

# Off-site construction the way to go

Prefabricated prefinished volumetric construction (PPVC) is one of the game-changing technologies that support the Design for Manufacturing and Assembly (DfMA) concept to significantly speed up construction.

## WHAT IS PPVC?

PPVC is a construction method whereby flats or modules made up of multiple units complete with internal finishes, fixtures and fittings are manufactured in factories, and are then transported to work site for installation in a Lego-like manner.

## WHAT ARE THE BENEFITS OF PPVC?

- A high-rise residential project that takes three years to complete can potentially save nine months if PPVC is used.
- It can potentially achieve a productivity improvement of 35 to 40 per cent in terms of manpower and time savings, depending on the complexity of the projects.
- Dust and noise pollution can be minimised as more activities are done off-site.
- With the bulk of the installation activities and manpower moved off-site to a factory controlled environment, site safety will also improve.

## WHAT IS DfMA?

DfMA is a new approach in the construction industry. By bringing more work off-site, manpower and time needed to construct buildings are reduced, while ensuring work sites are safe, conducive and have minimal impact on the surrounding living environment.

## WHAT HAPPENS AT THE CONSTRUCTION SITE?

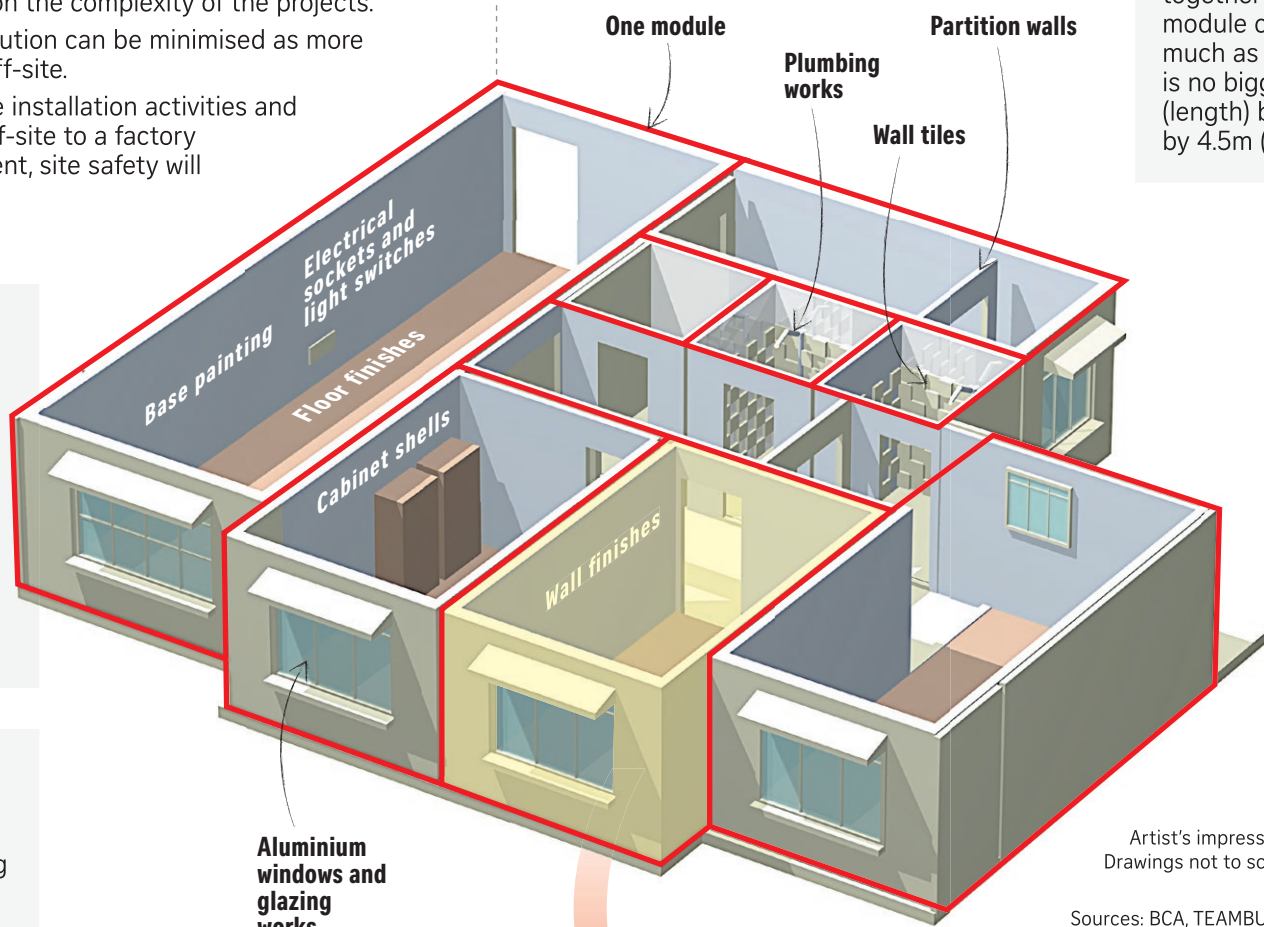
The finished modules are stacked like Lego pieces and fastened together on site. Each module can weigh as much as 80 tonnes and is no bigger than 12m (length) by 3.4m (width) by 4.5m (height).

Very little wet works is done on-site.

Artist's impression. Drawings not to scale.

Sources: BCA, TEAMBUILD STRAITS TIMES GRAPHICS

High-capacity tower crane



## HOW ARE MODULES MADE?

Each module is fabricated off-site, complete with walls, floors and ceiling. Finishing works, which include painting and flooring, are done prior to transport.

## HOW ARE MODULES TRANSPORTED?

Large load-bearing trucks are used to transport the finished modules to the construction site.

