



UNITED TEC

CONSTRUCTION PTE LTD

聯毅建設工程私人有限公司

Singapore's PPVC Journey

How we built the world's tallest PPVC building

Presented by:

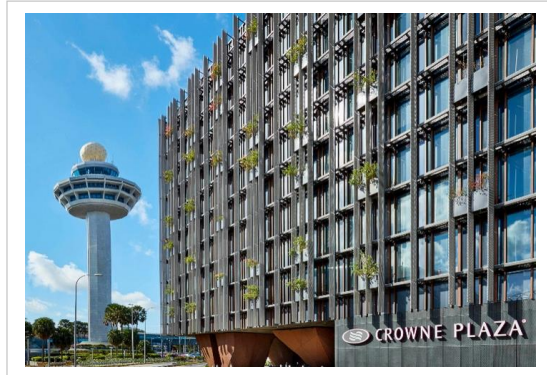
Allan Tan

Founder & Managing Director

14th December 2022



PPVC In Singapore



Steel

2014
Crowne Plaza Hotel Extension
10 Storeys
252 Steel PPVC Modules
243 Keys
17 months



Steel

2016
Woodlands Nursing Home
9 Storeys
343 Steel PPVC modules
248 Beds
4 months PPVC Installation

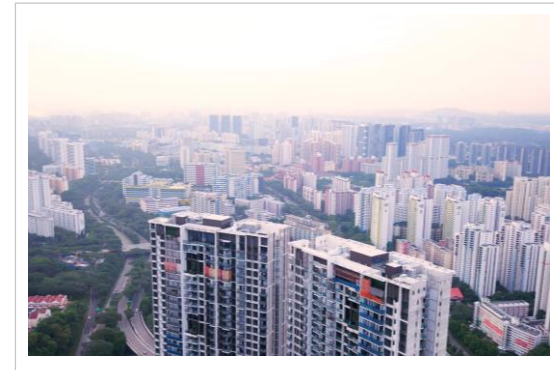
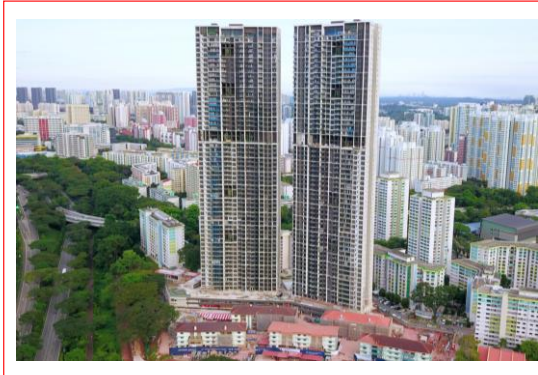


Reinforced Concrete

2016
The Clement Canopy
40 Storeys
1,866 Reinforced Concrete PPVC modules
505 Units
12.5 months for tower completion

then **World's Tallest PPVC Building**

PPVC In Singapore



2018

United Tec Construction

- Focus on **PPVC** projects
- 7 out of 8 projects is **PPVC**

2018

Avenue South Residence

56 Storeys
3,034 RC PPVC modules
1,074 Units
18 months for tower completion

now **World's tallest PPVC building**

Today

- **80+ PPVC projects in Singapore**
- PPVC mandatory in private residential projects
- Prefabricated MEP in residential buildings

Avenue South Residence

Client: United Venture Development (UOL)
Contract: Design & Build Contract
Project Value: S\$ 290m | HK\$1.66b
Total GFA: 92,876 m²
Site Area: 22,851 m²

Project Details

2 Towers, 56 storeys
1,074 Units
56 Storeys In 18 Months



World's Tallest PPVC Building



- Foundation Start : **Jan 2019**
- PPVC Start : **Feb 2020**
- Covid-19 (Lockdown) : Apr-July 2020
- Tower 1 PPVC complete : **27 Nov 2021**
- Tower 2 PPVC complete : **11 Jan 2022**

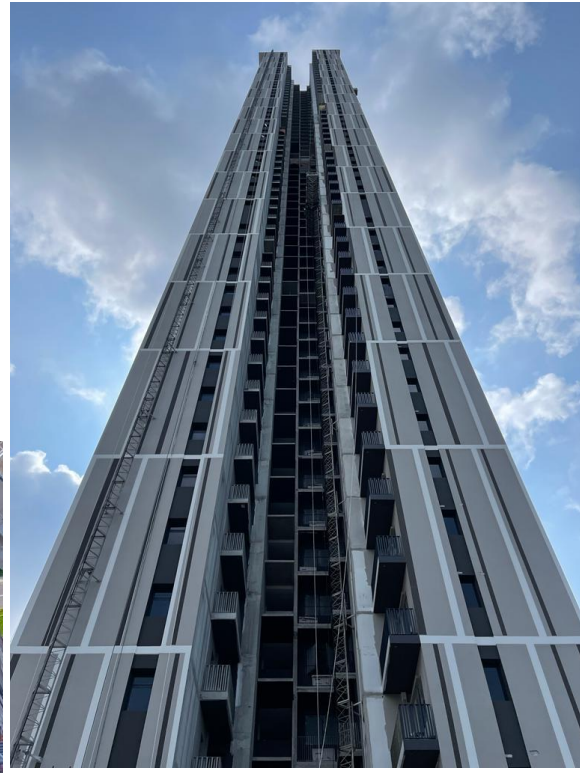
- PPVC Duration : **18 months**
- Floor Cycle : **8.4 days**

- Total PPVC Modules : 3,034
- Module Weight: 30+ tonnes

- **190m ++ Height (AMSL)**

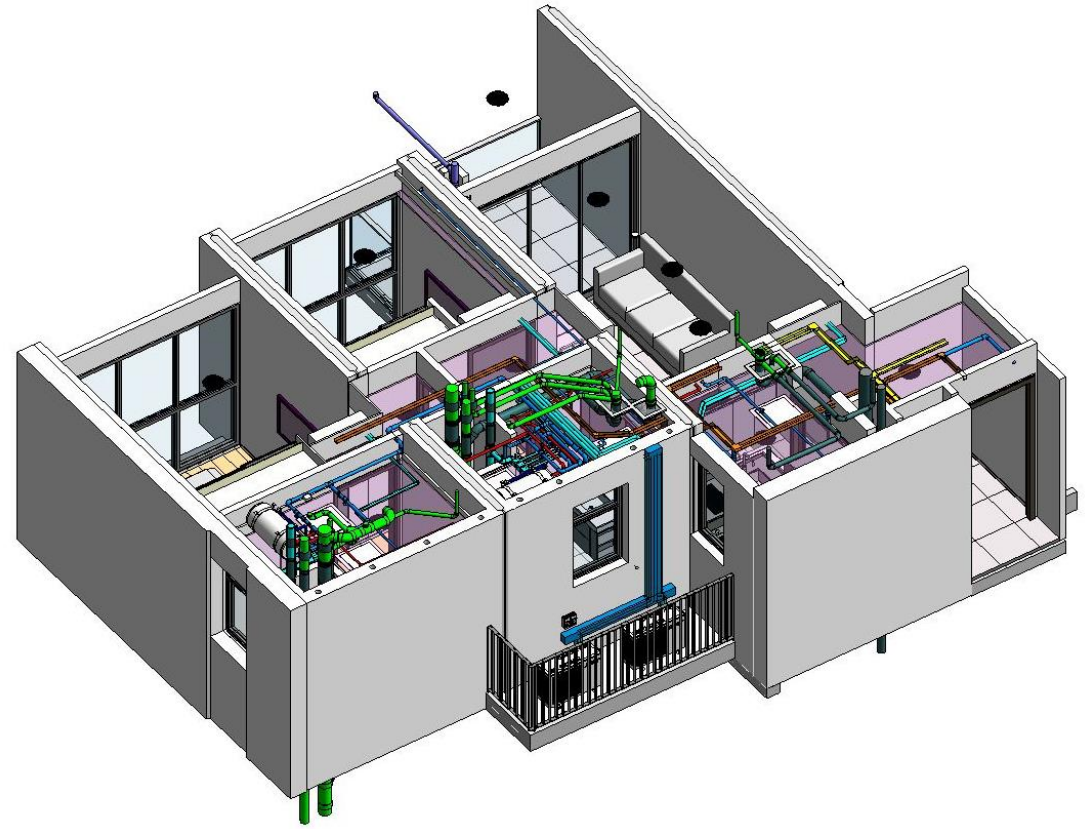
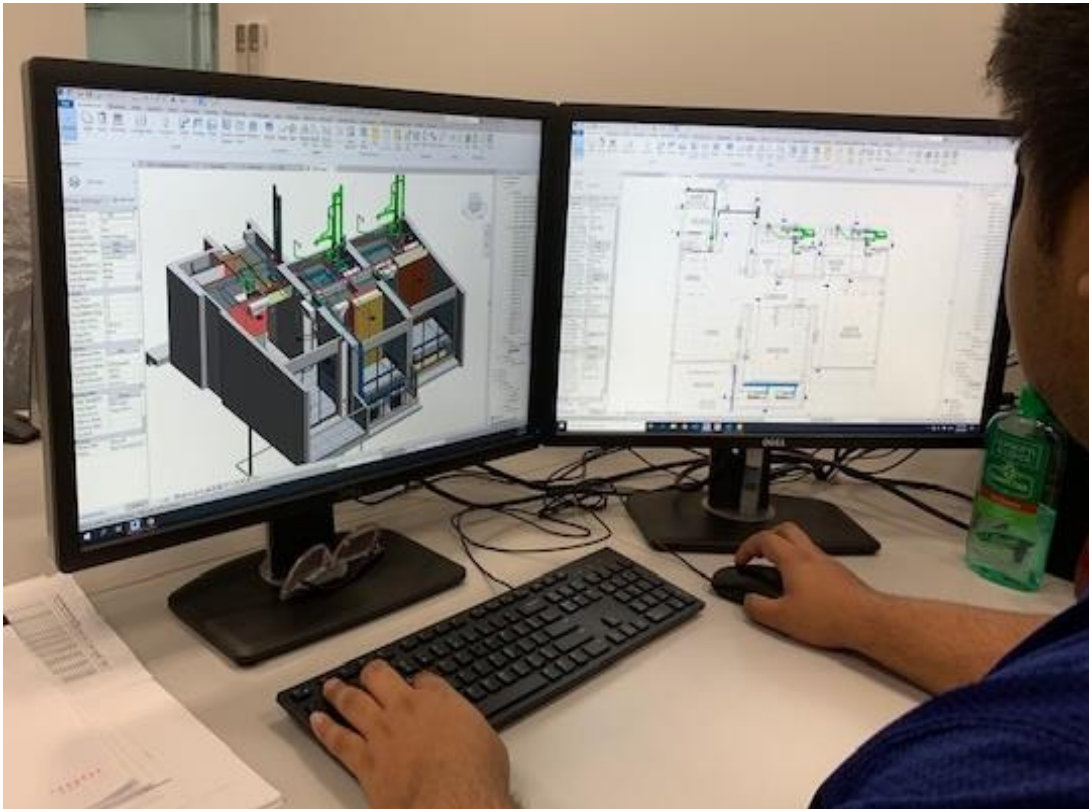
- **750,000 Man Hours Safety Award**

Current Status



How Did We Do It?

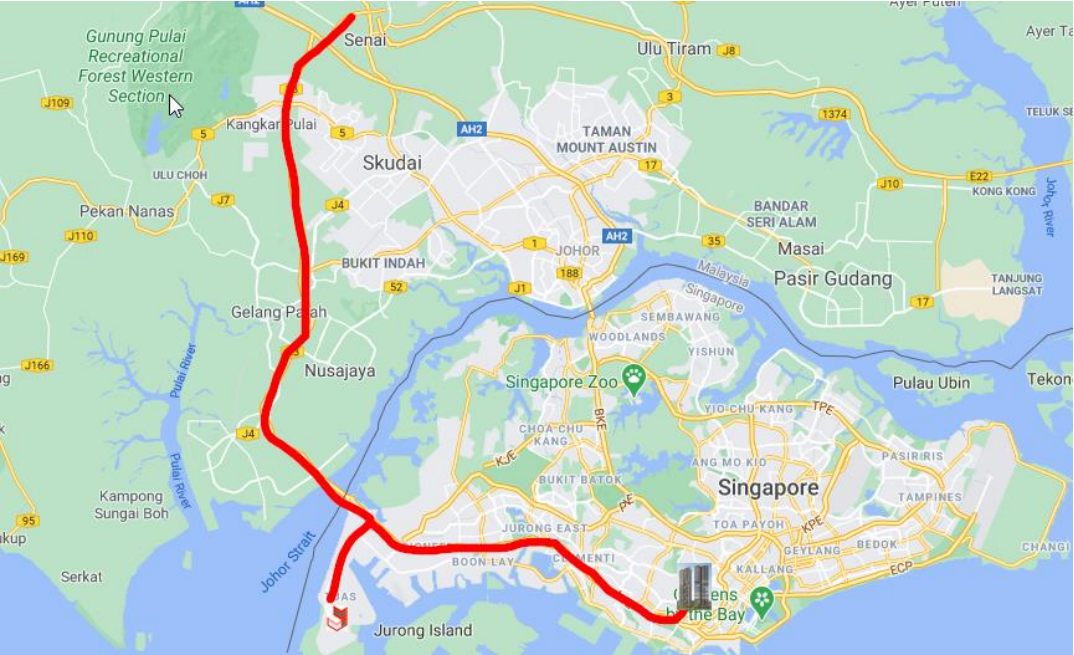
1. Design Capability



2. PPVC Construction



3. Logistics Management & Tracking



Delivery Schedule

Monday 7 Feb	Tuesday 8 Feb	Wednesday 9 Feb	Thursday 10 Feb	Friday 11 Feb
	Planned	Planned	Planned	Planned
5 - 23 ⚠	5 - 26	6 - 10	6 - 22	6 - 28
5 - 24 ⚠	5 - 27	6 - 11	6 - 23	6 - 29
5 - 10	5 - 28	6 - 12	6 - 26	6 - 13
5 - 11	5 - 29	6 - 20	6 - 27 ⚠	6 - 14
5 - 20		6 - 21		6 - 15
5 - 21				
5 - 22				

4. Right Construction Method

a. Lifting

b. Installation Capability



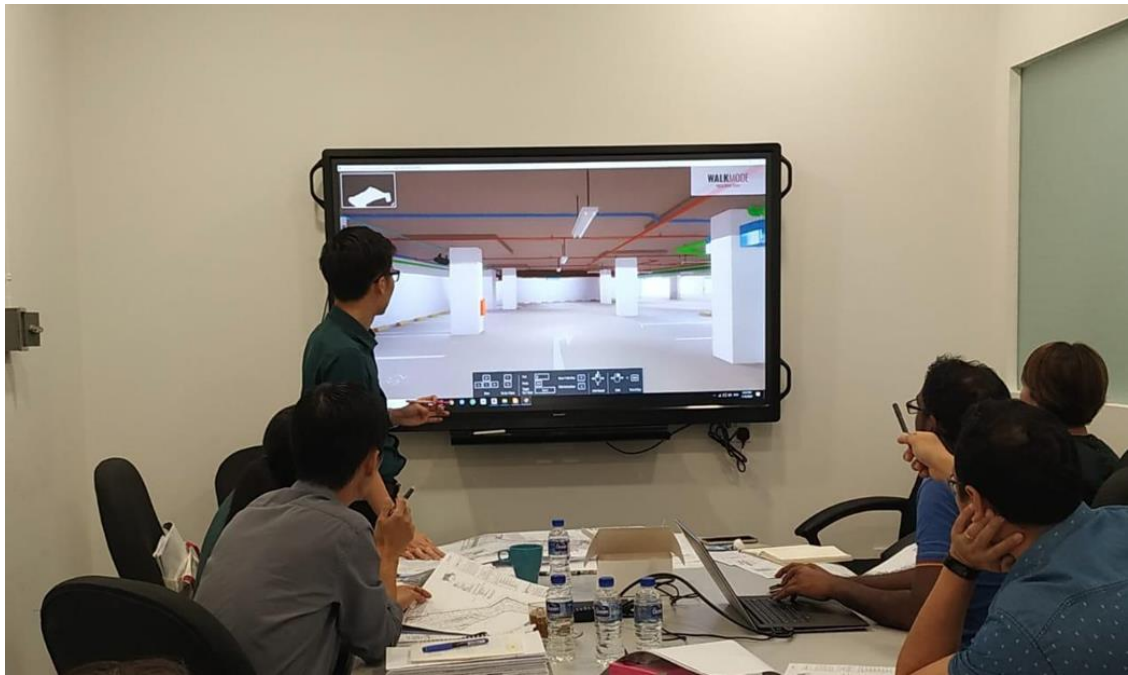
5. Train Inexperienced Workers To Skilled Workers



6. Government's Support & Client's Trust In Us



7. Cooperation Between All Stakeholders



8. Completed By A Young Team



PPVC Is A Game Changing Technology

Reinforced Concrete PPVC is proven to work!

PPVC Is A Game Changing Technology

- Change our mindset, skills:
build in 3D, not 2D
- Use technology for design, tracking, logistics
- Opens the doors to young engineers
- Room for innovation: 3D printing, robotics, AI



