



Media Release

Hong Leong Asia and Sunway Construction Open Largest Integrated Construction and Prefabrication Hub in Singapore, Boosts Capacity for Precast Manufacturing

- Investments made to strengthen precast production capabilities in Singapore; improves supply chain resiliency in the construction of dwelling units
- Automation of construction processes and sustainable construction applications enhance the quality of precast components, increasing productivity gains
- Prefabrication facility is BCA Green Mark Gold certified with green design features adopted for efficient use of resources such as energy and water, and a cleaner work environment

Singapore, July 21, 2023 – Hong Leong Asia Ltd (“HLA”) and Sunway Construction Group Berhad (“SunCon”) today officially opened HL-Sunway Prefab Hub, the largest integrated construction and prefabrication hub¹ (“ICPH”) in Singapore.

The HL-Sunway Prefab Hub was launched today by Mr Desmond Lee, Minister for National Development and Minister-in-charge of Social Services Integration, together with Mr Kwek Leng Peck, Executive Chairman of HLA, Tan Sri Dato’ (Dr) Chew Chee Kin, President of Sunway Group, Mr Stephen Ho Kiam Kong, Chief Executive Officer of HLA, and Mr Chung Soo Kiong, Managing Director of International Property Development of Sunway Berhad.

Built on reclaimed land, the 3.8-hectare precast manufacturing facility is installed with state-of-the-art technology to produce a wide range of building components including Prefabricated Prefinished Volumetric Construction (“PPVC”) components, Precast Bathroom Units, Precast Household Shelters as well as Large Panel Slabs under one roof. The production of precast components locally in Singapore will further improve the precast supply chain resiliency of the built environment sector.

¹ <https://www1.bca.gov.sg/buildsg/productivity/design-for-manufacturing-and-assembly-dfma/integrated-construction-and-prefabrication-hub-icph>



HONG LEONG ASIA LTD

SUNWAY®

Driving Operational Efficiency with Automation

Leveraging Design for Manufacturing and Assembly (“DfMA”) technologies, HL-Sunway Prefab Hub is well-equipped for total design flexibility, all-weather performance, long-term quality, and cost-effectiveness.

In line with the built environment sector’s transition to higher construction productivity and a healthier and cleaner work environment, indoor machining such as rebar mesh production machines are installed to increase productivity and safety. At the same time, this streamlines manufacturing processes whilst reducing quality non-conformances and increasing the overall production throughput.

Mr Neo Choon Keong, Deputy Chief Executive Officer for Industry Development at the Building and Construction Authority, said: “ICPHs are in support of industry transformation, in particular the move towards Advanced Manufacturing and Assembly. The ICPHs will help to raise construction productivity through wider adoption of prefabrication, and enhance precast supply resilience. To achieve the full benefits, the industry must design and construct with greater standardisation of the precast components, to make construction more manufacturing-like. This will enable the adoption of robotics and automation solutions in both off-site production and on-site installation.”

HL-Sunway Prefab Hub is equipped with the largest Automated Storage and Retrieval System (“ASRS”), a robotic warehousing system where precast components are systematically stored in drawer units, located and retrieved, in Singapore. With 26 production lines and housing two Automated Precast Production Systems, overall productivity is expected to improve by up to 80% when operating at capacity. Together with 54 loading bays for easy discharge of goods, HL-Sunway Prefab Hub will be able to supply 100,000m³ of precast elements for 2,500 dwelling units annually.

Tan Sri Chew Chee Kin, President of Sunway Group, said: “Sunway and Hong Leong Asia share a common vision and aspiration in our journey towards innovation, efficiency and sustainable development for the built environment. This hub represents the seamless integration of cutting-edge technology, intelligent design, and the expertise of our skilled workforce. It signifies a paradigm shift in the built environment sector today by harnessing the use of prefabrication and modular construction methods.”



Contributing to Sustainable Construction

In addition to the manpower-efficient automation technologies at HL-Sunway Prefab Hub, the manufacturing facility is a Green Mark Gold certified building, awarded by the Building and Construction Authority (“BCA”) under the Green Mark for Non-Residential Buildings NRB: 2015 scheme. The green building certification illustrates HL-Sunway Prefab Hub’s commitment to invest in innovation and environmental sustainability.

Key green features at HL-Sunway Prefab Hub include:

- Greener practices for construction processes: Tower batching plant with a flying bucket has adopted green building best practices with enclosed raw materials storage and misting spray to lessen dust pollution. Its holistic system design approach also provides a waste water recycling function which will reduce the water footprint and improve operational sustainability at the ICPH.
- Renewable energies: Rooftop solar photovoltaic panels supply 25% of ICPH’s energy consumption and is expected to generate 1,165MWh of electricity a year, enough to power 288 4-room HDB households².
- Healthier working environment for employees: Strategically designed to include natural ventilation and use of daylight to maximise airflow and mitigate heat, which will help to ensure the comfort of our workers.

Mr Stephen Ho Kiam Kong, Chief Executive Officer of HLA, said: “HLA is delighted to have had the opportunity to integrate digital and green technologies into our suite of building solutions that not only build resiliency into our supply chain but also drive the transformation of the built environment. HL-Sunway Prefab Hub ushers in a new chapter of the built environment sector’s green journey and we are pleased and honoured to be a key player for sustainable, advanced manufacturing in Singapore.”

HL-Sunway Prefab Hub is built under HL-Sunway JV Pte Ltd, a 51-49 joint venture between R3 Precast (a building materials business of HL Building Materials Pte Ltd – a wholly owned subsidiary of HLA) and Sunway Concrete Products (S) Pte Ltd (a wholly-owned subsidiary of Malaysia-based SunCon).

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² Calculation is derived with reference from <https://www.spgroup.com.sg/sp-services/understanding-the-tariff>



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About R3 Precast:

R3 Precast, part of HLA's building materials portfolio, is a leading precast concrete supplier specialising in the consulting, design and manufacturing of prefabricated building components such as PPVC units for both public as well as commercial sectors in Singapore.

About Hong Leong Asia:

Hong Leong Asia Ltd. ("HLA") has been listed on the Singapore Exchange since 1998 and is part of Hong Leong Group, a Singapore-based conglomerate. We are a diversified Asian multinational with core businesses in construction and transportation. We work closely with customers to develop and deliver innovative and sustainable solutions for cities of the future.

For more information, please visit <https://www.hlasia.com.sg> or follow us on [LinkedIn](#).

About Sunway Construction Group Berhad:

Sunway Construction Group Berhad ("SunCon") is one of Malaysia's largest pure-play construction companies, listed on Bursa Malaysia on 28 July 2015. As an award-winning Group, SunCon has built on its expertise and experience for over four decades. SunCon provides a full range of design and construction services namely building, civil engineering / infrastructure, foundation and geotechnical engineering, mechanical, electrical and plumbing ("MEP") services, sustainable energy services and manufacturing and sale of precast concrete products; offering quality end-to-end solutions for its clients as well as control over timely delivery.

For more information on Sunway Construction, please log on to: www.sunwayconstruction.com.my

Note to Editors

To download accompanying images in high resolution, please click [here](#).



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OVERVIEW

HL-Sunway JV Pte Ltd is a 51-49 joint venture of R3 Precast, a building materials business under HL Building Materials Pte Ltd ("HLBM") – a wholly owned subsidiary of Hong Leong Asia Ltd and Sunway Concrete Products (S) Pte Ltd ("SCPS"), a subsidiary of Malaysia-based Sunway Construction Group Berhad.

TOTAL GROSS FLOOR AREA

65,317.06m²

LAND SIZE

38,421.8m²

Built on reclaimed land along the Northeastern coastline of Singapore, and awarded by the Building and Construction Authority of Singapore ("BCA") for the development of an Integrated Construction and Prefabrication Hub ("ICPH"), the HL-Sunway Prefabrication Hub is the sixth and largest ICPH in Singapore.

Equipped with state-of-the-art technology, this is the first ICPH to be able to cast the full range of components required for Housing Development Board ("HDB") projects including Prefabricated Prefinished Volumetric Construction (PPVC) units, contributing to the resiliency of the supply chain for the built environment sector.

Moving towards Singapore's goals of enhancing the productivity, improving workplace safety and enabling more environmentally-friendly methods in construction, the HL-Sunway Prefabrication Hub will help to strengthen capabilities in sustainable, advanced manufacturing.

LARGEST INTEGRATED CONSTRUCTION AND PREFABRICATION HUB IN SINGAPORE



The built environment sector is increasingly adopting the use of precast and prefabricated building components to improve construction productivity. Integrated Construction and Prefabrication Hubs (ICPHs) are developed to help meet the demand.

ICPH

refers to a multi-storey manufacturing facility, with a high degree of mechanization and automation, which can produce the following...

PREFABRICATED
INDIVIDUAL
PRECAST
COMPONENTS

PREFABRICATED
INTEGRATED
SUB-ASSEMBLIES

PREFABRICATED
PREFINISHED
VOLUMETRIC
CONSTRUCTION
(PPVC) MODULES

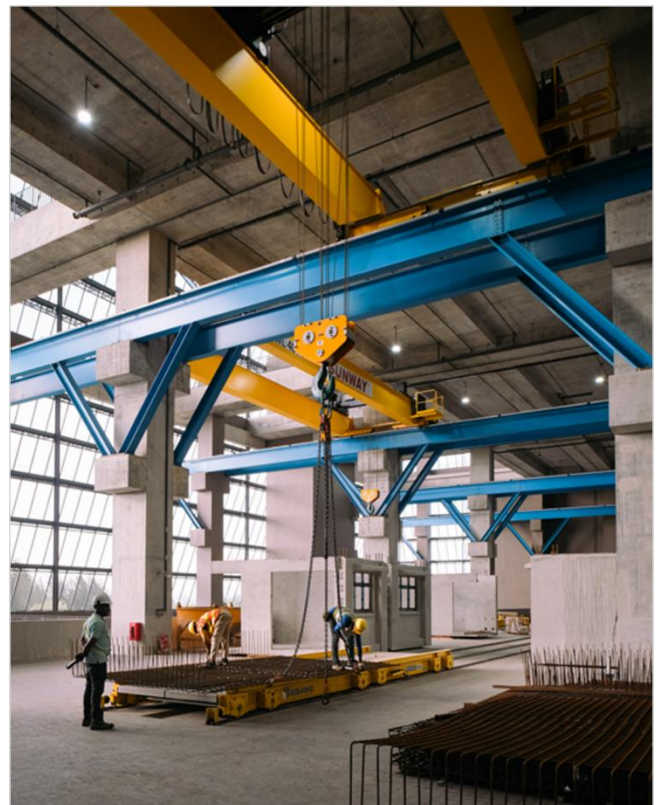


DESIGN INTENT OF THE FACILITY



- A. High floor-to-ceiling feature allows ample headroom reaching up to 14.7m across 3 stories of production area to accommodate 40T heavy lifting cranes.
- B. Automatic storage and retrieval system allows storage of large components for up to 15 days and easy retrieval to deliver to site on demand.
- C. Naturally ventilated production areas enabled by porous, angled façade helps reduce reliance on industrial fans, approximately saving energy costs of up to S\$860K.
- D. 1,729 solar panels installed on rooftop generates 1.2mn kWh of electricity annually supporting 20% to 25% of the facility's power requirements.

- E. Waste water treatment system with total capacity of 24m³ recycles waste water collected from batching plant and production floors to be reused again.
- F. Dust monitoring system to keep track of PM 2.5 and PM 10 particulate matter generated by operations.





TRANSFORMING THE WAY WE BUILD

At HL-Sunway Prefab Hub, state-of-the-art technology installed enables the facility to produce a wide range of building components including Prefabricated Prefinished Volumetric Construction components, Precast Bathroom Units, Precast Household Shelters as well as Large Panel Slabs under one roof.

KEY FEATURES

Automatic Storage and Retrieval System (ASRS)

The ASRS is a multi-level storage facility that enables the storing and retrieving of precast goods automatically without the need for manual labour.

Traditionally, precast concrete panels are cast using stationary steel moulds. In a Carousel System, steel pallets will circulate along different workstations. Robotic arms and automated machinery are incorporated into multiple workstations to improve work efficiency.

As an example, a worker can now at the touch of a button and/or key, single-handedly operates the system to move a pallet loaded with precast planks, lift it and shift the pallet into holding bays. The system is programmed such that a stacker wagon will transfer the pallet to designated drawer unit across different storeys for storage.

For retrieval, a worker will again operate the system to recall specific pallets by keying in allocated pallet number and the pallet will subsequently be pulled out from storage to loading bay.

OPTIMISING LAND USE



GREENING BUILT PROCESSES



INCREASING RESILIENCY





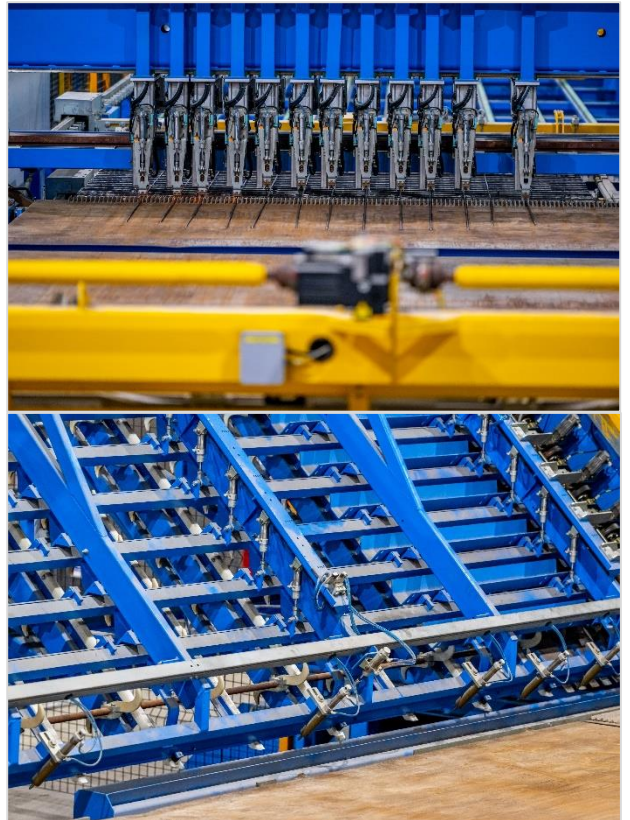
KEY FEATURES

Mesh Fabrication

Welded wire mesh are highly demanded and consumed in construction, either for concrete reinforcement or panels in walls, floors, roofs and other applications in constructions and building.

For the mesh fabrication machine located at Sunway, steel welded wire mesh for concrete reinforcement, panels in construction and so forth, can be produced in a small area noiselessly.

The process involves shop drawings being sent through the database where working files will be generated with the Building Information Modelling (“BIM”) software. After the fabrication is completed, the mesh will be transferred to the carousel system after pallet preparation is completed.



Curing Chamber

Curing Chamber is a drawer-like facility to store and allow time for concrete to set after casting. Working alongside the carousel system, steel pallets will be circulated into the curing chamber after casting for curing purpose.

As the curing chamber is made up of “drawers”, 26 pallets can be stored for curing simultaneously. This effectively release the facility space for production activities thereby increasing the overall output of the facility.



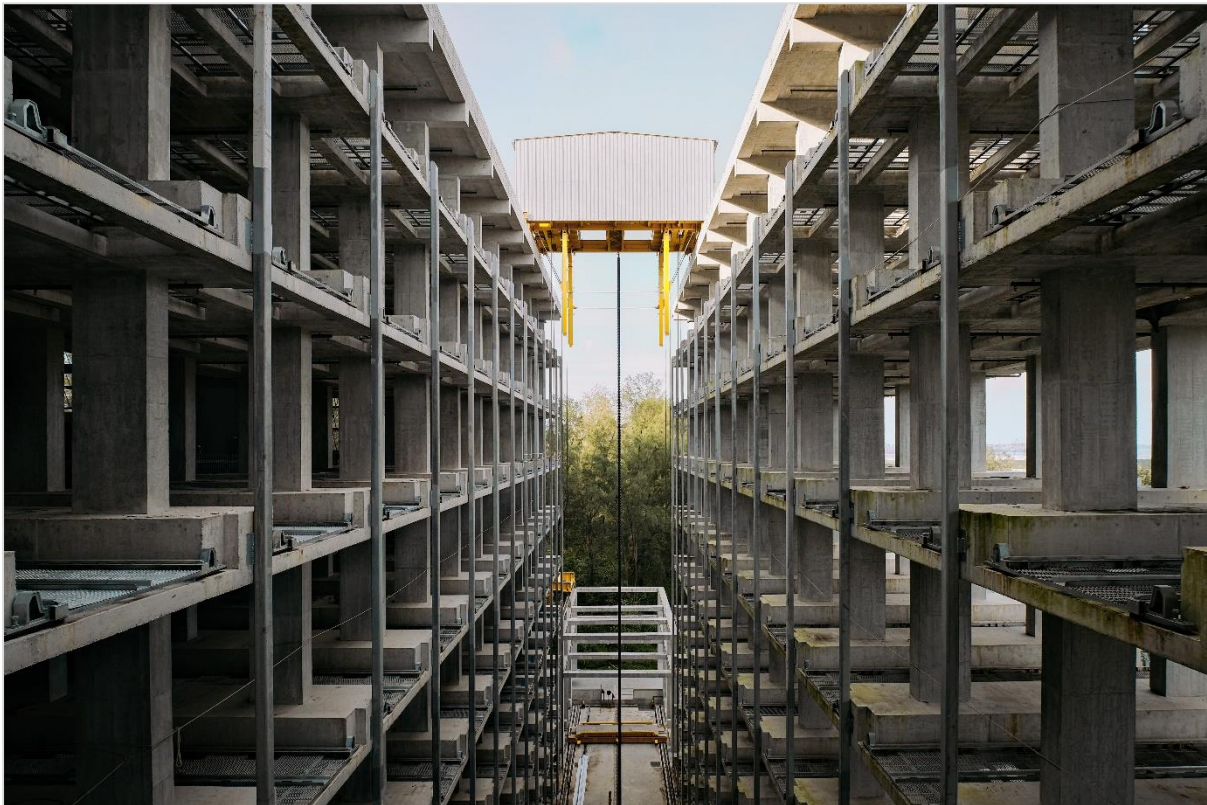
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