

1st STEEL MiC PROJECT FOR PUBLIC RENTAL HOUSING

ELDERLY HOUSING PROJECT "CHUNG YUET LAU" AT JAT MIN CHUEN, SHATIN

MiC/MiMEP Achievement Award 2025
Outstanding MiC Project (Completed)

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P&T ARCHITECTS

CHEVALIER

Achievement of Meeting Client's Expectation

Delivering the Project with the Least Site Construction Duration

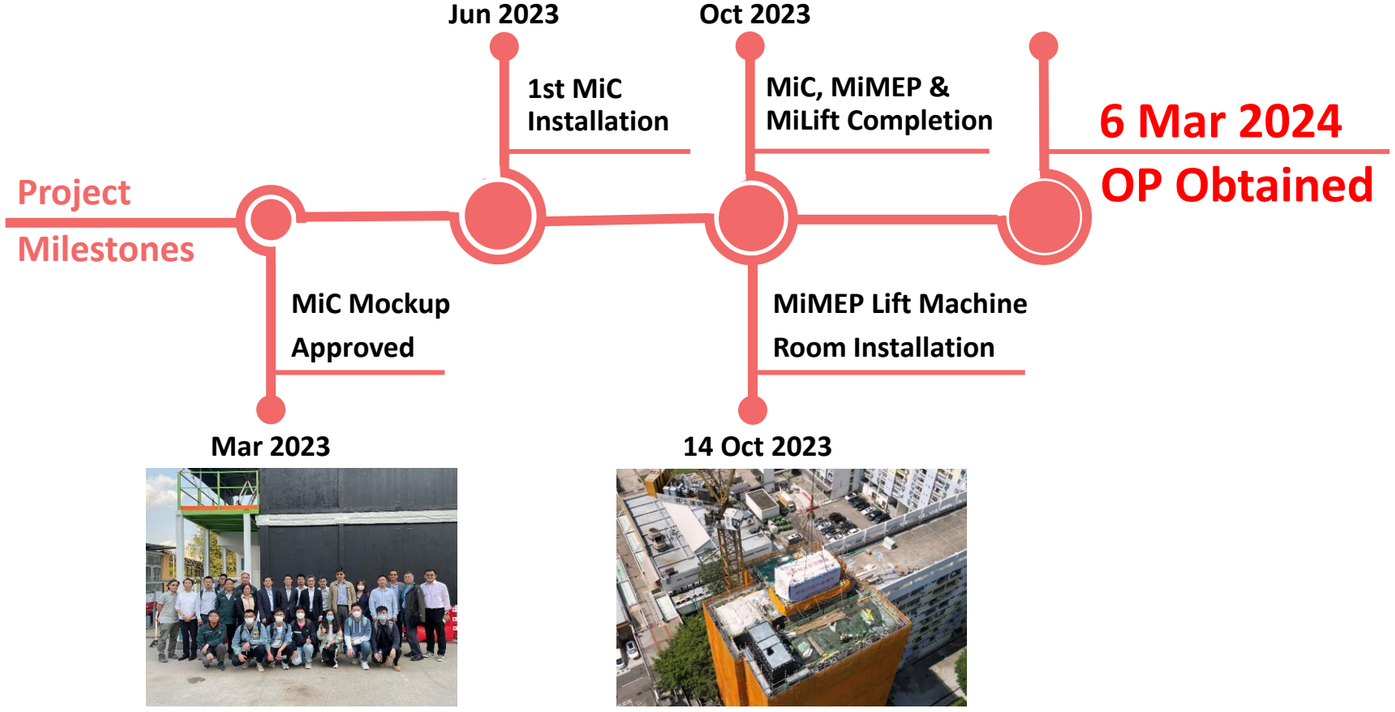
Potential Risk on Time Constraint

- Unprecedented tightness on construction duration throughout the whole project

1. Working hours 9am to 6pm Monday to Saturday
2. No work on Sunday and public holiday
3. No work is allowed 7 days before & 14 days after CNY
4. Approval from Estate Management Office for programme







Achievement of Meeting Client's Expectation

Fulfilling the Goals on Sustainability

Major Concerned Issues

- Sustainable Policy of HKHS
- Sustainable lifestyles of Residents
- United Nations Sustainable Development Goals (UNSDG)



ISO 14001 Certification Awarded



Promoted users' Awareness on Sustainability



Majority of Goals under UNSDG fulfilled

Satisfying the Client's Quality Requirements

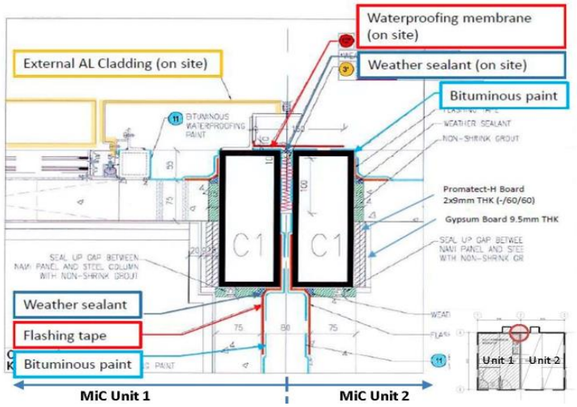
Major Concerned Issues

- Quality on Craftsmanship
- Water tightness for Building Envelope
- Aesthetic requirement





Use of Thematic Colour to Resolve Elderly Cognitive Issue



Zero Water Leakage since Completion



High Performance on Noise and Thermal Barriers

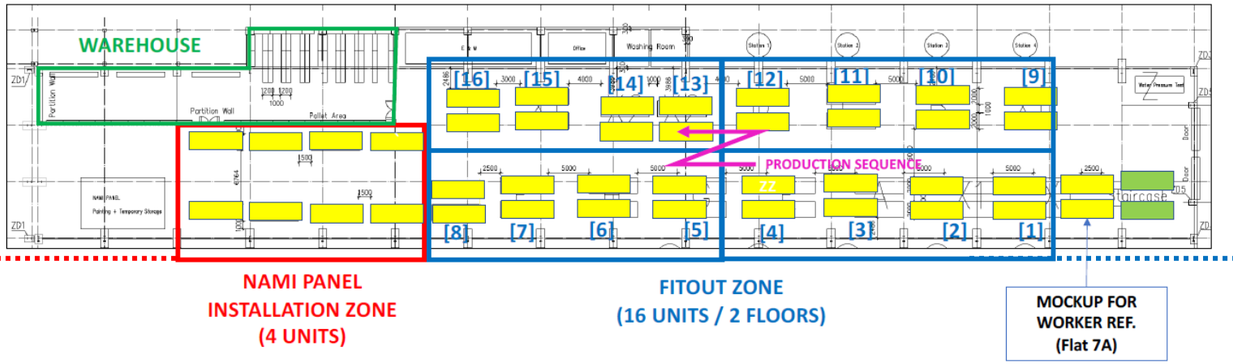
Seamless Integration & Coordination – Reliable Production Lines

Reserving a Dedicated Production Line for JMC

Ensure Smooth Fabrication of MiC Module



NAMI Panel Installation Zone



Dedicated Production Line in Factory



Fitting Out Zone

Engaging Suppliers on Key Components at Early Stage

Secure Production Slots & Avoiding Shortage of Materials



Structural Steel Frame



Concrete Floor Slab



FRR Paint on Steel Frame



Concrete Wall Panel



Kitchen Cabinet

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Capacity Building for the Workforce

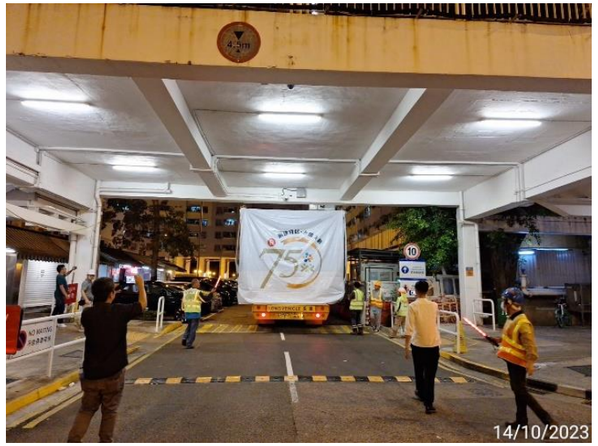
On-site Trials for MiC Transportation & Lifting



Pre-work Safety Briefing



Trial Run Delivery of the MiC Modules

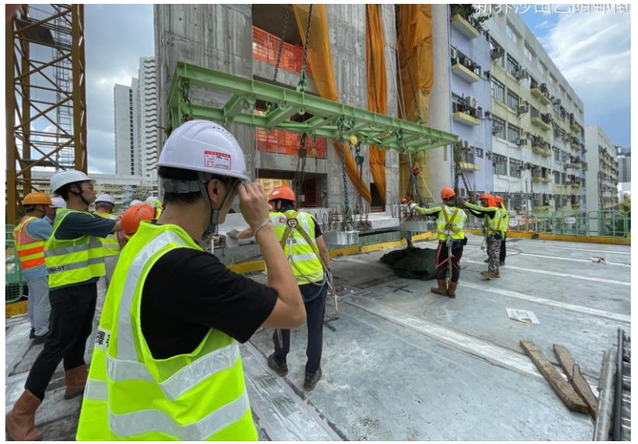


Trial Run with Concern on Height Limit



Site Supervisions on Logistics, Storage Arrangement and Public Awareness

MiC Installation under Supervision & Inspection



Supervision Team to Supervise Lifting Process



Installation of MiC Connection Plate



Independent Checker for Heavy Lifting

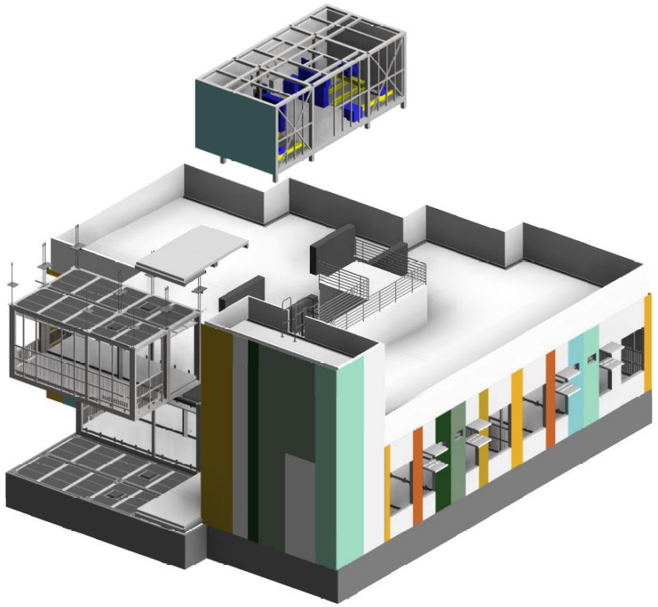


Installation of Sealant & Waterproofing Membrane being Inspected

Project Strategy

Strategic Implementation of MiC

- Delivering high-quality housing efficiently, safely, and sustainably in response to Hong Kong's growing demand for urban living spaces
- From the early planning stage, MiC was identified as a key solution to address site constraints, labour shortages, and programme acceleration
- The strategy focused on maximizing off-site construction to reduce on-site activities, thereby minimizing disruption to surrounding communities and improving overall site safety



3 Key Strategic Goals:

Programme Efficiency

- Accelerating construction timelines by parallelizing off-site module fabrication with on-site works
- Involving early engagement with MiC suppliers, design consultants, and government departments
- Complying with MiC guidelines & BD requirement

Quality & Consistency

- Achieving uniform finishes and reducing rework through factory-controlled production environments

Nuisance Reduction

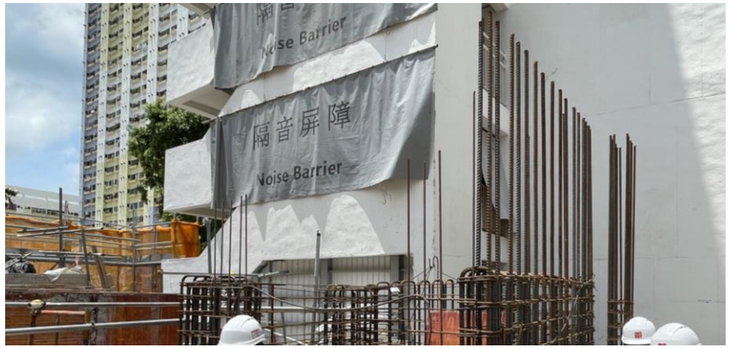
- Minimizing noise, dust, and traffic congestion in densely populated residential areas



Closely Collaboration for Seamless Delivery of MiC Module



Factory-controlled Environment for Upholding High Quality



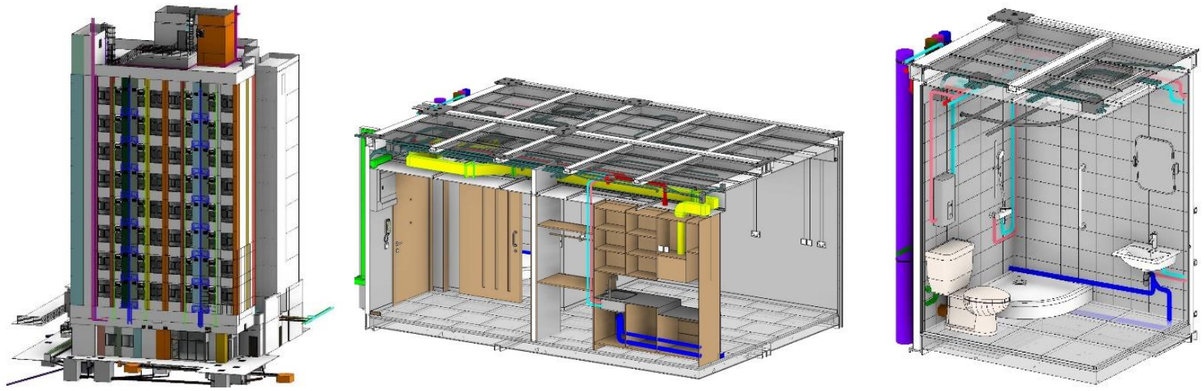
Mitigation Measure to Minimize Nuisance to Public

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Project Planning

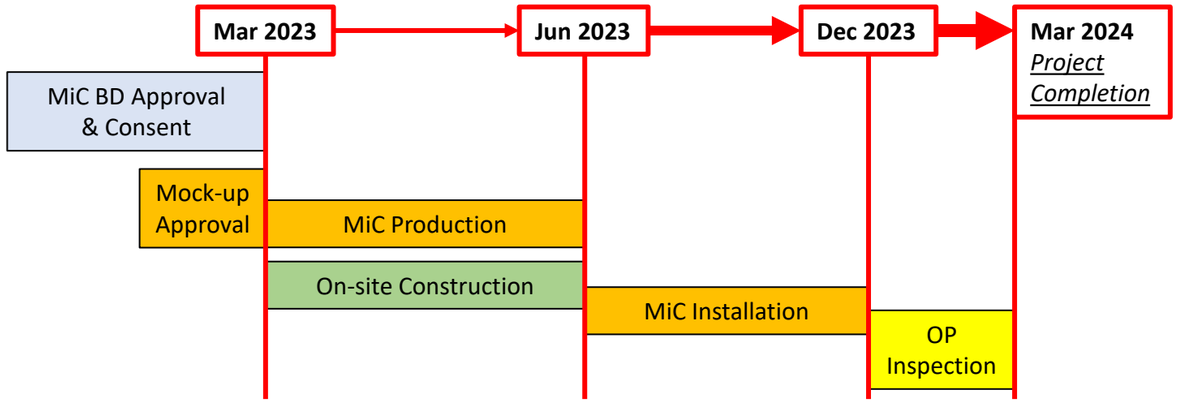
Successful Implementation of MiC by Comprehensive Planning

Design and Coordination



Integration of BIM for Resolving Conflicts at Early Stages to Ensure Smoother Construction

Programme and Scheduling



Identifying the Key Milestones at Early Stages for Successfully Execution of Work

Procurement and Supply Chain

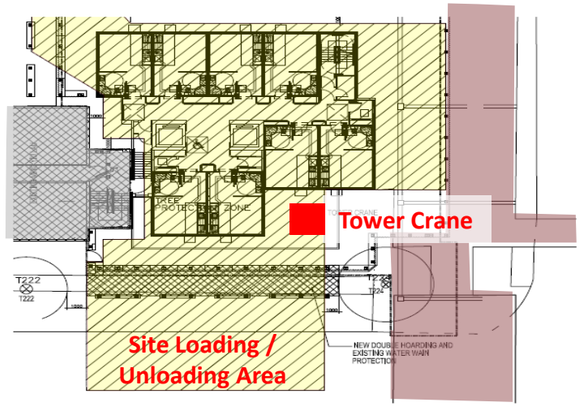


Engaging Experienced MiC Suppliers



Regular Factory Audits & Mock-Up Reviews

Site Readiness and Installation



Strategic Crane Positioning



Well-trained Installation Teams

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Efficient Time Management and Use of Resources

Management at Factory Production

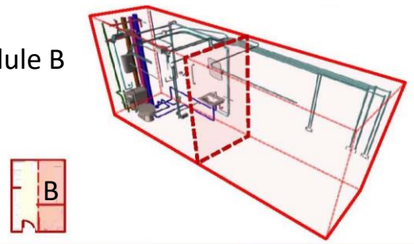
- Reducing on-site masonry & decorative work by ***OVER 90%***
- Minimizing construction waste and works on-site
- Minimizing impact due to inclement weather onto construction programme

Trade	Off-Site Works	On-Site Works
Builder Works	• Window • Paint (Ceiling & Wall) • Tile (Wall & Floor) • False Ceiling with Access Panel • Entrance FRR Door • Kitchen Cabinet • Handrail & Curtain Rail	• Paint (for connection areas) • Tile (for connection areas) • Sliding Door • Metal Gate
ELEC	• Concealed Conduit • MCB Board • Wiring within Module • Wiring Accessories • Cable Trunking	• Lighting Fittings • Wiring Connection between Modules • Cable Connection to Meter Room • ELV Cable Wiring • Doorbell & Intercom
FS	• Concealed Conduit with Draw Wire • Sprinkler Water Pipe with Sprinkler Head	• Smoke Detector/ Alarm and Wiring • Vertical Sprinkler Pipe inside Corridor
PD	• Water Pipe • Drainage Pipe • Sanitary Fitment	• Vertical Drainage Pipe outside MiC Module • EL Water Heater
MVAC	• Air Duct & Fittings • Ventilation Fan	• Kitchen Hood • Air Grilles (Bathroom)

Module A



Module B







Installation of Toilet Sinks and Wall Panels in Factory to secure Delivery Milestones



Inspection in Factory to ensure High Quality of Work

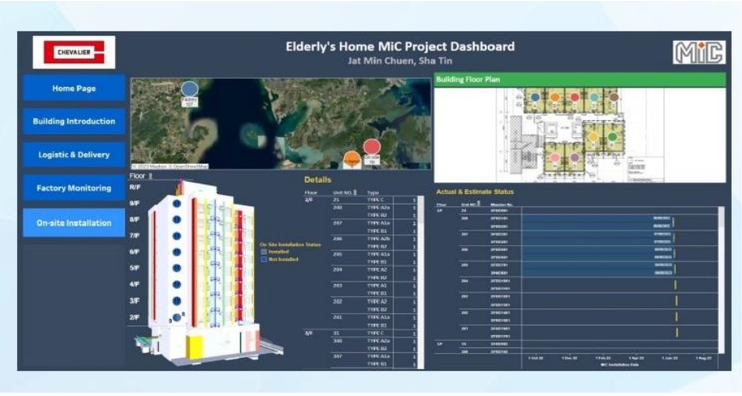
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Efficient Time Management and Use of Resources

RFID Material Tracking Technology

- Tracking the real time location of materials from factory to construction site
- Improving supply chain management
- Reducing the risk of burglary or lost
- Ensuring real time delivery of MiC modules for installation





RFID Scanning of MiC Module upon Site Arrival

Temporary Storage in Yuen Long

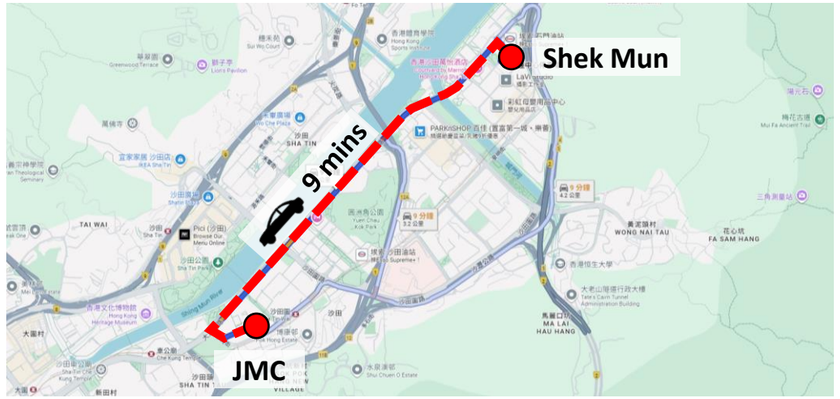
- Owned by Main Contractor for better inventory and security control
- Providing the area with the capacity to store 17 nos. of MiC module
- Avoiding potential customs delays at boundary control points to ensure timely delivery



Temporary Storage for MiC Module at Lau Fau Shan

Advanced Planning for Delivery

- Setting up a temporary transfer point at Shek Mun (about 9 mins travelling time to site) as interim measures to achieve a "**just-in-time**" supply chain flow for MiC installation



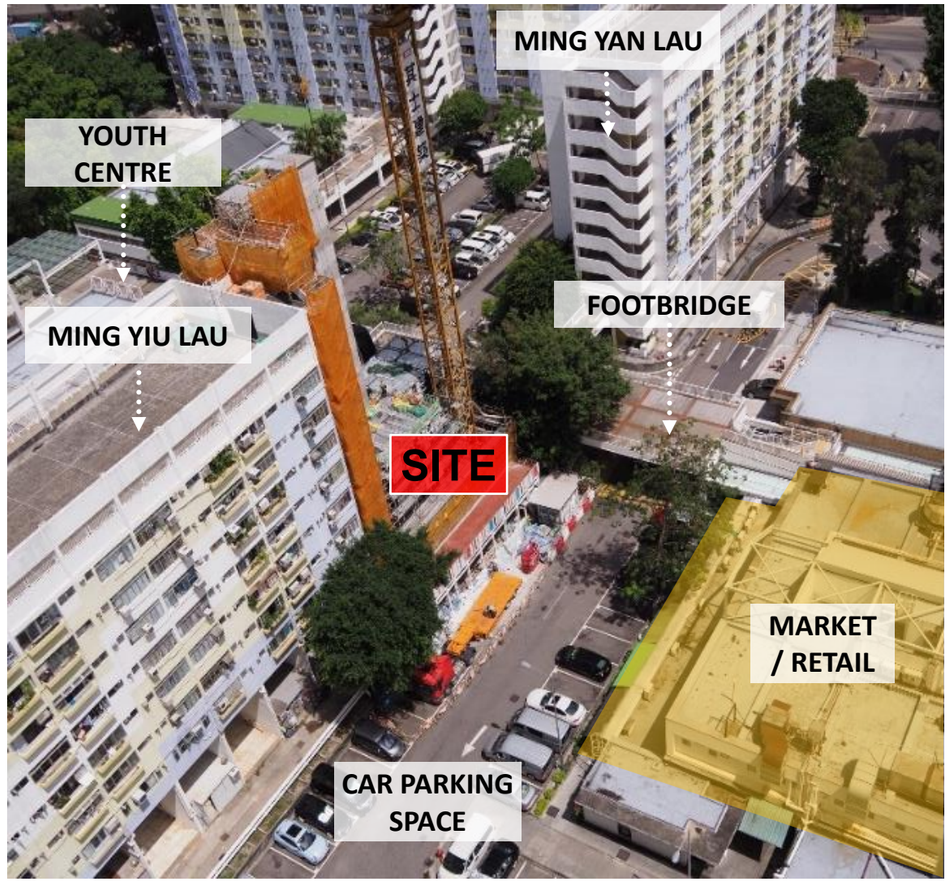
Route from Shek Mun to JMC

Design for Safety Exceeding Statutory Requirements

Concerns

Situated in an Overcrowded Neighbourhood

- Construction work within a high population site
- Congestion with existing vehicular traffic flow
- Construction at height with heavy pedestrian traffic on grade



Solutions

Appointing Independent Safety Checker (ISC)

Bi-weekly Safety Workshop with ISC → **ISC Endorsed Method Statement** → **ISC On-site Inspection for Safety**



Safety Workshop with ISC



ISC on-site Inspection

Traffic Control for Module Lifting



Traffic Control Management



Trial Run on Delivery of Module in Advance

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Design for Safety Exceeding the Statutory Requirements

ZERO Accident Rate ACHIEVED

Solutions

Design to Minimize Risk on Falling from Height



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OFFSITE FABRICATED PRECAST SLAB WITH MiMEP

- Minimizing works at high level on-site

INSTALLATION OF SAFETY BARRIER

- Incorporating recessed provisions at the design stage to facilitate on-site installation of safety barriers



SCAFFOLDING-LESS WORKING PLATFORM FOR LIFT INSTALLATION

- Replacing traditional scaffolding in lift core with scaffolding-less system to enhance safety

Safety Training





VR FOR SAFETY TRAINING SIMULATIONS

- Allowing workers to practice safety procedures in a safe and controlled environment
- Improving workers' understanding of hazards
- Improving workers' ability to respond effectively in emergency situations

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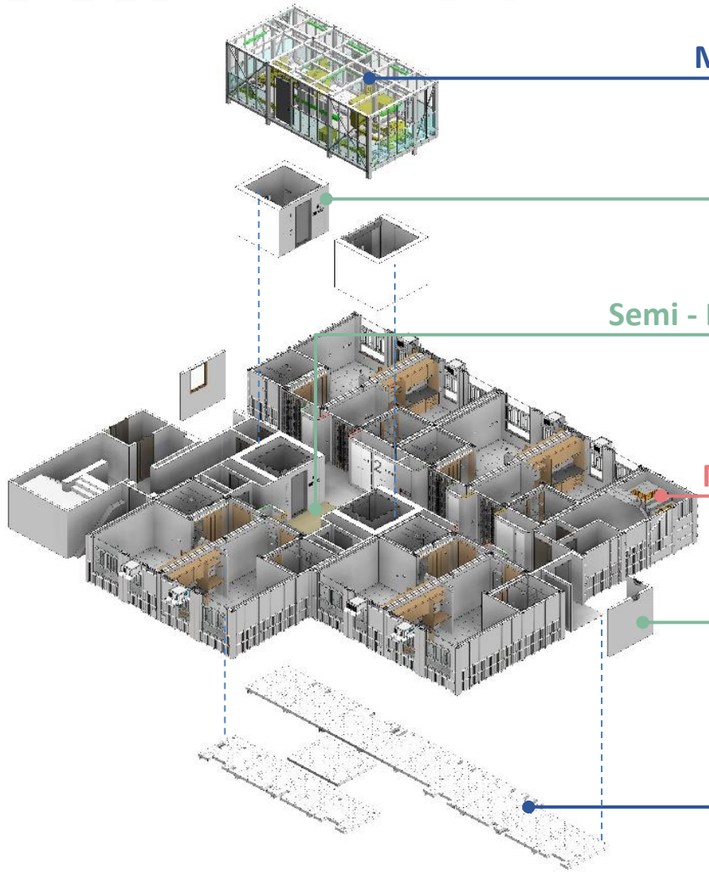
Innovative Design Solutions

Adoption of BIM & MiC Technology in JMC

226 Nos. of MiC Module & Precast Elements

17 Nos. MiC Module per Storey *(5 types of repetition)*

10 Nos. Precast Elements per Storey



MiMEP Lift Machine Room
1 no.

Precast Lift Core
18 nos.

Semi - Precast Slab for Lift Lobby
7 nos.

MiC - Flat Unit & Staircase
137 Modules

Precast End Wall
16 nos.

MiMEP Corridor Slab
47 nos.

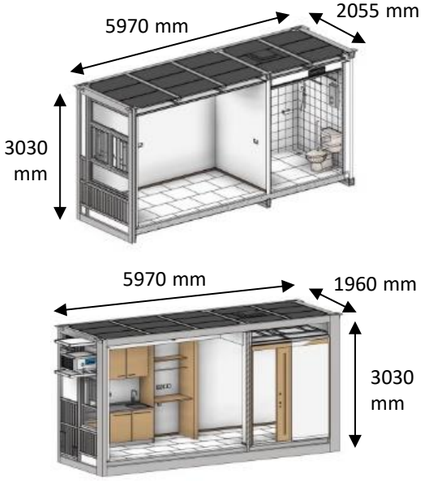
Overall MiC adoption rate = 62%

MiC area to CFA in typical floor = 72%

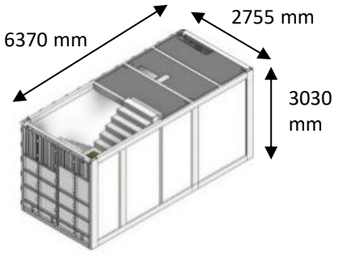
Modularization Rate of typical floor (Above 2/F) > 90%



Flat Unit Module



Staircase Module



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