ESG performance**



## The Henderson



### Our Tenants:



THE CARLYLE GROUP





## SKY GARDEN

The 20th floor Sky Garden is a semi - outdoor recreational space with a running track , together with a network of aquaponic planting that acts as an effective biological air - purifying filter by consuming contaminants .





# Modern Oasis In The City



## GREEN HUB IN THE HEART OF THE CITY

Elevated pedestrian walkways connect 2 Murray Road to the adjacent public gardens, along with adjacent offices, shops and restaurants, as well as to two MTR metro stations and stops for major bus routes. With its breathtaking lobby suspended above the ground, to shelter courtyards and gardens cultivated with trees and plants in the centre of one of the world's busiest cities, the design creates new civic plazas that are enveloped by greenery.





# Hotelisation of the workplace

## GLASS ROOFTOP BANQUET HALL



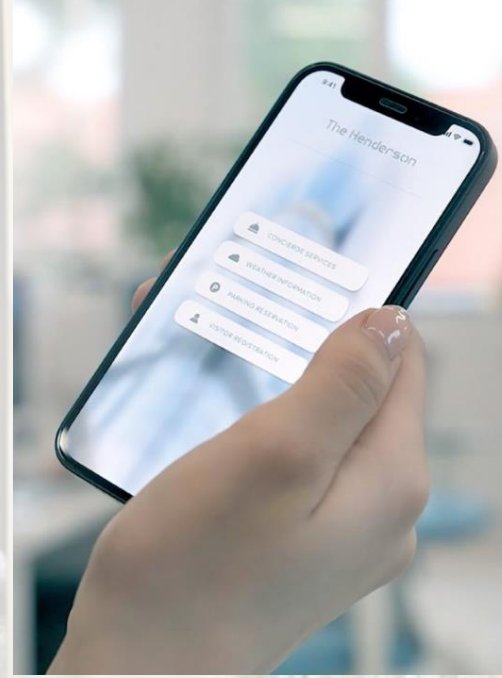
The rooftop banquet hall is a magnificent feat of modern engineering. The building's iconic glass façade swoops up to create an **8m clear glass ceiling** that floats over the column-free banquet hall, offering panoramic views all around. It is set to be one of the city's most memorable destinations, and the ideal venue for special events.

## CAR PARK



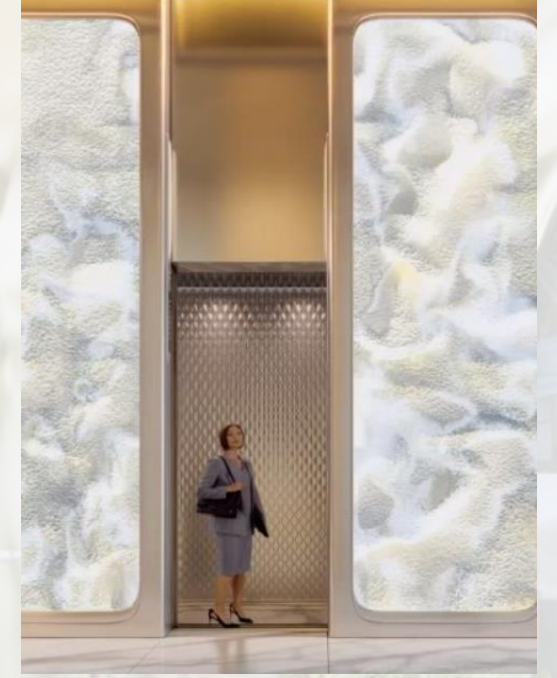
Five basement floors offer 265 car parking spaces, each of which is equipped with **EV chargers**, and 78 motorcycle parking spaces.

## BESPOKE TENANT APP



Personalise the environment at the touch of a button. The app allows users to **adjust the temperature** and **lower electric blinds**.

## STATE OF THE ART SECURITY



The Henderson has appointed UCS as consultant for the physical security system to make sure that the building and the tenant's business are always secure from external threats and any disturbance is quickly and efficiently neutralised.



HARBOUR EAST 港匯東





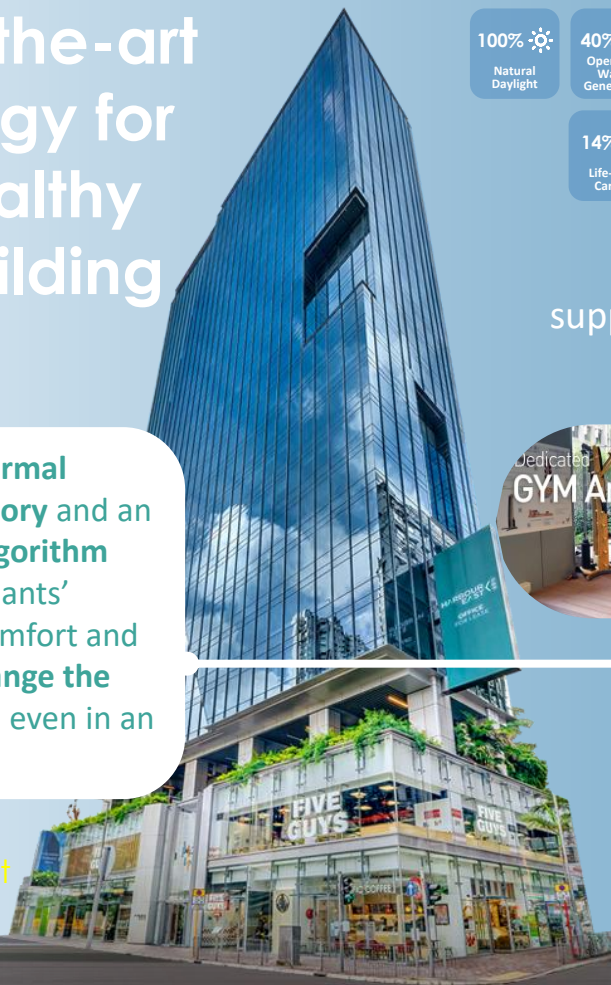
# 1<sup>st</sup> accredited “Healthy Building in HK”

Pursuing physical and psychological wellness

State-of-the-art technology for smart healthy office building

Embedded with **Thermal Sensation Index theory** and an **intelligent voting algorithm** that truly reflect tenants’ personal thermal comfort and allow tenants to **change the indoor temperature** even in an open-plan office

Harbour East



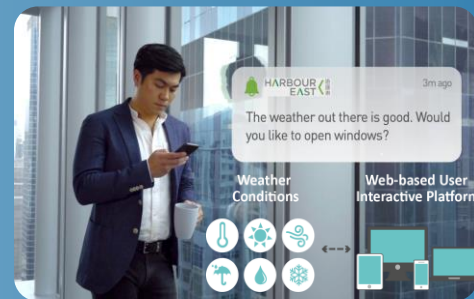
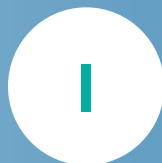
Smart Office App supported with real-time and on-site weather information



Weather Responsive Facade



Resources use reduction & better IAQ



Gym & wellbeing area with landscaped socializing space



# 1<sup>st</sup> accredited “Healthy Building in HK”

Pursuing physical and psychological wellness

## A Workplace Sparkling With Sunshine And Energy

### Green Design & Healthy Workplace

Large curtain wall with windows that can be opened to enhance natural ventilation. This allows cool bright daylight to come and create a refreshing and stress-free working environment.



Individual window control to facilitate natural cross-ventilation throughout the offices.



Daylight sensors can be linked with indoor lighting controls, allowing greater energy-savings and a pleasant office lighting ambience.



The podium garden located on the 2nd floor is a refreshing oasis, reserved for tenants to relax.



The weather station equipped at the podium garden provides real-time weather information for tenants.



Electric vehicle charging stations are available in the basement car park.



HENDERSON LAND DEVELOPMENT COMPANY LIMITED  
恒基兆業地產有限公司

# Smart features at a glance

H Zentre is purpose-built as a health and well-being hub – **a first for a commercial building in Hong Kong** – and is housed with green and sustainable features to enhance customers' user experience.

This 340,000-square-foot commercial complex seamlessly combines innovation and sustainability and embodies an innovative dining, wellness and retail trade mix within a one-tower development.



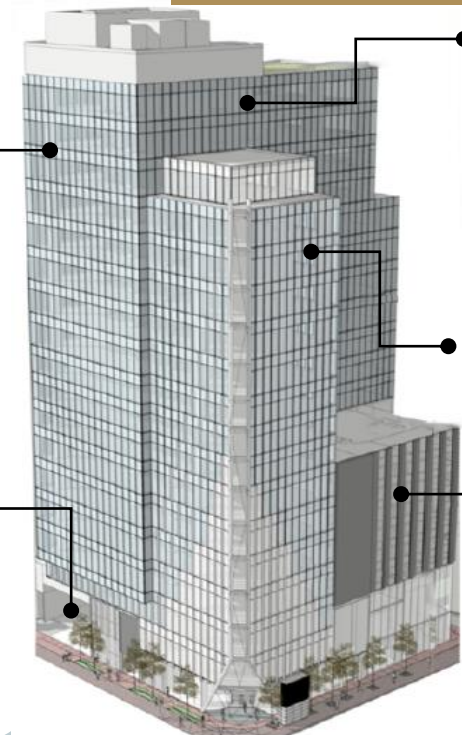
## Green and Sustainable Features

- Solar desiccant to control humidity
- **Extensive greenery** provides a pleasant environment
- Vegetation irrigation by rain water recycling system
- **Electricity consumption monitoring system**
- 71 nos. of EV Charger



## Mobile Application for Carpark Users

- **Real-time vacancy information and carpark space reservation**
- Interior navigation and car location search
- Carpark payment



## First Purpose-built Medical Hub in Commercial Building

- Dedicated **emergency power support** and 24-hour chilled water supply
- Designated air intake and exhaust to minimise cross-contamination
- **Individual plumbing and drainage stacks** for medical floors



## Health and Well-being Design

- **Smart lavatories** with live news and weather information
- **Touchless access system** for washroom doors and sanitary fittings
- **Air purification system**, air pressure and odour sensors enhance indoor air quality and hygiene
- Water leakage detection system



## 5G-ready Mobile Services

Enabling massive connections, high speed and low latency mobile communication and supporting big data applications



green building award 2016  
環保建築大獎



HENDERSON LAND DEVELOPMENT COMPANY LIMITED  
恒基兆業地產有限公司



**Thank You!**

**The Henderson**

THE SUSTAINABLE & LIVABLE  
FUTURE SMART WORKPLACE