



GWS™ Living Art
The Modern Farmer

www.GWSLivingArt.com

GWS LIVING ART

6 years and running, the GWS Living Art is a spinoff company of like-minded local nature enthusiasts, who shared the passion for the landscape, predilection for the environment and to provide professionalism for the clients.

GWS initiated under the main company, Chop Ching Hin. the company is an ASEAN soft-scape supplier incorporated in 1987, with more than 250 acres of nursery land, mainly based in Malaysia, who offer a diverse supply of high quality landscaping materials. together provide a suite of comprehensive landscape construction package from initial implementation to timely completion in countries of Asia such as Malaysia, Singapore, Thailand, India, Philippines, Indonesia, China, etc.

OUR MISSION

to introduce green technology into spaces of delight, taking into consideration the needs of individuals, in a fashion that balance design intention, cost effectiveness and post landscape maintenance

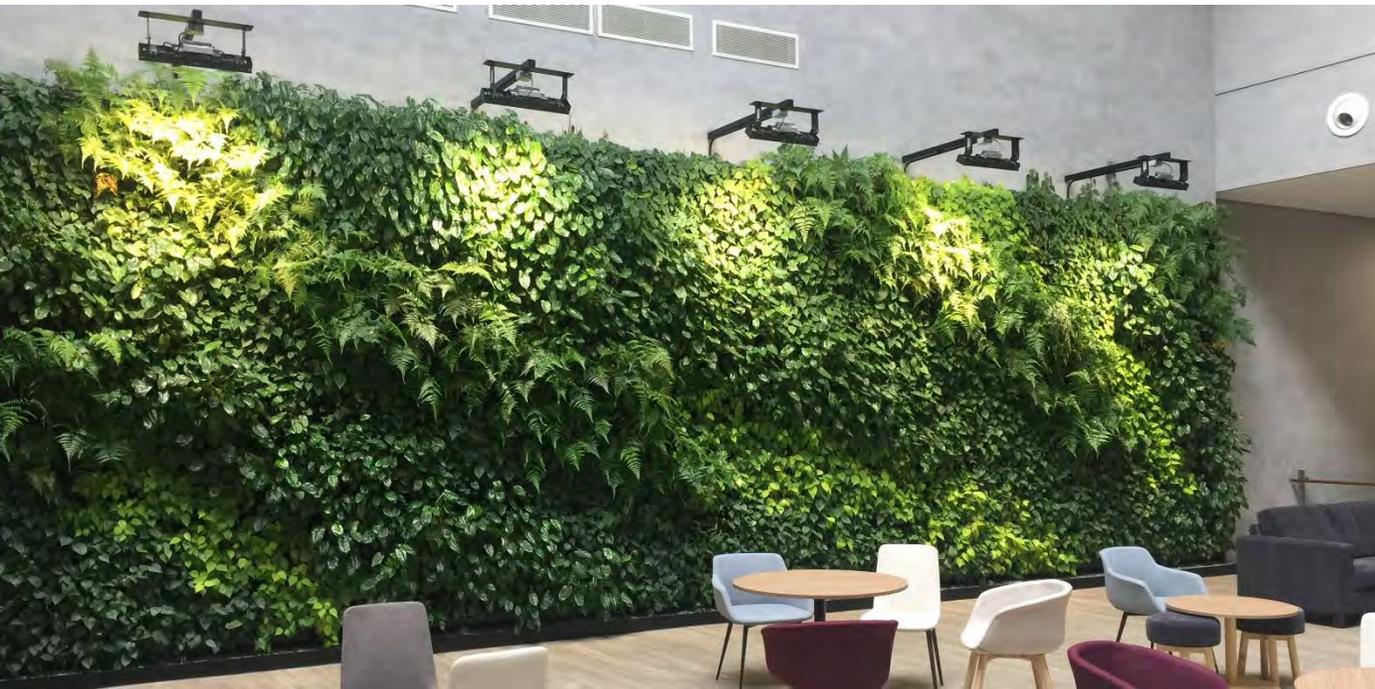
to meet customer needs, and to be the largest green technology supplier & advocator that provides sustainable quality and great fairness in market prices.





OUR PHILOSOPHY

we construct for people, place & most importantly partnership. sustainability is at the core of what we do and we look towards a greener urban development. our proven solution are built to be integrated with your design; customized to your ideal.



OUR VALUES

we embedded our core values into every project that are entrusted; and driven by the order of the nature we present the best creation of green to our clients

D1. DEFINE

identify the scope of work / area for the greenwall / greenroof

D2. DESIGN

inspiration from the surrounding to reflect and create mood for self- rejuvenation; create visualization to capture the ideal artistic look and careful plant selections for sustainability

D3. DICTATE

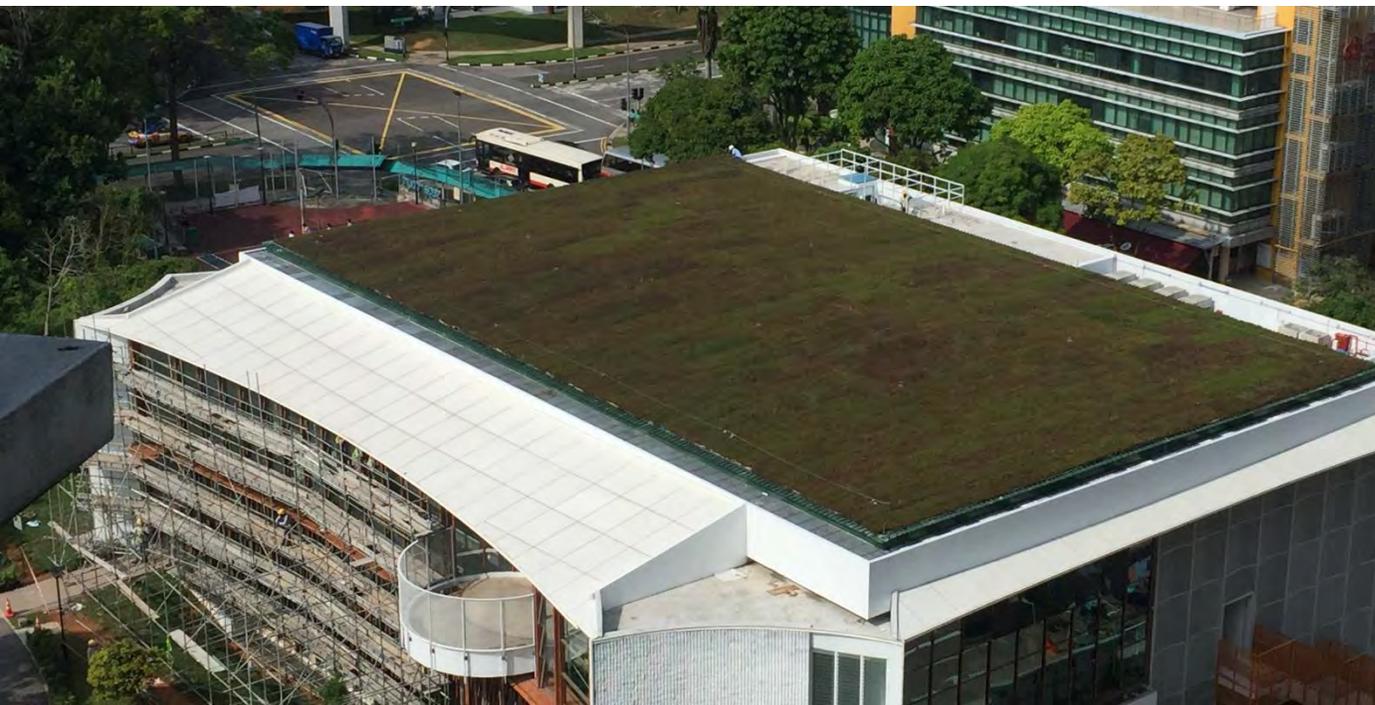
to match the needs of client and select the best system and methodology for successful green with a team of in-house green specialists





OUR SERVICES

the modern farmer is representative of technology and the arts,
and we leverage heavily on our nursery expertise to bring forth the
best in the market.



GREENWALL

GREENROOF

IRRIGATION SYSTEM

SOLAR PANAL WITH GREENROOF

GREEN CONSULTANCY

OUR HISTORY



CHOP CHING HIN is an ASEAN nursery supplier since 1987, with over 200 acres of nursery land, mainly based in Malaysia. We offer a diverse supply of high quality landscaping materials and supplied to countries of Asia such as Malaysia, Singapore, Philippines, India, Dubai and China.

Malaysia Nursery: Chop Ching Hin Sdn Bhd

Register: No 1 Jalan Laman Setia 5/13, taman laman setia, 81550 JB, Johor

Mailing Address: No 44 Jalan Gaharu, Singapore 588863

GST Reg No: 001016565760

Co Reg No: 1117479 – K

Tel: 02 – 67623338, Fax: 01 – 68779989, HP: 0127073941, 65 92206383

Singapore Nursery: Chop Ching Hin Pte Ltd

Mailing Address: No 44 Jalan Gaharu, Singapore 588863

GST Reg No: M2 – 0128293 – 4

Co Reg No: 199407261H

Thailand Nursery:

34M.10 Tumbon Choam Kengkoy Sarabure 18110 Thailand

India Nursery:

No1/235 Yellow board (north) east coast road, muttukkadu village, Chennai 603112 India



OUR RECOGNITION

the synthesis of art & technology brought us to where we started, but at the same time we stay true to our roots as a farmer – putting our heart, soul and dirty hands into sowing each and every plant for the people

D1. DEFINE

identify the scope of work / area for the greenwall / greenroof

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inspiration from the surrounding to reflect and create mood for self- rejuvenation; create visualization

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to match the needs of client and select the best system and methodology for successful green with a

team of in-house green specialists



Mr Zac Tuh on the green roof of 119, Edgefield Plains, a multi-storey carpark in Punggol. The space was developed by Mr Tuh's firm GWS Living Art, which focuses on urban green technology. The 25-year-old was crowned Singapore's Young Green Innovator of the Year in recognition of his efforts. PHOTO LIANHE ZHANG

Green innovator sets his sights high

Jose Hong

Mr Zac Tuh has been scaling new heights with his green roofs, which are covered with growing plants.

Yesterday, the 25-year-old was crowned Singapore's Young Green Innovator of the Year for pioneering green roofs at his family's firm.

When appropriately designed, rooftop greenery has many benefits, including better air quality, lower temperatures and increased energy efficiency.

He was one of 16 winners recognised by the Singapore Green Building Council (SGBC) and the Building and Construction Authority (BCA) at the second SGBC-BCA Sustainability Leadership Awards. The awards recognise people, buildings

and businesses for being green and sustainable in an innovative way.

Mr Tuh was supposed to begin his business degree at the Singapore Management University about five years ago. But he began working at his family's company Chep Ching Hin, which supplies landscaping products, and set up a subsidiary that focuses on urban green technology called GWS Living Art.

He found the work so interesting and challenging that he chose to develop and sell green walls and green roofs. It has paid off.

He counts about 150 projects under his belt in Singapore, Malaysia, Thailand, Indonesia and Hong Kong. For example, he set up some of the green walls in Changi Airport.

He is particularly proud of his green roofs. Standard green roofs

for grass require a soil depth of between 10cm and 20cm, which makes for heavy roofs – at 120kg to 220kg per sqm. His company's roofs require only 15mm to 50mm of soil, weigh only between 25kg and 50kg per sqm, and are also pre-made.

Set-up time is therefore dramatically cut compared with standard green roofs, and they are much easier to maintain. Despite this, he is still a bit of an outsider in what he calls a "conservative" industry.

"When we first started out, about 90 per cent of potential clients doubted us," he said. It's encouraging that we're being recognised for going against the grain."

The council and BCA also announced two new initiatives yesterday. The SGBC-BCA Green Facilities Management Accreditation

Scheme will accredit firms that know how to manage Green Mark-certified buildings. It is a way to recognise managers for running green buildings in the most environmentally friendly way possible.

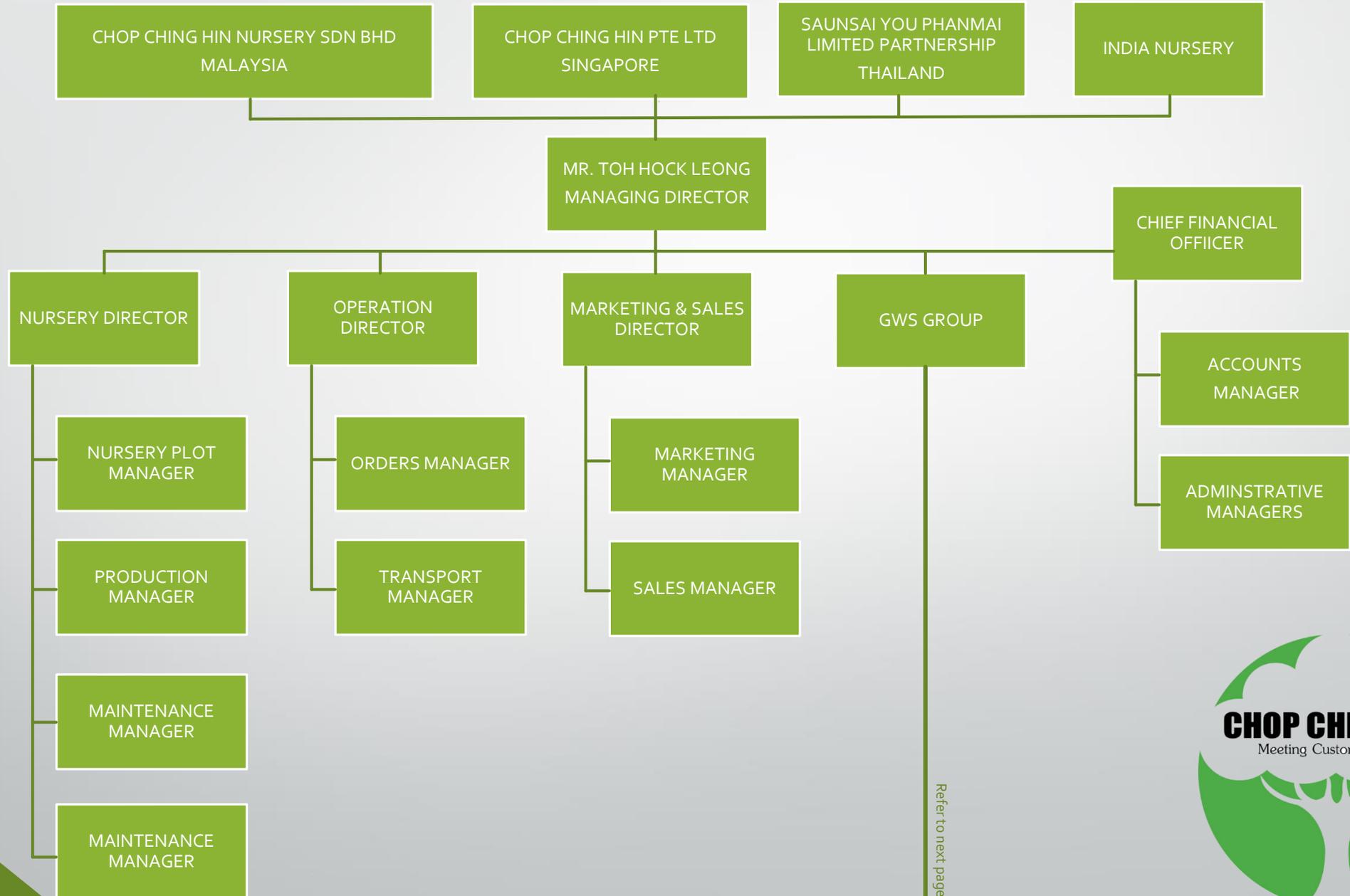
The SGBC-BCA Zero Capital Partnership scheme will link firms with light-retrofitting companies so they can use more energy-efficient lights.

Companies will not need to pay for the retrofitting, as they can make use of financing options like BCA incentive schemes.

The guest of honour at the event was Minister for National Development and Second Minister for Finance Lawrence Wong, who spoke about the aim to green 80 per cent of Singapore's buildings by 2030.

josehong@ghl.com.sg

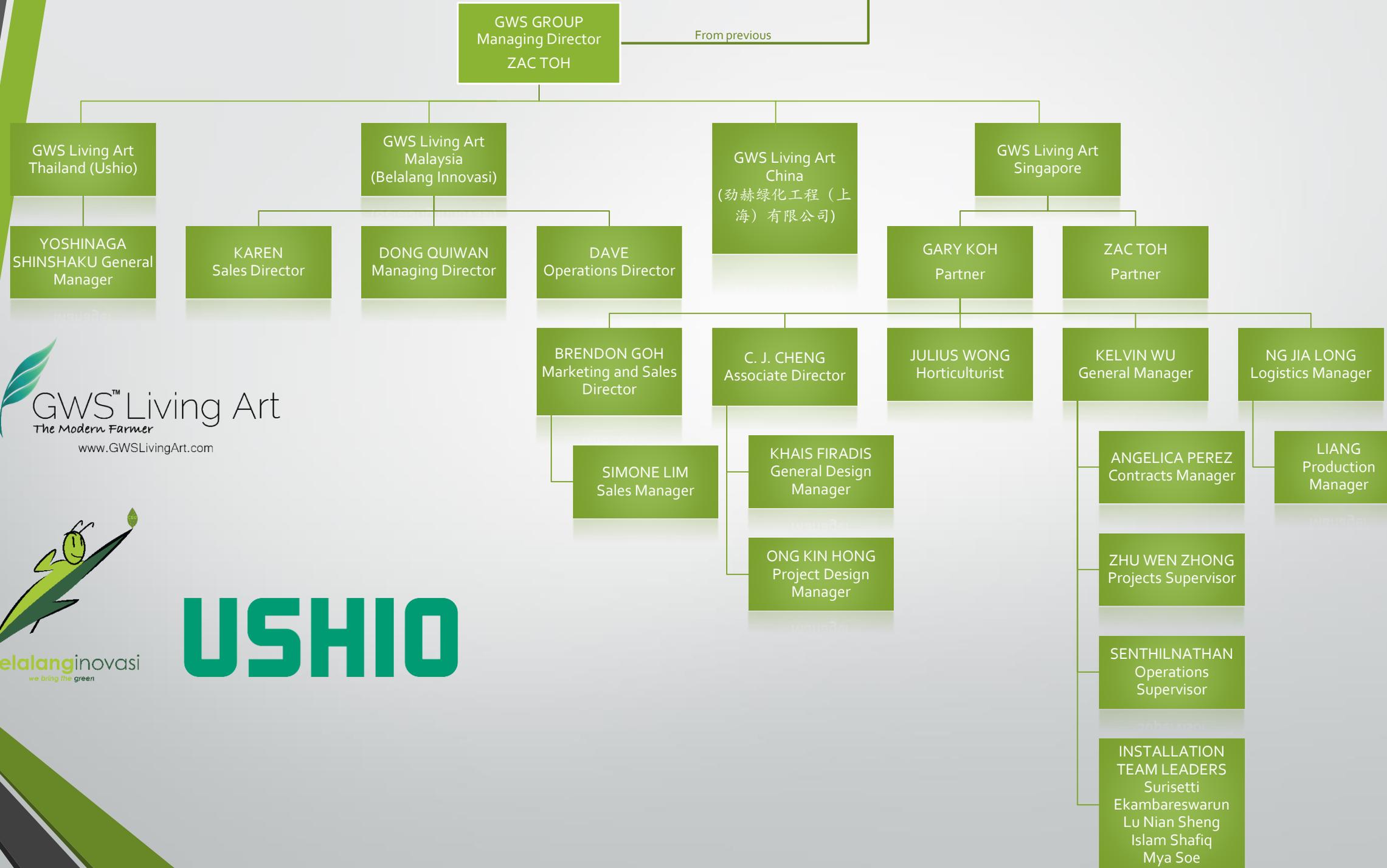
Organization Chart



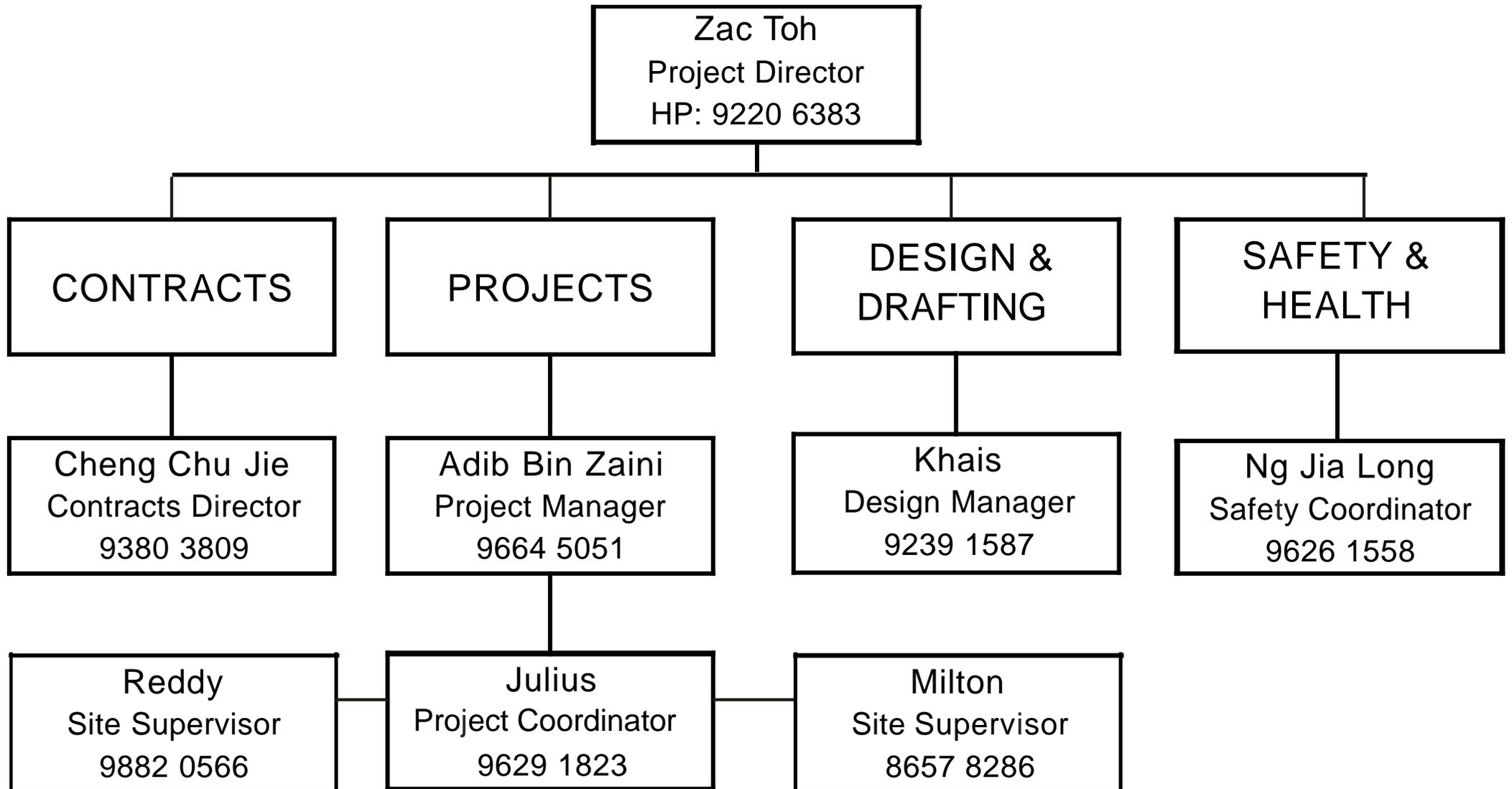
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Organization Chart



PROJECT ORGANISATION CHART





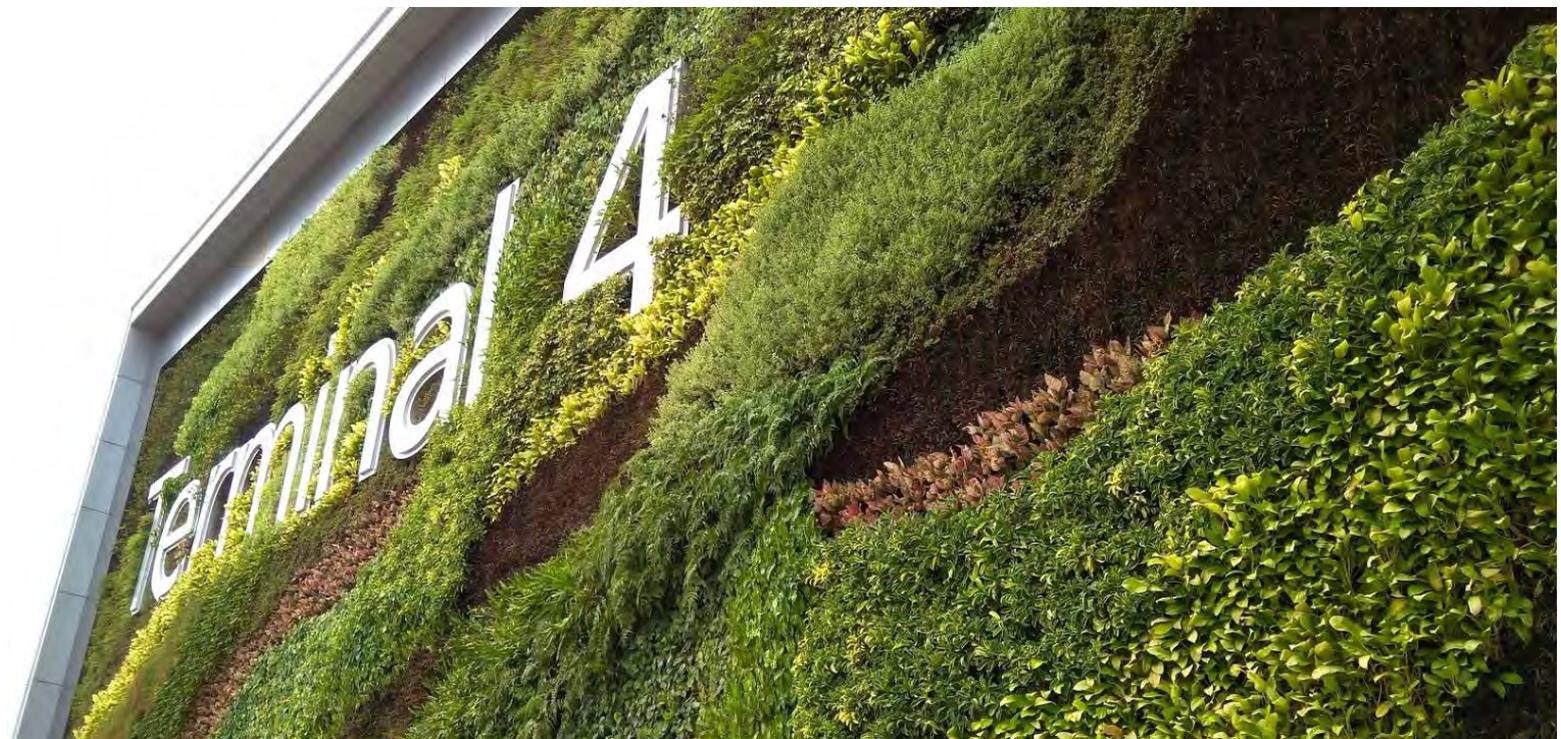
We pride ourselves on our green innovative solutions that transform urban spaces into attractive greenery, playing an active role in creating and promoting green, healthy, liveable cities.

GREEN WALL

GREEN ROOF

IRRIGATION

www.GWSLivingArt.com



GREEN WALLS – CHANGI AIRPORT



CHANGI AIRPORT TERMINAL 3 (SOUTH)

Project Type	Indoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Changi Airport Group
Surface Area	400 m ²



CHANGI AIRPORT TERMINAL 3 (NORTH)

Project Type	Indoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Changi Airport Group
Surface Area	400 m ²



CHANGI AIRPORT TERMINAL 4 BAGGAGE BELT

Project Type	Indoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Changi Airport Group
Surface Area	150 m ²



CHANGI AIRPORT TERMINAL 4

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Changi Airport Group
Surface Area	360 m ²



CHANGI AIRPORT TERMINAL 2

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Changi Airport Group
Surface Area	100 m ²



JEWEL

Project Type	Indoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Changi Airport Group
Surface Area	800 m ²

GREEN WALLS – INDOOR



BANK OF TOKYO MITSUBISHI @ MARINA ONE

Project Type	Indoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Bank of Tokyo Mitsubishi UFJ
Surface Area	26 m ²



NATIONAL UNIVERSITY OF SINGAPORE

Project Type	Indoor Green Wall
Product Type	GWS Green Module Clip-on
Client	National University of Singapore
Surface Area	38 m ²



BUKIT VIEW SECONDARY SCHOOL

Project Type	Indoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Ministry of Education (MOE)
Surface Area	12 m ²



CHANGI AIRPORT TERMINAL 1

Project Type	Indoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Changi Airport Group
Surface Area	50 m ²



WOOD & WOOD SHOWROOM

Project Type	Indoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Wood & Wood Flooring
Surface Area	19 m ²

GREEN WALLS – OUTDOOR



SENJA COMMUNITY CENTRE

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Hook-on
Client	People's Association
Surface Area	120 m ²



HOARDING @ NAPIER MRT STATION CONSTRUCTION SITE

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Flora Landscape
Surface Area	50 m ²



INTERLACE

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Blooms & Green Pte Ltd
Surface Area	120 m ²



KEAT HONG COMMUNITY CENTRE

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	People's Association
Surface Area	300 m ²



CLEANTECH 1

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Hook-on
Client	JTC
Surface Area	30 m ²



SWAMI NURSING HOME

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Flora Landscape
Surface Area	330 m ²

GREEN WALLS



NASSIM ROAD

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Private Residence
Surface Area	30 m ²



WISTERIA

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Hook-on
Client	Surbana International Consultant Pte Ltd
Surface Area	50 m ²



AMGEN @ DUO TOWER

Project Type	Indoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Amgen Singapore
Surface Area	15 m ²



GREEN VERGE @ TAMPINES

Project Type	Outdoor Green Wall
Product Type	GWS Gaia Wall
Client	Housing Development Board
Surface Area	343 m ²



CLEANTECH 3

Project Type	Outdoor Green Wall
Product Type	GWS Green Module System
Client	JTC
Surface Area	704 m ²



DECATHLON @ KALLANG

Project Type	Outdoor Green Wall
Product Type	GWS Green Module System
Client	Decathlon
Surface Area	560 m ²

GREEN WALLS – OVERSEAS



NOVA SAUJANA (MALAYSIA)

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Malton Berhad Group
Surface Area	60 m ²



COUNTRY GARDEN DANGA BAY (MALAYSIA)

Project Type	Indoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Country Garden
Surface Area	100 m ²



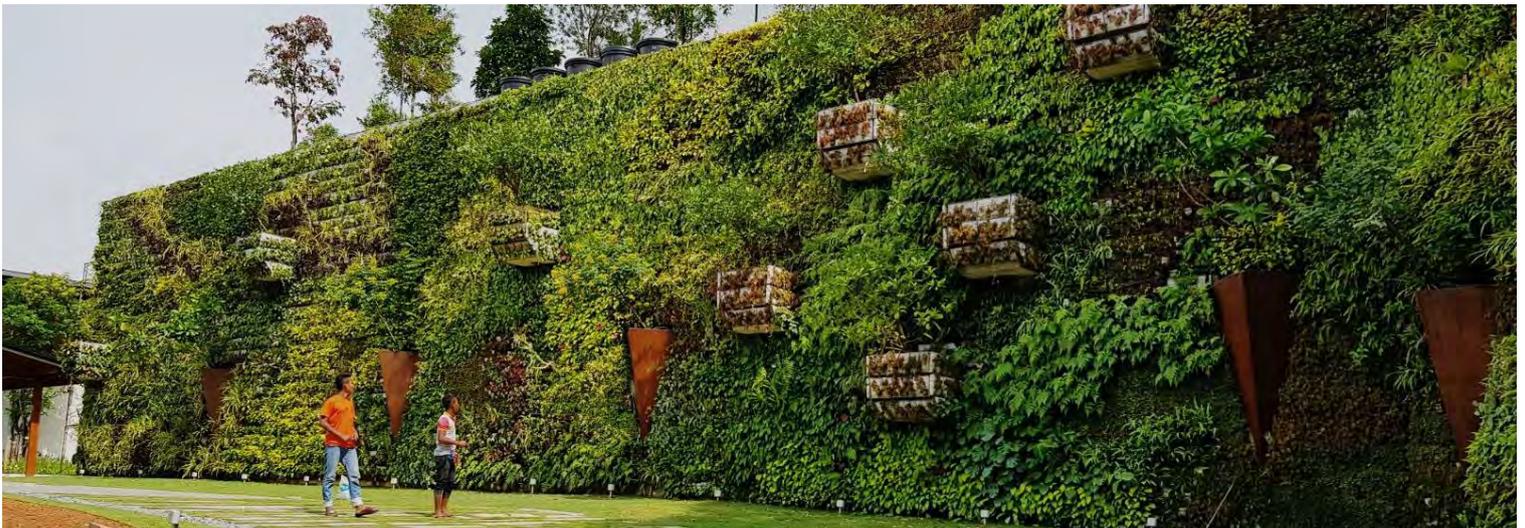
JAKARTA RESIDENTIAL (INDONESIA)

Project Type	Outdoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Hatlar Group Indonesia
Surface Area	130 m ²



SWIRE (HONG KONG)

Project Type	Indoor Green Wall
Product Type	GWS Green Module Clip-on
Client	Swire Group
Surface Area	80 m ²



JALAN LIKU TUNKU, KUALA LUMPUR (MALAYSIA)

Project Type	Outdoor Green Wall
Product Type	GWS Gaia System
Client	INCH Landscape SSdn Bhd
Surface Area	650 m ²

GREEN ROOF – SINGAPORE



YISHUN CHILDCARE CENTRE

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Skool4Kidz
Surface Area	610 m ²



CHIJ ST NICHOLAS GIRLS' SCHOOL

Project Type	Green Roof
Product Type	German System
Client	Ministry of Education
Surface Area	450 m ²



SUNGEI SELETAR BUS DEPOT

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Land Transport Authority
Surface Area	3000 m ²



BUKIT PANJANG GOVERNMENT HIGH SCHOOL

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Ministry of Education
Surface Area	500 m ²



ULU PANDAN BUS DEPOT

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Land Transport Authority
Surface Area	3000 m ²



GOOD CLASS BUNGALOW

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Private Resident
Surface Area	100 m ²

GREEN ROOF – SINGAPORE



Segar Childcare Centre

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	CKR Contract Pte Ltd
Surface Area	1000 m ²



FUSIONOPOLIS

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	JTC
Surface Area	56 m ²



BEDOK NORTH AVENUE 3 BUS STOP

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	National Parks
Surface Area	10 m ²



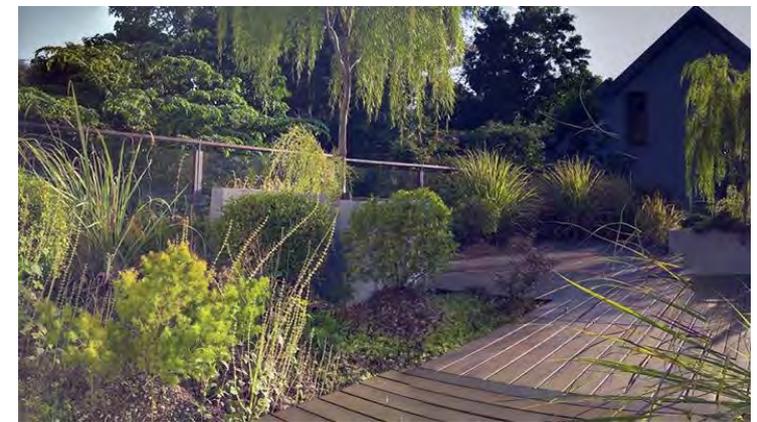
ECOLOGICAL GREEN ROOF

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	-
Surface Area	-



WANDERVALE CONDOMINIUM

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Sim Lian (Starlight) Pte Ltd
Surface Area	251 m ²



PRIVATE RESIDENCE

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	-
Surface Area	30 m ²

GREEN ROOF – SINGAPORE



CANBERRA

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	NParks
Surface Area	20 m ²



ANG MO KIO MRT STATION

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	NParks
Surface Area	742 m ²



CITY HOUSE

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	City Development Limited
Surface Area	260 m ²



BEDOK SOUTH HORIZON

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Housing Development Board
Surface Area	900 m ²



GALI BATU BUS DEPOT

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Land Transport Authority
Surface Area	1200 m ²

GREEN ROOF



JURONG EAST LAKESIDE DEVELOPMENT

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	National Parks Board
Surface Area	700 m ²



119 EDGEFIELD MULTI-STOREY CARPARK

Project Type	Green Roof
Product Type	German System
Client	Housing Development Board (HDB)
Surface Area	751 m ²



NISHIMATSU FACTORY (THAILAND)

Project Type	Green Roof
Product Type	GWS Gaia Mat
Client	Nishimatsu Construction Co. Ltd
Surface Area	300 m ²

GAIAMAT SYSTEM

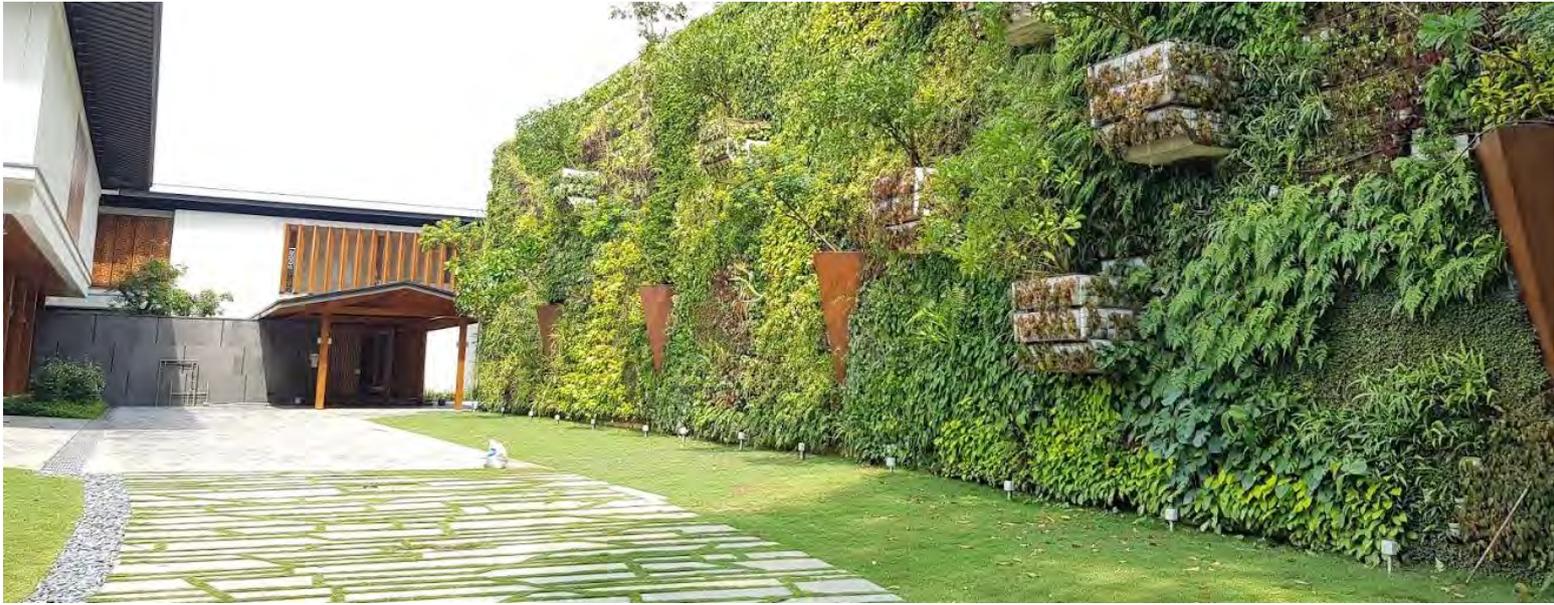


GWS™ GAIAMAT SYSTEM

Gaiamat™ is a mat based green roof technology that easy to install and maintain. Unlike other green roof systems, Gaiamat™ green roofs have a very low maintenance regime. Gaiamat™ has multiple proprietary layers that are unique green-roof layering system. It is mainly soil-less where natural fibers are used to replace soil. The pre- grown vegetated mats and without soil reduces weight of green roofs by 500% thus making green roofs instant to install.



GAIA WALL SYSTEM



GWS™ GAIA WALLS – NO PLASTIC, MORE NATURAL GREENWALL

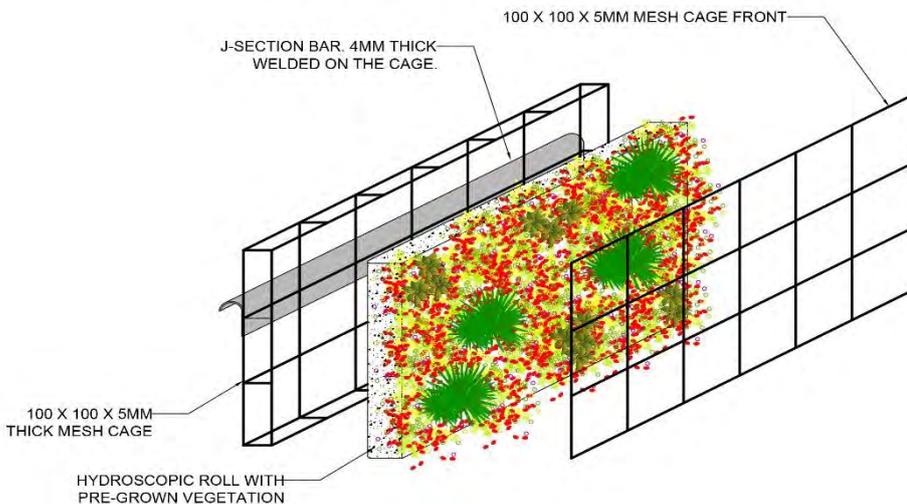
The GWS™ Gaia-wall green wall system is a revolutionized ideology of using less plastic in the making of something green, giving back to nature. This new system gives practitioner the most rudimentary way of creating aesthetically pleasing green façade. The water absorbent core board in the system provides the basic need for variety of plants to be able to sustain themselves. Moreover, the synergy of the selected perennial plants allowing nutrients exchange in the fibrous medium, further sustaining this green wall. The hydroscopic roll structure is proven to store water much longer than other constructions. The use of native, hardy perennial plants for the pre-grown are recommended. A few tested and proven polyculture mix with minimal maintenance would be of selection by designers or practitioners. With simple irrigation dripline system situated along the top of every row of plantings would ensure a controlled and long-lasting plant growth. Gaia wall boards is able to provide optimum noise abatement.

Gaia Wall System

Certification:



Gaia Wall System

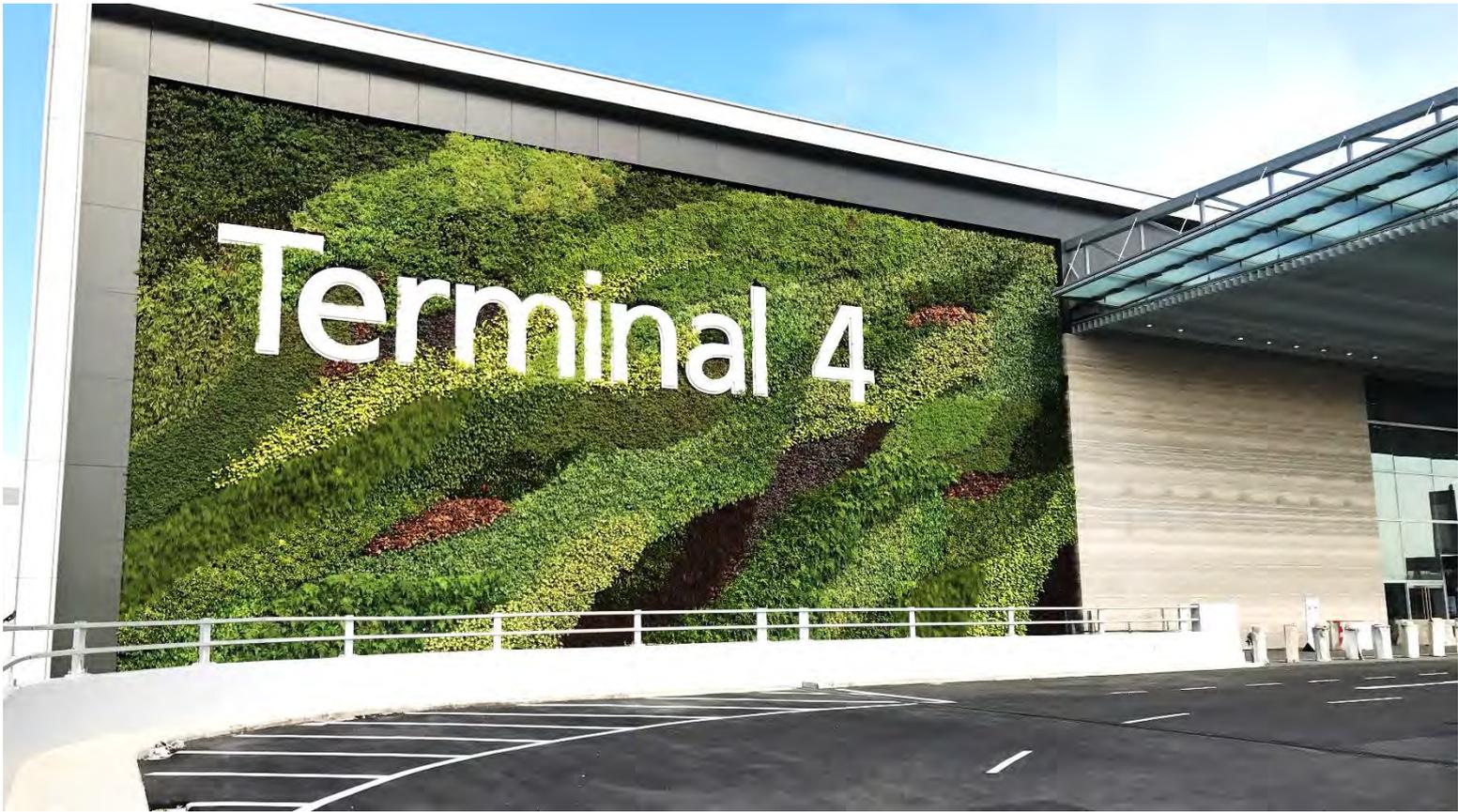


TECHNICAL SPECIFICATION

GW330 HYGROSCOPIC BOARD	
Faceting (mm)	: 1000 x 300 x 20
Thickness (mm)	: 20
Density (kg/m ³)	: 170
Dry Weight (kg/m ²)	: 3.5
Saturated weight (kg/m ²)	: 19.5
Water Retention(L/m ²)	: 16.0

GW330 GAIA - CAGE	
Faceting (mm)	: 1000 x 310
Thickness (mm)	: 55
Density (kg/m ³)	: N.A
Dry Weight (kg/m ²)	: 5.0
Saturated Weight (kg/m ²)	: 5.3
Water Retention(L/m ²)	: N.A

GREEN MODULE SYSTEM



GWS™ GREEN MODULE SYSTEM

GWS™ Green Modules system is a modular system that have the ability to pre-grow plants easily into the system as well as easy to install and maintain the Living Wall.

Certification:



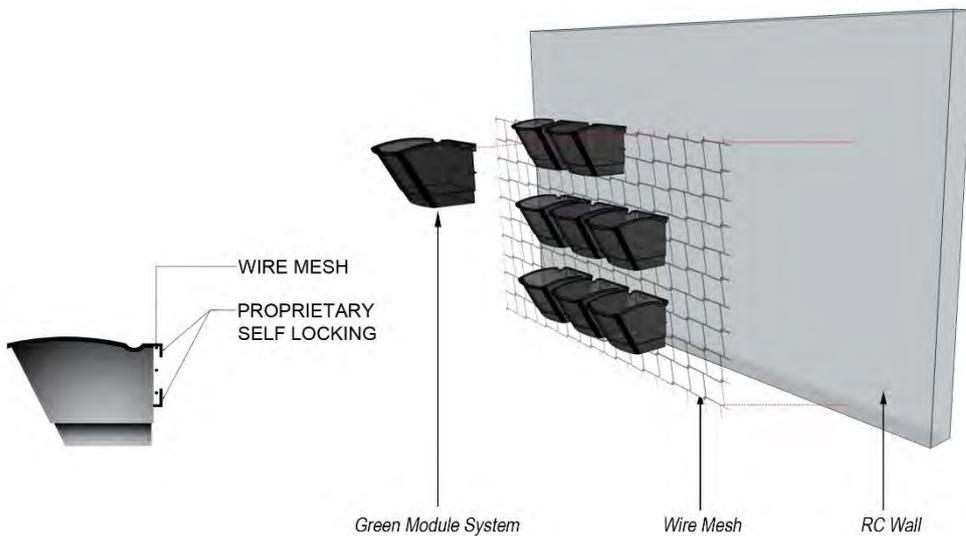
TECHNICAL SPECIFICATION

GMS	
Height (mm)	: 120
Base (mm)	: 130 x 94
Top (mm)	: 150 x 160
Weight	: ~1.65
(Kg, with plants and media)	
Weight	: 0.15
(Kg, without plants and media)	

PER M² - GMS with Wire Mesh

22.5mm horizontal gap between planter boxes

Pot	: 36
Height(mm)	: 940
Thickness(mm)	: 140
Length(mm)	: 940
Weight	: ~64.4
(Kg, with plants and media)	
Weight	: 10.4
(Kg, without plants and media)	



ACCOMPLISHMENTS



Pre-grown Gaia Mat at our Malaysia Nursery, 20,000m² of mats grown.

Our History

We started from landscape supply and branched out to create a name for ourselves in green roofs and walls. Over 30 years of being in landscape honed our exceptional skills in choosing the right plants for the right environment. This means clients trust us with our plant expertise. We have nurseries in Singapore, Malaysia, Thailand and India. Our nursery advantage allows us to pre-grow our plants and our regional advantage allows us to expand our range of plant species for our clients.



GWS Director was feature in The Straits Times on September 14, 2017.

GWS Gaia Mat

We R&D our GWS Gaia Mat – a lightweight, almost soil-less system that allows for green roofs to be placed on almost every type of roof, requiring little manpower and can be installed quickly. Our pre-growing capabilities allow for instant greening of large roofs.



GWS Living Art Founder receiving 'Young Innovator of the year 2017' at SGBC-BCA Sustainability Leadership Awards 2017 from Mr Lawrence Wong, Singapore Minister of National Development.

Product Accreditations

Ensuring our products have unrivalled quality and exceed the standards are our utmost priorities. All our products have been sent to comply with the latest market regulations. Our products are fire rated, wind load tested, load tested and are recognized with SGBC Green Mark Label.

Lastly, workplace safety, ease of maintenance and installation are what our products are designed for. We understand your constraints and we ensure a smooth process from design to maintenance.



Distributor:



OUR NUSERY



SINGAPORE
62 Old Choa Chu Kang Road, Track 14. Lamp Post 33.

MALAYSIA
Lot 707 Mukim Pulai Lima Kedai 81550 Gelang Patah, Johor Bahru.

THAILAND
34M. 10 Tumbon Chaom Kengkyo Sarabure 18110. Thailand.

INDIA
No 1/235 Yellow Board (North) East Coast Road, Muttukkadu Village,
Chennai 603112 India.

ACCREDITATION & CERTIFICATIONS



PSB Singapore
EN 13501-1
CLASS B S1, D0



NOTEWORTHY COMMERCIAL CLIENTELE



GWS Living Art

18 Boon Lay Way, Tradehub 21. #09-148. Singapore 609966.

Tel: (65) 6468 6772 Email: projects@gwslivingart.com

Website: www.GWSLivingArt.com