

Next Building Generations

Future | Value | + Innovate

회사 및 서비스 소개

Design & Architect & Asia Networks



1.2 설립 배경

1. Founded in 2021 in Korea
2. Environmentally Sustainable Design Consultancy & Technology Transfer
3. Local office of **Building System and Diagnostics Pte Ltd(BSD)** in Singapore, which is a regional consultancy firm in Southeast Asia.
 - Founded in 2003 in Singapore
 - Spin-off from a research project between **NUS** and **BCA**
 - Presence in China, Singapore, Malaysia, Myanmar, and Korea
 - Over 800 projects -- meeting energy and environmental footprint targets.
 - Experienced team. Over 80 international & local professional engineers regionally
 - Independent energy and environmentally efficient design consultancy services + Building physics and engineering company
 - **SGBC accredited** – Environmentally Sustainable Design

1.3 PROJECT KEY MEMBERS- LIASION



TAN Phay Ping

Co-founder and Managing Director

MSc. (Bdg), BSc Bdg (Hons),
LEED AP, GMP, GBIF, EarthCheck Auditor
CEM, Certified Energy Auditor
SGBC Board Member (2014-2019) and Technical Coordinator
BCA Taskforce Committee Member (CFD and Sustainable Management)
Lecturer for Green Mark Manager course
BCA Green Advocate 2012
Green Mark Review Committee Member 2017-2020

More than 17 years old of experience in green buildings. BSD provides consultancy services that integrate environmental, energy management, sustainability, building performance simulations, research and development, knowledge transfer and creative disciplines. He led the Company to become one of the leading consulting firms in its field with offices in Singapore, Malaysia and China and with a track record of more than 400 projects. Phay Ping is responsible for the Company's day-to-day operations as well as charting the Company's directions and visions. He is also personally involved in many of the Projects that BSD undertakes, of which he has successfully led a number of these to achieve a high level of sustainability.

- Defu Industrial Ciity
- Wisma Geylang Serai
- PJ Icon City
- Changi Prisons Complex
- Asia Square Tower 1 and Tower 2
- NTU Campus Environmental Planning
- Nusa Jaya Tech Park
- 313@ Somerset
- Westpark Biz Park
- JTC Space @ Tampines

1.3 PROJECT KEY MEMBERS- TECHINCAL DIRECTION



YONG Ping Quen
Director and Partner

MSc. (Bdg Sci), BEng (Hons),
LEED AP, GMP, GBIF.
CEM, Certified Energy Auditor
BCA Energy modeling assessor, BCA Mechanical Services Committee
Member. Lecturer for GMM/ GMP Energy modeling module

More than 17 years old of experience in energy modeling, energy audits, energy efficient ACMV design advisory, environmentally sustainable design advisory, Green Mark compliance and advisory and building performance modeling. More than 300 project experiences in providing Green Mark, LEED, energy and environmental design and building performance modeling for mixed use, hospitality, commercial, retail, industrial developments and data centers. Specialises also in the energy efficient design for district cooling plants. Certified Green Mark Professional, BCA Registered Energy Auditor, Certified Energy Manager and committee member for various task BCA Green Mark task forces. Course trainer for Green Mark Professional course.

- Mapletree Business City 1
- Mapletree Business City 2
- Toll City
- Panalpina
- Asia Square Tower 1 and Tower 2
- JTC Space @ Tuas
- Cleantech Park 4
- National Instruments plant
- CEVA Logistics Hub
- Tech-link Logistics Hub

1.3 PROJECT KEY MEMBERS



KIM DONGKYUN

Director in Korea Office

March Env Planning, BArch Eng,
BCA Energy modeling assessor, BCA Mechanical Services Committee
Member. Lecturer for GMM/ GMP Energy modeling module

Kim은 건축환경 분야의 학사와 석사를 취득하였고, 건축물 에너지 분야의 전문가입니다. 그는 건축 환경 디자인과 에너지 효율적 건물 디자인에 대한 경험이 많고, 싱가포르 내에서 총 150여개 이상의 다양한 프로젝트를 수행한 경험이 있습니다. 그는 건축 물리 분야에 특화되어, 건물의 열전달, 공기역학 등에 능숙하여 이를 통해 친환경 건물을 만드는 데 기여를 하고 있습니다. 대표적인 프로젝트로는 ITE Central, Asia Square Towers, Keppel Data Center, Ministry of International Trade and Industry building (Malaysia), Damansara City (Malaysia) 등이 있습니다. 그는 또한 10년 이상 경험을 통해서, 싱가포르 팀의 건축물리, 에너지 분야를 이끌었고 지금은 한국지사의 공동대표로서 그 역할을 이어가고 있습니다. 현재 건설청에서 에너지 모델링 심의 위원으로 위촉되어 싱가포르 에너지 효율적 건물의 심의를 진행하고 있습니다.

- Mapletree Business City 1
- Mapletree Business City 2
- Toll City
- Panalpina
- Asia Square Tower 1 and Tower 2
- JTC Space @ Tuas
- Cleantech Park 4
- National Instruments plant
- CEVA Logistics Hub
- Tech-link Logistics Hub

1.4 BSD's SERVICES

ESD Consultancy
Smart & Sustainable
Master Planning
Building Physics
Carbon Consultancy
Applied Research
and
Development(R&D)
Green Building
Workshop

- ◆ Energy and environmental design advisory
- ◆ Energy management
- ◆ MEP Design Optimization
- ◆ Building performance modeling
- ◆ Green Building certification
- ◆ Commissioning and POE survey



2.1 Our Service (국내외 건축 인증제도)

1 국내 건축물 인증 컨설팅

(1) 비주거 & 주요 인증기준

- 건축물의 에너지절약설계기준
- 건축물에너지효율등급 인증
- 제로에너지건축물 인증
- 녹색건축인증(G-SEED)
- 장애물 없는 생활환경(BF) 인증

(2) 주거건축물 인증기준

- 에너지절약형 친환경주택의 건설기준
- 건강친화형 주택 건설기준
- 장수명 주택 건설·인증기준
- 공동주택 결로 방지를 위한 설계기준
- 범죄예방(CPTED) 건축기준

2 국외 건축물 인증 컨설팅

(1) 미국그린빌딩인증(LEED)

- 미국 녹색건축위원회(USGBC)의 국제 녹색건축인증제도



LEED
CERTIFIED

40 - 49



LEED
SILVER

50-59



LEED
GOLD

60-79



LEED
PLATINUM

80+

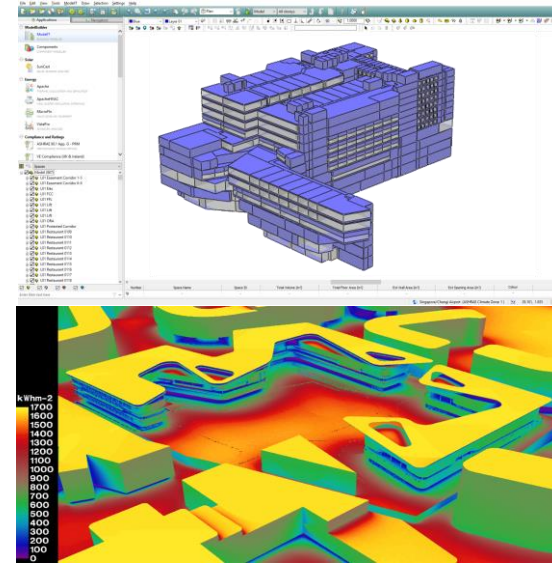
(2) 싱가포르그린빌딩인증(GREENMARK)

- 싱가포르 녹색건축위원회(SGBC)의 국제 녹색건축인증제도

2.1 Our Service (건축환경성능분석)

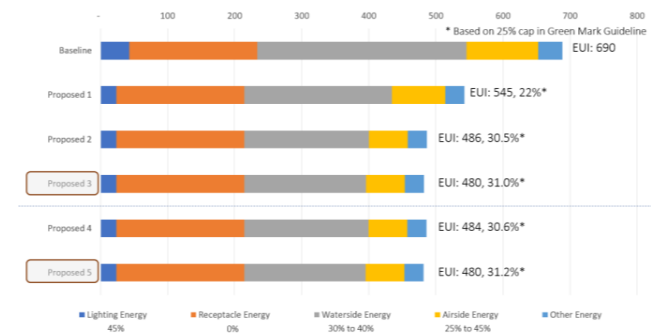
3 건축환경성능분석

- (1) 열환경 분석
 - 건물부하 및 에너지소비량 / 에너지자립률 분석
- (2) 빛환경 분석
 - 일조 / 자연채광 분석
 - 조명설계 시뮬레이션
- (3) 기류 분석
 - CFD프로그램을 활용한 기류환경 분석



4 Special Consultancy

- (1) 친환경건축 · 빌딩에너지 컨설팅
 - 친환경계획 및 에너지계획 등 친환경설계 통합솔루션 제안
- (2) R&D 연구과제
 - 공공정책 및 기술 제안 연구과제 및 용역 수행



2.1 Our Service (연구개발)

5 연구개발(R&D)

(1) 공공 & 민간 연구과제

- 건물에너지 관련 공공 연구과제 수행
- 국내외 다수 연구과제 참여 및 제안



2.1. 주요 업무 (연구개발)

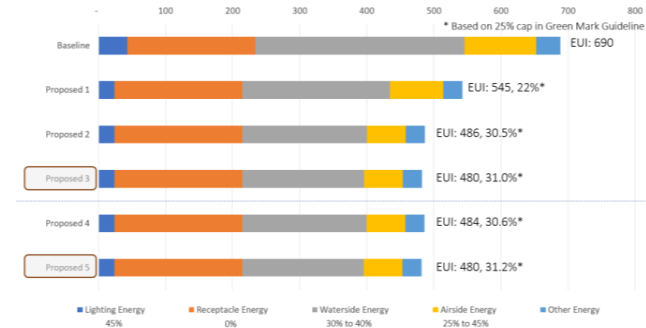
4 Special Consultancy

(1) 친환경건축 · 빌딩에너지 컨설팅

- 친환경계획 및 에너지계획 등 친환경설계 통합솔루션 제안

(2) R&D 연구과제

- 공공정책 및 기술 제안 연구과제 및 용역 수행



5 연구개발(R&D)

(1) 공공 & 민간 연구과제

- 건물에너지 관련 공공 연구과제 수행
- 국내외 다수 연구과제 참여 및 제안

용역 수행	용역 수행 보고서	용역 수행 보고서	용역 수행 보고서
「공동주택 거주 사용 특성」	동남아 지역 스마트온실, 수 냉방 패키지 성능평가 단 작성을 위한 사례	공동주택 건축물 대 통계데이터 기반 에너지 행태 분석 방법론 기	건축물에너지사용 행태분석을 위한 재실자수 예측방법론 개발기획
2022년 10월 20일	22년 10월 20일	22년 11월 25일	22년 09월 05일
주식회사 다안솔	주식회사 다안	주식회사 다안솔	주식회사 다안솔루션

3. 프로젝트 이력

수행 연구과제

NO	수행 연구 과제	비고
1	공동주택 거주 특성별 건물에너지 사용 특성 데이터 현장조사 (한국건설기술연구원, 2021.09 ~ 2021.11)	
2	건축물에너지사용 행태분석을 위한 재실자수 예측방법론 개발기획 (한국건설기술연구원, 2022.05 ~ 2022.09)	
3	공동주택 건축물 대상 통계데이터 기반 에너지 사용량 행태 분석 방법론 개발(한국건설기술연구원, 2022.06 ~ 2022.11)	
4	동남아 지역 스마트온실, 수직농장 적용 냉방 패키지 성능 평가 단체표준(안) 작성을 위한 사례조사 (한국건설생활환경시험연구원, 2022.07 ~ 2022.10)	

수행 프로젝트 (인증 관련- LEED)

NO	Project description	Country	LEED	Award	Scope	Year of Award
1	Tampines Grande office building (400,000 sqft)	SG	NC	GOLD	Energy modeling for LEED	2009
2	HSBC building in K.L. (200,000 sqft)	MY	C&S	GOLD	LEED Advisory	2010
3	AUTODESK office at Solaris	SG	CI	Platinum	LEED Advisory (Contractor)	2011
4	BHP Bilinton (210,000 sqft) office Marina Bay Financial Center	SG	CI	Gold	LEED Advisory (Contractor)	2011
5	Asia Square Tower 1 Grade A office building and retail podium (GFA~ 1 million sqft)	SG	C&S	Platinum	LEED Advisory	2012

4. 프로젝트 이력

수행 프로젝트 (인증 관련- LEED)

NO	Project description	Country	LEED	Award	Scope	Year of Award
6	Becton Dickinson office (223,000 sqft) at Icon building	SG	CI	Certified	LEED Advisory, LEED CxA	2012
7	P and G Singapore Innovation Center	SG	NC	Silver	LEED Advisory	2012
8	Shell U-village, Cyberjaya, K.L (323,000 sqft)	MY	CI	Platinum	LEED Advisory, LEED CxA	2012
9	Integra Office Tower (GFA: 777,000 sqft) K.L	MY	C&S	Platinum	LEED Advisory	2013
10	Google Office Level 29/ 30 (63,000 sqft) at Asia Square, Towers 1	SG	CI	Platinum	LEED Advisory	2013
11	Standard Chartered Bank (200,000 sqft) in Changi Business Park Singapore	SG	CI	Gold	LEED Advisory	2013
12	Standard Chartered Bank office (430,000 sqft) in Marina Business and Financial Centre, Singapore	SG	CI	Silver	LEED Advisory	2013
13	Bank of Amercia (183,000 sqft) at 50 Collyer Quay	SG	CI	Gold	LEED Advisory	2013
14	Bloomberg Office, Kuala Lumpur	MY	CI	Gold	LEED Advisory	2013
15	FacilityLink office (8300 sqft)	SG	CI	Platinum	LEED Advisory	2013
16	National Instruments plant with office block in Penang, Malaysia	MY	NC	Silver	LEED Advisory, LEED CxA	2014
17	Sunway Montana Sales Gallery in Malaysia (24,000 sqft)	MY	NC	Platinum	LEED Advisory	2014
18	CEVA Logistics Hub (GFA 42,000 sqft)	SG	NC	Platinum	LEED Advisory	2014
19	Cisco office (12,000 sqft)	SG	CI	Gold	LEED Advisory, LEED CxA	2014
20	Google Office Level 31 (31,000 sqft) at Asia Square, Towers 1	SG	CI	Platinum	LEED Advisory, LEED CxA	2014
21	T27 Keppel Data Center	SG	C&S	Gold	LEED Advisory	2014
22	Asia Square Tower 2 Grade A office and hotel building with retail podium (GFA~ 900,000 sqft)	SG	C&S	Platinum	LEED Advisory	2015
23	Shell New Data Center and Head Office Extension, Brunei	Brunei	NC	Gold	LEED Advisory, LEED CxA	2015
24	Ken TTDI Office building in Malaysia	MY	C&S	Platinum	LEED Advisory	2018
25	Damansara City Office Tower B, K.L	MY	C&S	Gold	LEED Advisory	2016

4. 프로젝트 이력

수행 프로젝트 (인증 관련- LEED)

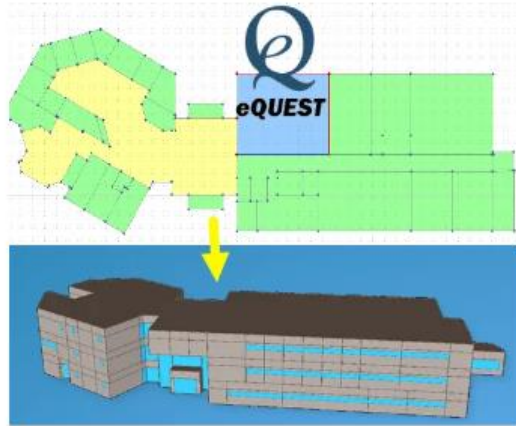
NO	Project description	Country	LEED	Award	Scope	Year of Award
26	Damansara City Office Tower A, K.L	MY	C&S	Gold	LEED Advisory	2016
27	7-Storey Data Centre Facility, Singapore (GFA: 384,324 sqft)	SG	NC	Gold	LEED Advisory	2016
28	Horizon Lakeview in Guangzhou Knowledge City (total 2600 units)	China	NC	Gold	LEED Advisory	2016
29	Horizon Lakeview Sales Gallery	China	NC	Gold	LEED Advisory	2016
30	Jewel Changi Airport	SG	C&S	Gap analysis	LEED Advisory	2017
31	Tech-link Logistics Hub, GFA~ 93,425 sqm	SG	NC	Gold	LEED Advisory	2017
32	Mapletree Business City 2 (GFA 124,884 sqm)	SG	C&S	Gold	LEED Advisory	2017
33	Toll City Logistics Warehouse (GFA~ 100,000 sqm)	SG	NC	Gold	LEED Advisory	2018
34	Boston Scientific Plant GFA~30,000 sqm	MY	NC	Gold	LEED Advisory	2018
35	Hewlett Packard Office Fitout (140,000sf)	SG	CI	Gold	LEED Advisory	2017
36	PJ Icon City	MY	NC	Gold	LEED Advisory	On-going
37	PJ Icon City-Phase 1B, K.L	MY	ND	Precert Gold	LEED Advisory	On-going
38	Boutique Office Tower 5 in PJ Icon City, K.L	MY	C&S	Precert Gold	LEED Advisory	On-going
39	U.A.B Building, Penang	MY	NC	Certified	LEED Advisory	2018
40	Project Optimus Data Center	SG	NC	Gold	LEED Advisory	2019
41	NUS Yale Campus, Singapore	SG	EBOM	Gap analysis	LEED Advisory	2020
42	DB Schenker warehouse, Singapore 7 sty warehouse (GFA~ 51,470sqm)	SG	NC	Gold	LEED Advisory LEED CxA	2020
43	Google Jakarta	SG	CI	Silver	LEED Advisory	2019
44	Afro Asia Green Office tower (GFA~17,000 sqm, 19 sty)	SG	NC	Gold	LEED Advisory LEED CxA	2021
45	Residential tower at TRX, KL (GFA~775,000 sqft)	MY	NC	Certified	LEED Advisory LEED CxA	On-going

4. 프로젝트 이력

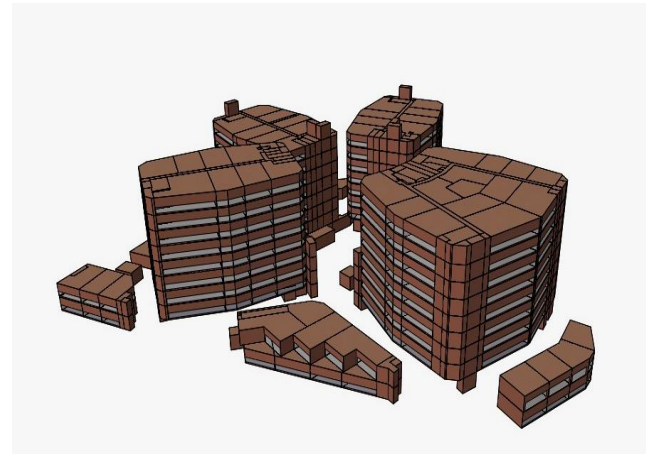
수행 프로젝트 (인증 관련- LEED)

NO	Project description	Country	LEED	Award	Scope	Year of Award
46	Panalpina Warehouse, (GFA~322,766 sqft)	SG	NC	Gold	LEED Advisory	2020
47	Ikano Retail Center (GFA~194,800 sqm)	MY	NC	Gold	LEED Advisory	2021
48	Citibank Office fitout, 8 floors (GFA~142,000 sqft)	MY	NC	Gold	LEED Advisory LEED CxA	2020
49	Amazon@ Asia Square Tower 1 (GFA ~ 100,000 sqft)	SG	CI	Gold	LEED Advisory LEED CxA	2021
50	Mapletree Anson	SG	EBOM	Gold	LEED Advisory	2021
51	Micron Plant Batu Kawan (180,000 sqm)	MY	NC	Gold	LEED Advisory	On-going
52	Smith & Nephew Batu Kawan	MY	NC	Gold	LEED Advisory	On-going
53	Texas Instrument Melaka	MY	NC	Certified	LEED Advisory	On-going
54	성수동2가 oo업무시설	S.Korea	NC	Gold	LEED Advisory LEED CxA	On-going

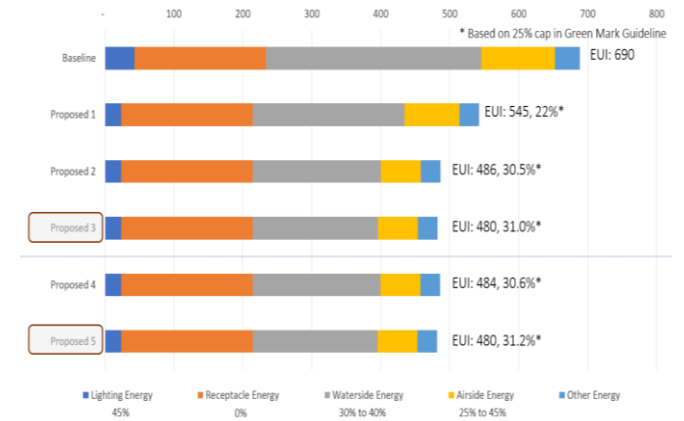
주요 업무 (건축 환경 시뮬레이션분석) Building Performance Simulation



에너지분석 1



에너지분석 2



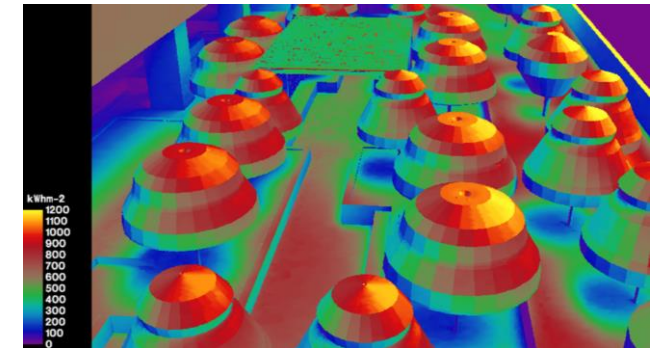
에너지분석 3



채광성능 분석 프로그램

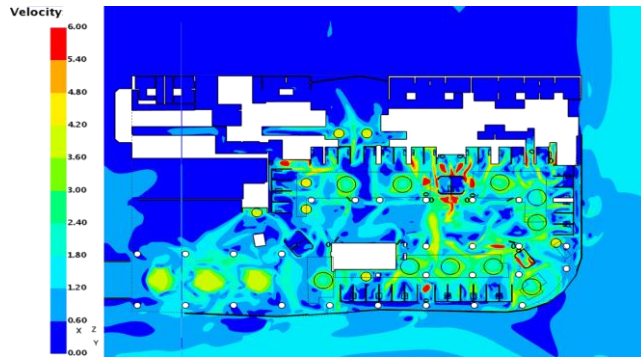
	Glass VLT 30%	
	DA: Daylighting Performance	Udle: Glare Performance
Simulation Result		
DA / Udle Percentage	47.0%	10.0%
DA / Udle Area	1,657	351
Daylit Area	1,306	

채광성능 분석

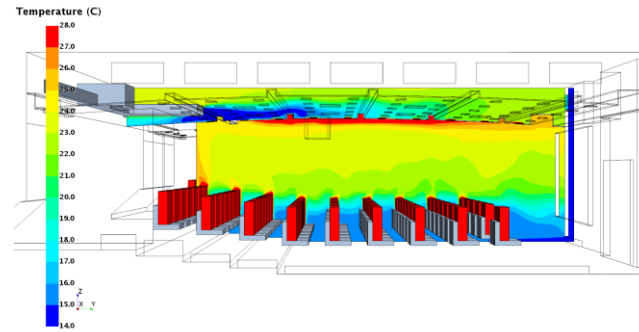


일조성능 분석

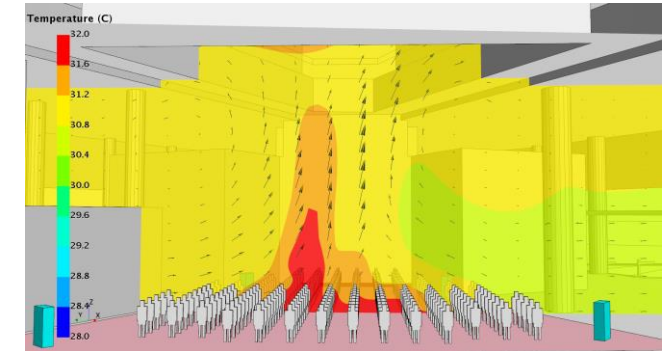
주요 업무 (건축 환경 시뮬레이션분석) Building Performance Simulation



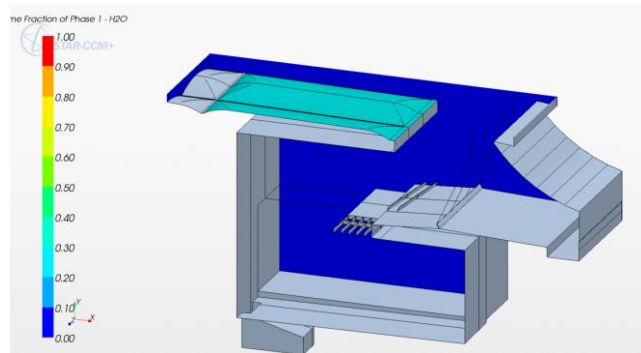
열적쾌적성 분석 1
(NV/Fan/Heat)



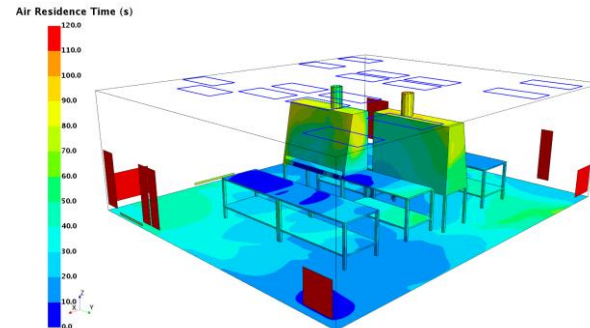
열적쾌적성 분석 2
(기계환기)



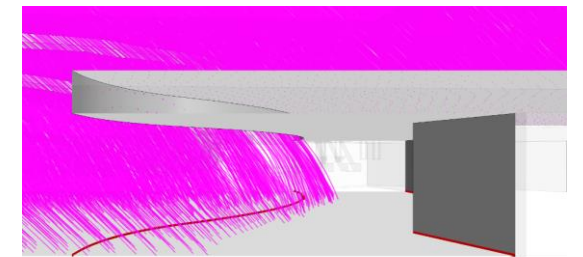
열적쾌적성 분석 3
(보조환기)



빛물흐름 설계

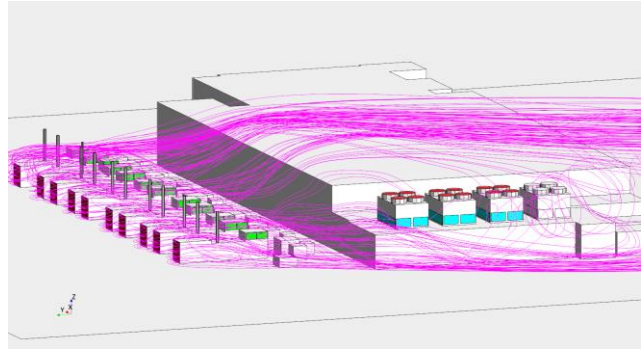


외부, 내부 환기 분석
(공기 교체/신선도 등)

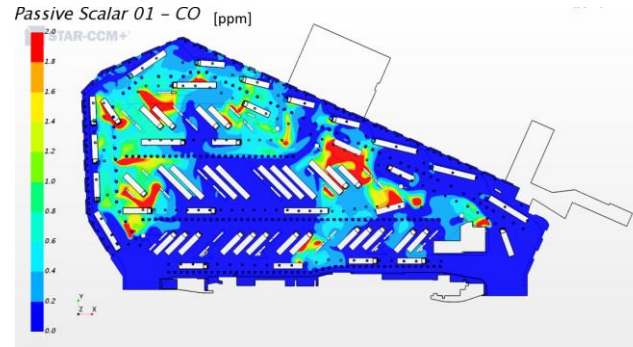


비바람 시뮬레이션분석

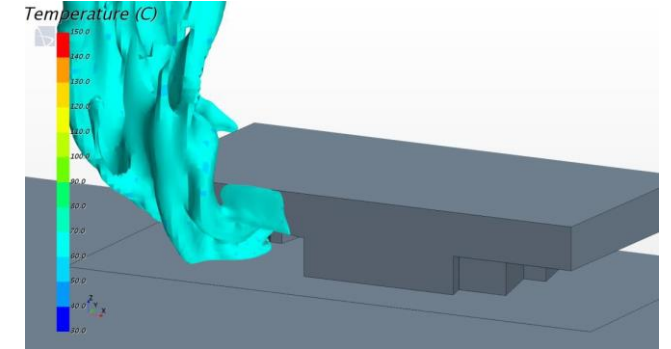
주요 업무 (건축 환경 시뮬레이션분석) Building Performance Simulation



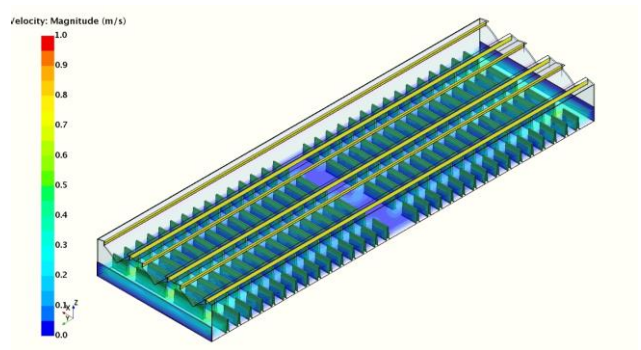
발전기 배기 분산 설계



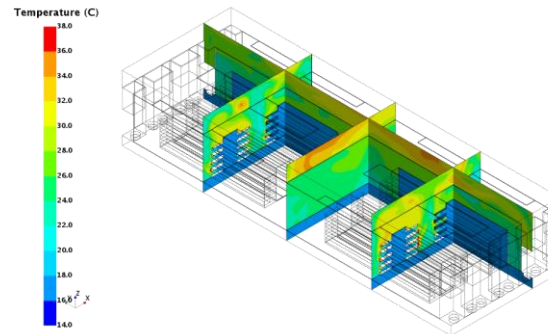
오염물질 분산 설계



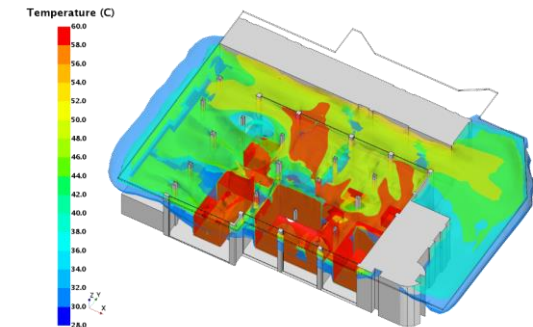
화재 및 연기 분산 설계



실내 농장 시스템 분석



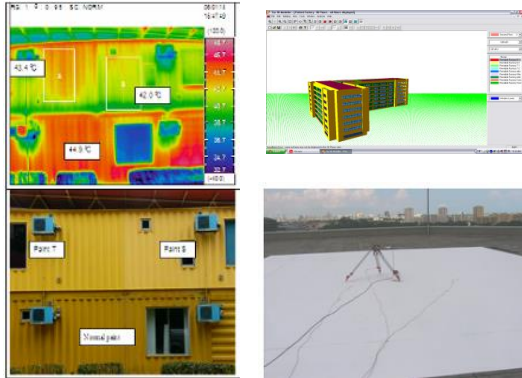
방열 분산 설계 1
(데이터센터)



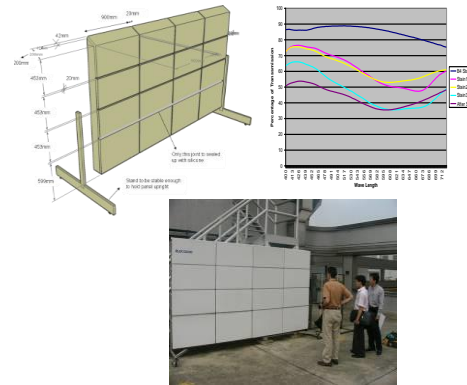
방열 분산 설계 2
(변전소)

5. 연구수행이력 (Government Funded in Singapore)

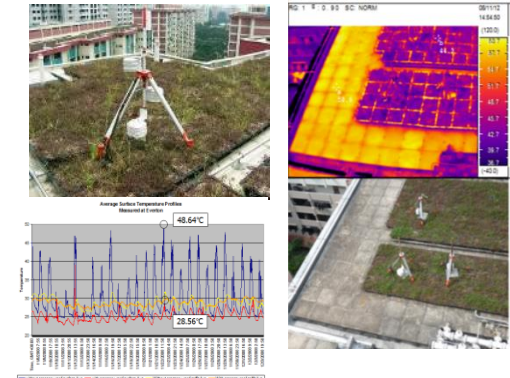
2005: Energy saving effects of cool paints for exterior applications



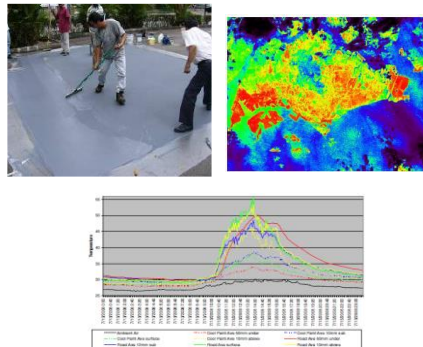
2006: Anti-staining photocatalytic coatings



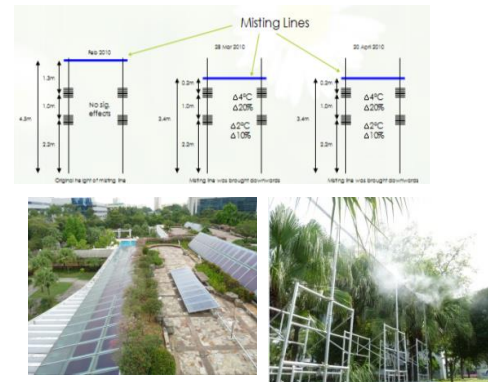
2007: Effects of rooftop gardens



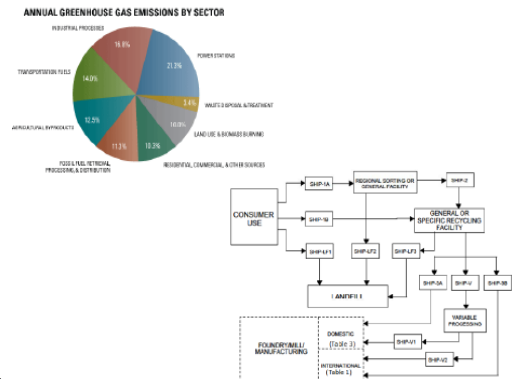
2008: Temperature reduction effects of cool pavement coating



2009: Temperature reduction effects of solar misting systems



2010: Carbon footprinting calculator

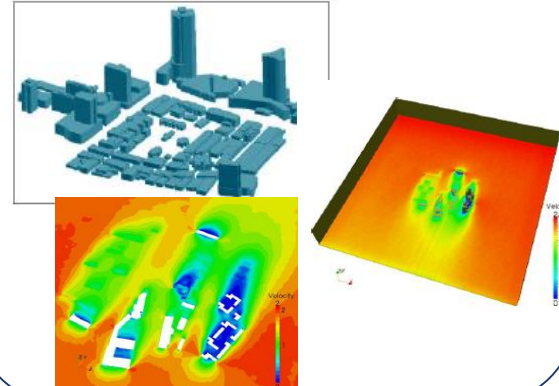


5. 연구수행이력 (Government Funded in Singapore)

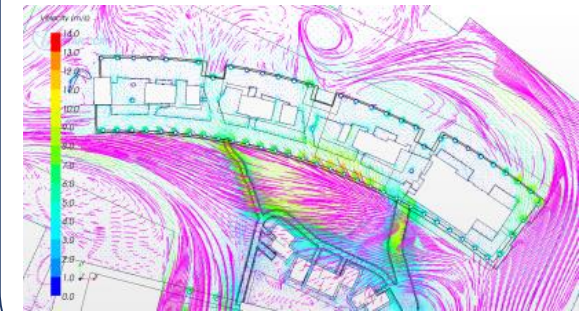
2012: Cool Roof Survey



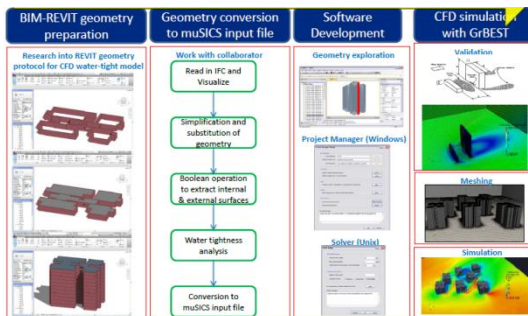
2013: Development of airflow simulation software



2014: Wind driven rain research

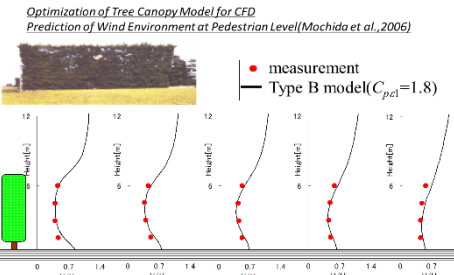


2015: Development of CFD tool-Phase 2



2015: Development of CFD, Thermal Comfort and Wind Driven Rain for Green Mark

Comparison of vertical velocity profiles behind tree ($C_{pe1}=1.8$)



2016: Development of CFD criteria for Green Mark

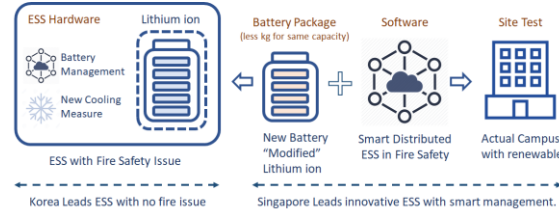


5. 연구수행이력 (Government Funded in Singapore)

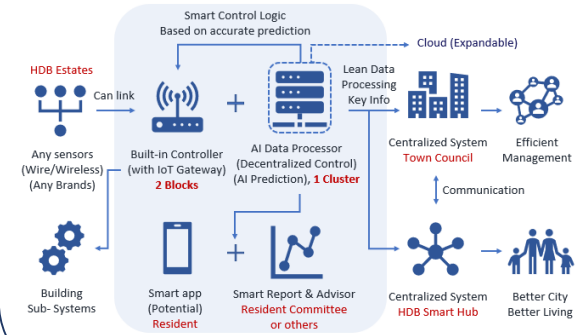
2019: Independent Green Mark Reviewer



2019: EMA Energy Storage System (BSD: AI-driven Control)

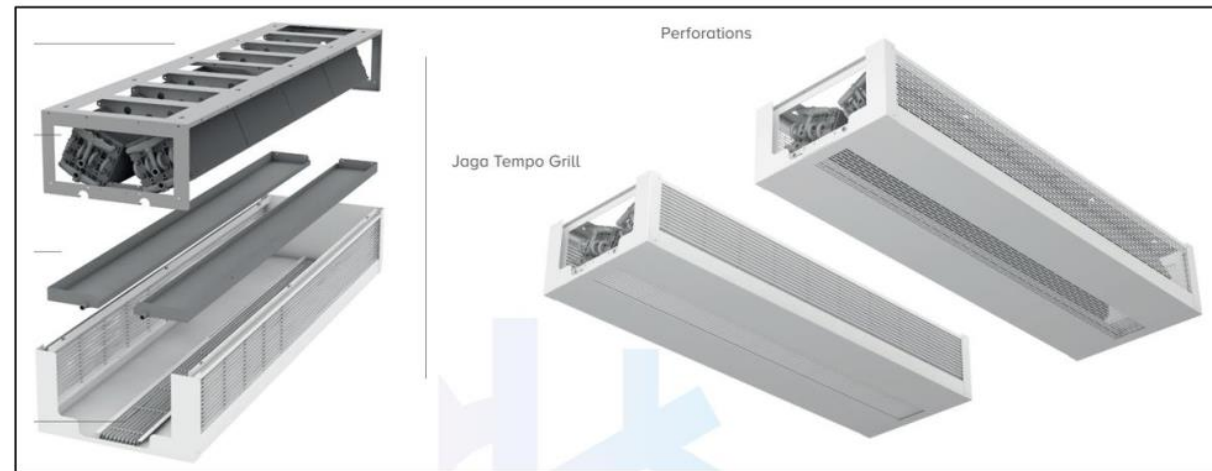


2020: HDB Smart Estate Mgt (pending)



2020: Alternative Cooling Technologies

	VARC Panels	Radiant Panels
Schematic		
Surface Temp	6 Degree C	16 Degree C
Pressure	6 mbar	1,000 mbar
Effective Area	80% for Hole (of 80% of ceiling)	100% for Surface (of 80% of ceiling)
Radiant Heat ⁽¹⁾	76 W/m ²	45 W/m ²
Convective Heat ⁽²⁾	0 W/m ²	19 W/m ²
Total Cap	76 W/m²	64 W/m²
Comparison	<ul style="list-style-type: none"> ✓ No Condensation ✓ 19 % Better Capacity ✓ Adaptable to Mixed Ventilation Mode 	<ul style="list-style-type: none"> • Condensation (<16 C) • Need Infiltration Control
ROI	3.9 years (Baseline from ACT RFP)	-



Appendix

프로젝트 Reference

Design & Architect & Asia Networks

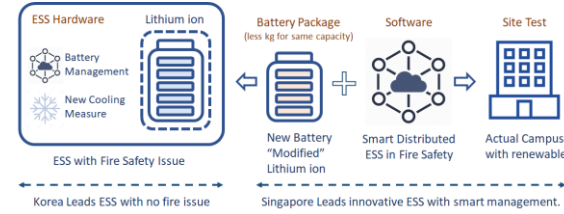


1.6 APPLIED RESEARCH & DEVELOPMENT (Government Funded)

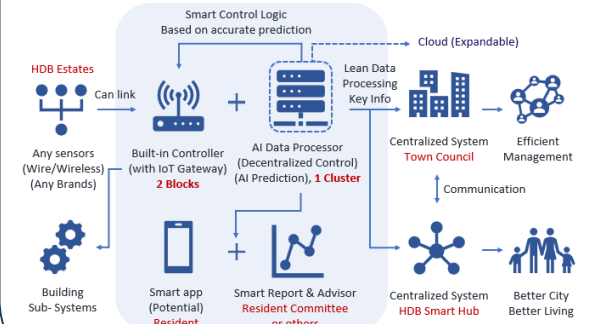
2019: Independent Green Mark Reviewer



2019: EMA Energy Storage System (BSD: AI-driven Control)

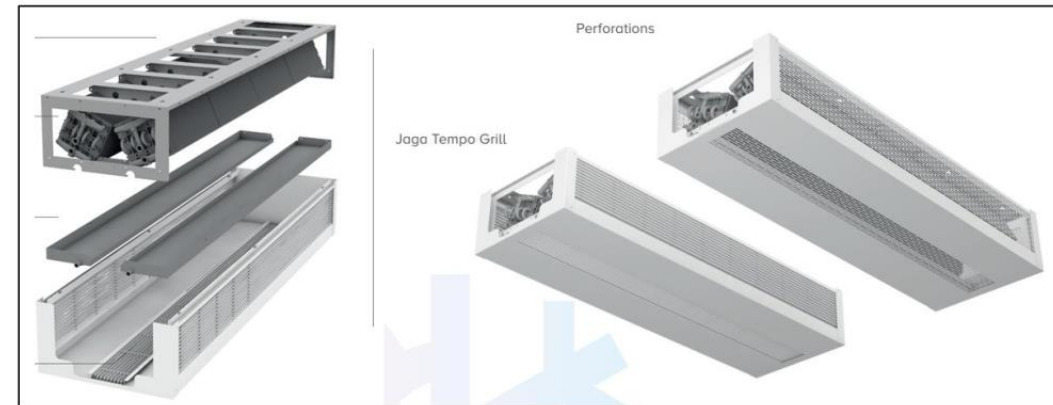


2020: HDB Smart Estate Mgt (pending)



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Appendix

프로젝트 Reference

Design & Architect & Asia Networks



5 Relevant Project Reference

ASIA SQUARE TOWERS

LEED Platinum & Green Mark Platinum



Green Features :

1. Estimated energy savings: 5,840,460KWh/yr and 4,285,678KWh/yr and water savings: 40,982m³/yr and 29,634m³/yr.
2. Passive Low Energy design for building facade to achieve ETTV of 35.1W/m². Natural ventilated city room instead of by means of active system.
3. Enthalpy heat recovery wheel to recover cooled exhausted air for fresh air pre-cooling at PAHU.
4. Integrated heatpipes design for cooling coil at PAHU for efficient dehumidification and temperature control.
5. Photo detectors integrated with perimeter lighting control to turn off lighting when interior lux level exceeds design requirement.
6. Sunpipes to harvest daylighting into carpark podium and roof stairs.
7. Incorporated 192KWp/53Wp of Solar Photovoltaic panel to harvest solar energy for electricity production at roof.
8. Singapore's first On-site bio diesel plant to convert waste cooking oil for bio diesel production.

5 Relevant Project Reference

MARINA BAY SANDS INTEGRATED RESORT Green Mark Platinum

Green Features:

1. Extensive use of LED light.
2. SGLS certified products (Ceiling, door, drainage cell, paint, partition board raise floor pedestal, timber decking, water proofing and fire-related board for duct cladding.
3. Rainwater harvesting for toilet flushing.



5 Relevant Project Reference

CHANGI AIRPORT TERMINAL 4

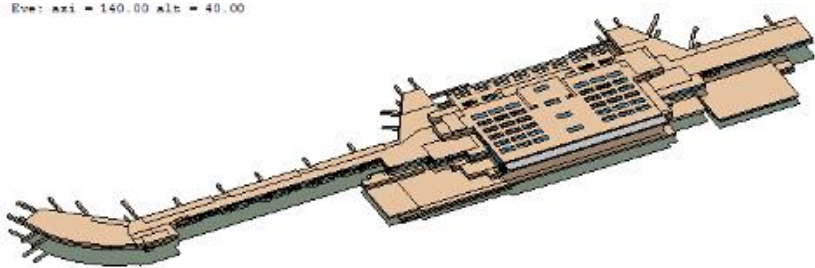
Green Mark Gold^{Plus}

Green Features :

1. High performance Double Glazing Unit for façade glass and skylight to reduce solar heat gain
2. Energy efficient air conditioning system - centralized water-cooled chiller water system with target efficiency of 0.60 kW/Rton
3. Extensive use of LED lighting for arrival & departure halls and corridors
4. State-of-the-Art Individual Carrier System (ICS) for Baggage Handling System to ensure both energy and process efficient of baggage handling.
5. Water-efficient water fittings that are complying to PUB WELS “Excellent” & “Very Good” rating



5 Relevant Project Reference



Changi Airport Terminal 3



Gardens by the Bay



Singapore Sports Hub



Mosque at DOHA international Airport

5 Relevant Project Reference

Afro Asia i-Mark

LEED BD+C v2009 Core & Shell

Platinum Non-Residential Building



Redlion Warehouse Singapore

LEED BD+C v4 Warehouse

Gold Non-Residential Building



5 Relevant Project Reference

Menara Ken TTDI

Menara Ken TTDI

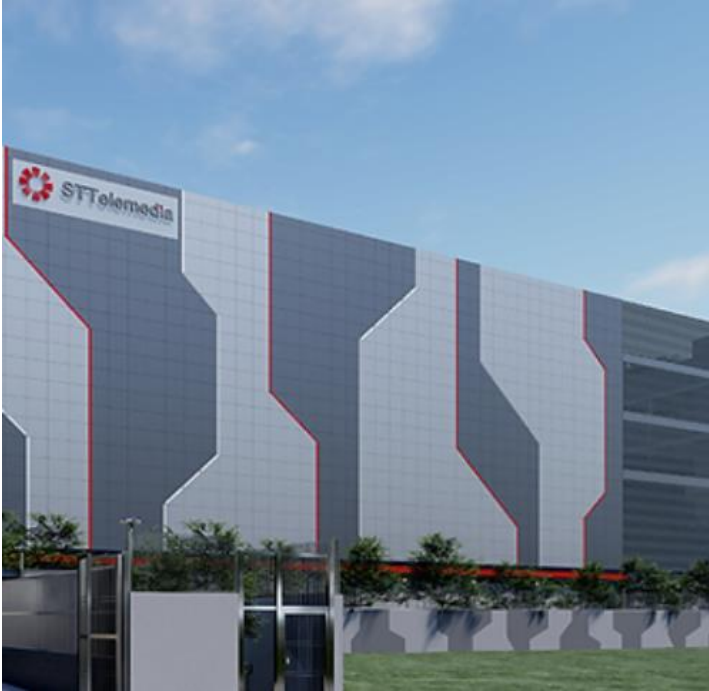
LEED Platium



STT Loyang China

LEED BD+C Data Center

LEED Gold



5 Relevant Project Reference

Ascent, Singapore
7 storey business park building with commercial podium.
GFA: 51,818 sqm. Green Mark Platinum



Merck Fitout at Ascent, Singapore
3,800 sqm office at Level 4. Design compliance review



5 Relevant Project Reference



Biopolis 3.
Green Mark Gold

FM Global (Project Crater Lake), Singapore
7 storey business park building at Pasir Panjang Road.
Green Mark Gold



5 Relevant Project Reference

Ascendas 5 SPD, Singapore

GFA: 25,654 sqm of office space
Green Mark Platinum



Ascendas NUSAJAYA TECH PARK, Iskandar, Johor, Malaysia 383 Acres, 199 units of factories.

Green Mark Gold/ Green
Building Index Silver

5 Relevant Project Reference

Health Care Facilities



HEALTH SCIENCES AUTHORITY BUILDING



NATIONAL CENTER FOR INFECTIOUS DISEASE



NUHS CENTER FOR ORAL HEALTH NUHS

5 Relevant Project Reference



MAPLETREE BUSINESS CITY,
Singapore
GFA- 184,000 m2
Green Mark Platinum

MAPLETREE BUSINESS CITY 2,
Singapore
GFA- 124,884.54 m2
LEED Gold | Green Mark Platinum



5 Relevant Project Reference



Cleantech 3
Green Mark Platinum



Pasir Ris Central Mixed Development
Residential, Bus Interchange, Retail.
Green Mark Platinum

5 Relevant Project Reference

**Robinson Tower, F&B and shops, 30 sty,
GFA- 24,000sqm, Goldplus**



Central Boulevard, Singapore

The project is a 2-tower office building with a podium carpark. The west tower is about 43 storeys and east tower up to 13 storeys above the 6 sty podium.



5 Relevant Project Reference



Ascendas Southernwood, Singapore

Office Towers - Green Mark Platinum

31 storeys of Grade A office along Robinson Road

Gensler/ DCA/ PnT/ JRP



Ascendas One Mcc Hub, Jakarta, Indonesia

Office Towers - GreenShip Gold

3 office towers, 2 residential towers and a WOHO

5 Relevant Project Reference



MAPLETREE ANSON
Gree Mark Platinum

20 ANSON
Energy Audit and LEED study



5 Relevant Project Reference

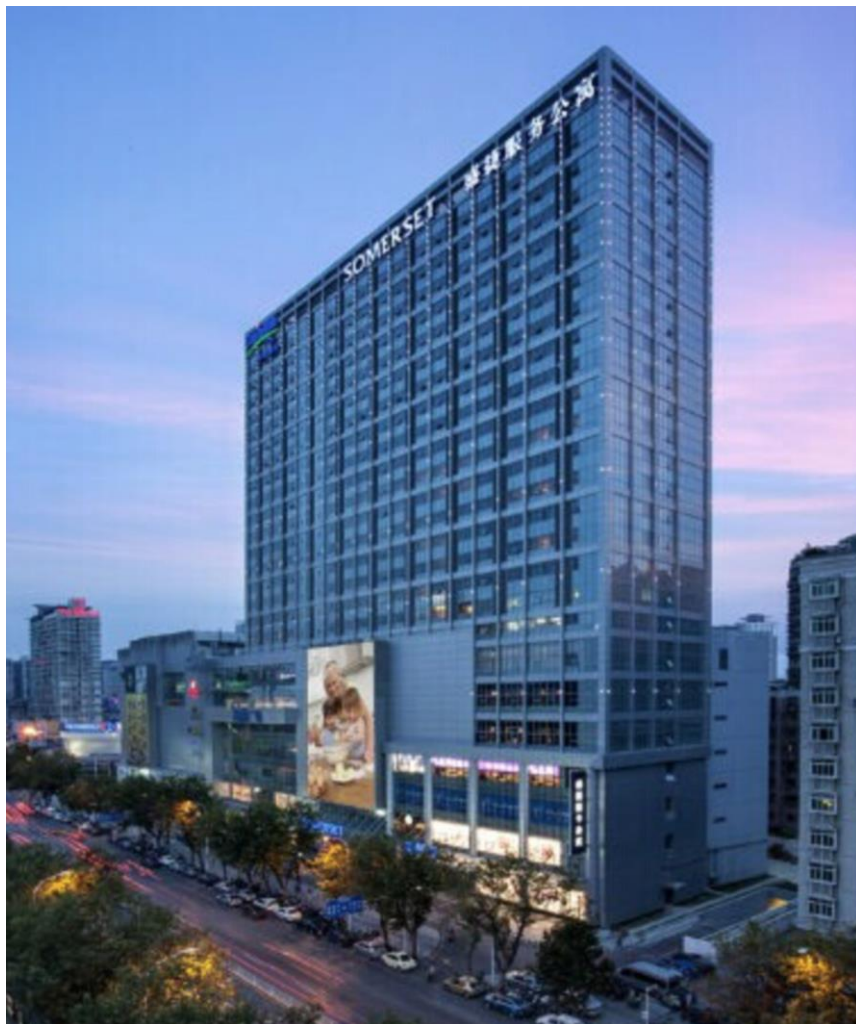


Funan Redevelopment has a total GFA ~887,000 sq ft comprising of:

- 500,000 sq ft of 6-storey retail component (with 2 basement) 3 towers of (GFA ~266,000 sq ft)
- 9-storey block housing 279 co-living apartment units (GFA~121,000 sq ft)

Afro Asia Green, Singapore
Green Mark Platinum





Capitaland Wusheng and Somerset Service Apartment

Wuhan

Green Mark Gold

Includes underground garage, low-rise commercial, dining and entertainment, high-rise service apartment hotel. The project uses energy-efficient refrigeration units and is equipped with an intelligent building monitoring system. The solar hot water system in the project provides the hot water needed to service the apartment.

5 Relevant Project Reference



Holiday Inn Express Hotel Clemenceau, Singapore Green Mark Platinum

Located in Clarke Quay, this 7-storey hotel features 442 well-designed rooms with floor-to-ceiling windows. The facilities include a fitness center, business center and dining.

5 Relevant Project Reference



Grand Park City Hall Hotel, Singapore

The project is located near City Hall MRT station. Comprising of 330 rooms. Facilities include a business center, a grand ballroom, multi-functional meeting rooms, a gym and a variety of dining options.

5 Relevant Project Reference



Intercontinental Hotel, Robertson Quay, Singapore

Green Mark Certified

5 star hotel at Robertson Quay, with 225 studios and suites equipped F&B facilities, a swimming pool and a 24-hour Fitness Studio.

5 Relevant Project Reference



Park Hotel Farrer Park and Farrer Square Medical Suites -Green Mark Goldplus

Chevron House AEI -Green Mark Platinum



5 Relevant Project Reference



SELETAR AIRPORT - Green Mark Gold^{Plus}

Green Features:

1. High performance Double Glazing Unit for façade glass- ETTV of 30 W/m². 40% reduction of envelop thermal load
2. Centrifugal chiller with overall plant efficiency of 0.565 kW/RT. \$200,000/ year of savings
3. Direct driven multi-plug fans for AHU ~13% savings
4. Lighting savings of 43%
5. Water savings of 34%
6. Overall energy savings of 31%. EUI 330 kWh/ m²/ yr

5 Relevant Project Reference



JUNCTION CITY, Yangon, Myanmar

- Green Mark Gold
- 1 block of 25 sty hotel (GFA: 30,788 sqm) 348 rooms
- 1 block of 23 sty office (GFA: 42,000 sqm)
- 5 storey retail podium with 2 basement carpark (GFA: 76,000 sqm)

Seasons City, Tianjin Eco City

- Green Mark Platinum
- Retail and Office blocks



5 Relevant Project Reference



EXCHANGE SQUARE, Phnom Penh, Cambodia

EXCHANGE SQUARE is a Grade A tower with 16 levels of office space and a four-level luxury retail podium located on an approx. 115,000 sq. ft (approx. 10,700 sq. m.) site. The tower will provide approx. 427,000 sq. ft (approx. 39,700 sq. m.) GFA of office and retail space. The office floors will offer accommodation ranging from entire open-plan floors to subdivided units. The buildings will contain parking space for 322 cars and 329 motorbikes.

5 Relevant Project Reference



MENARA ASTRA TOWER, Jakarta Indonesia- Green Mark Platinum (Provisional)

The project comprises of a 50 storey Grade A office tower with GFA of about 125,415 sqm on a site of 10,905 sqm. It also has a 4 storey podium with retail, F&B and showroom spaces.



