



ICC MODULAR BUILDING SOLUTIONS

Faster & Finer Construction for Your Building Needs



International Construction Consortium (Pvt) Ltd

ICC - A PROVEN LEADER

ICC, having the highest CIDA grading CS2 and with over 40 years of Design and Construction experience in Sri Lanka and overseas, has used this experience and expertise to develop and introduce a range of engineering products to the local construction industry. Being the leader in Precast Concrete Manufacturing in Sri Lanka, and having entered the Property Development Market in 1999, ICC takes a step forward by introducing a “Modular Building solution” for the first time in Sri Lanka with Prefabricated Prefinished Volumetric Construction (PPVC) technology, to revolutionize the Sri Lankan construction industry.



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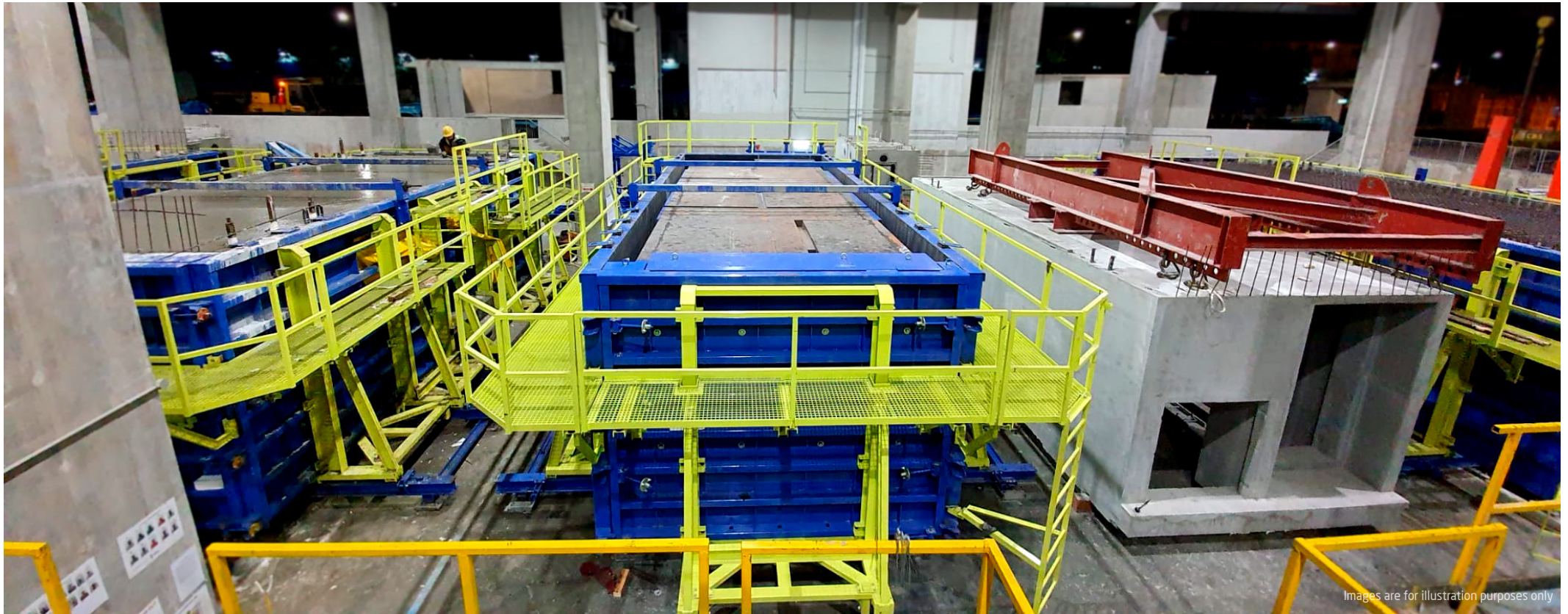
ICC MODULAR BUILDING SOLUTIONS

BUILD - IN- BLOCKS WITH PPVC

Prefabricated Pre-finished Volumetric Construction (PPVC) is one of the most advanced modular construction technologies, introduced globally to promote the construction industry towards greater productivity by planning and executing more works off-site than on-site. By reducing the works on-site, both manpower and construction time on site are automatically reduced, whilst ensuring a safer and a more conducive work environment with a minimal impact on the surrounding living spaces.

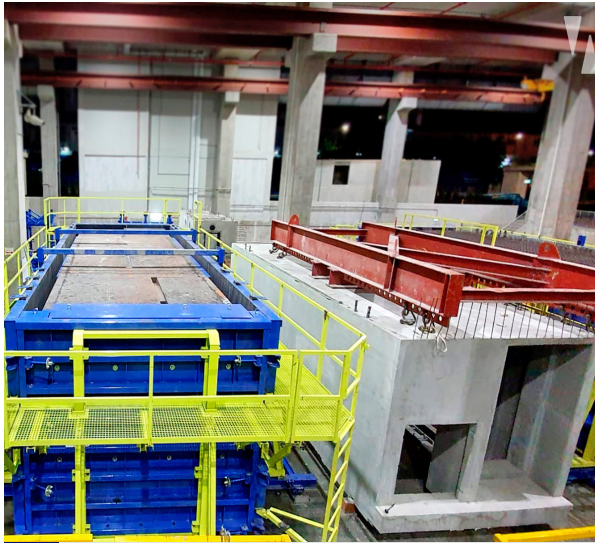
Modular building solutions generally imply the use of PPVC technology that facilitates off-site fabrication. Modules made of multiple units, complete with internal finishes, fixtures and fittings are transported to site and installed in a Lego-like manner.

PPVC systems have been widely adopted in low, medium and high rise buildings throughout the world, especially in densely-populated countries like Singapore, USA, Malaysia and Maldives. Such systems will resolve the anticipated manpower shortages in the construction industry to a great extent, thereby supporting enhanced sustainability.



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STAGES IN ICC MODULAR BUILDING SYSTEMS...



01 CASTING OF THE CARCASS



02 FIT OUT



03 TRANSPORTATION



04 LIFTING AND ERECTION



FASTER & FINER CONSTRUCTION FOR YOUR BUILDING NEEDS

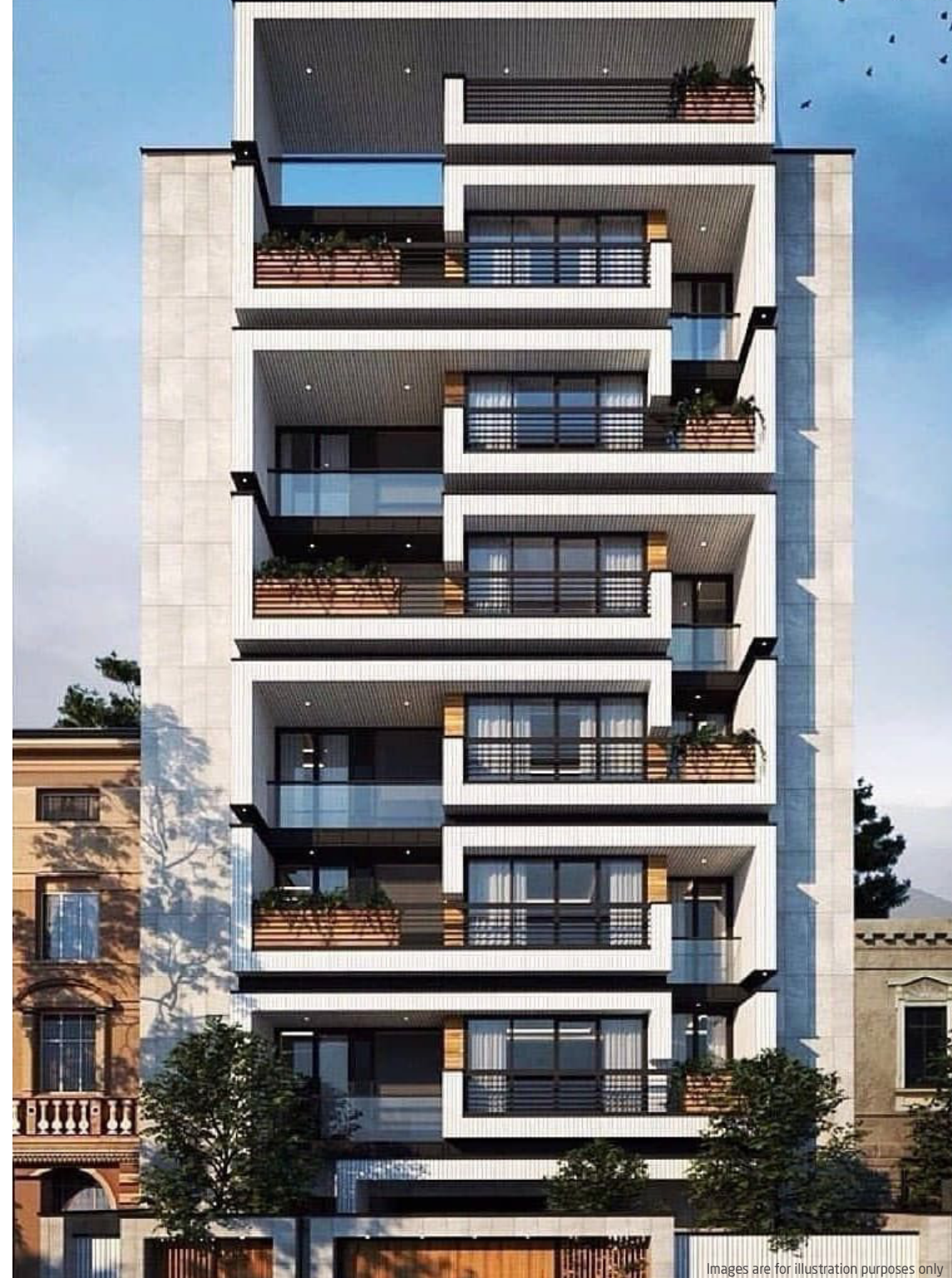
ARCHITECTS

CREATIVITY WITHOUT COMPROMISE

As an architect, when working with modular buildings you quickly learn that time is money. Clients that invest in modular construction are constantly trying to get up and run as fast as possible. Fortunately, while the modules are assembled off-site, site preparation and foundation construction are simultaneous activities on-site. The overlap of timelines clearly helps the clients for a faster occupation.

Architects that work with modular buildings find no design limitations. Doors, windows, and façades are easily customized. It is possible to achieve any type of style, from colonial to contemporary which means the “boxy” look is no longer an issue.

- Systems and materials enable high quality architecture and interiors.
- Open systems allow products, structures and shapes to be easily combined.
- Safe solutions and proven techniques to fulfil the requirements of building regulations.
- Personalized according to client requirements.



STRUCTURAL ENGINEERS

ACCURATE DESIGN TO TURN YOUR VISION INTO REALITY

According to the latest trends, modular buildings maintain their structural integrity better than traditional buildings, making them a great option for fulfilling an array of consumer needs. We combine structural engineers and designers and architect in developing cost-effective quality controlled modules. Our technology crafts the perfect designs, whether your requirement is to build a low/high rise residential property or a mid-rise hotel chain. Whether you want to add to an existing building or construct a new one, modular design can be the best way forward.

- An easy, safe and dependable system of design.
- Proven structural details.
- Clearly defined performance values for structures.
- A clear system and guidelines for bracing the building.



DEVELOPERS AND INVESTORS

BUILDINGS FOR ALL NEEDS

Due to the highly competitive environment, investors and developers have been compelled to acquire a return on their investment in the short term. PPVC comes with an all-inclusive solution for investors and developers and in addition, the time, manpower and other cost reductions would bring-in desired results. The safer work environment would reduce injuries and the factory production of the modules will ensure a consistent quality and minimize wastage.

- A short construction phase — less time to wait on investment returns.
- An attractive product for modern and environmentally conscious customers.
- A system that can be customized for varying appearances, building types and sizes.
- An industrial quality — all critical phases that have been built in controlled conditions.
- An attractive investment option in terms of environment & Financial sustainability



EVOLUTION IN PRECAST CONSTRUCTION

LEAPS IN EFFICIENCY

IN-SITU CONSTRUCTION



In situ or on-site construction refers to work which are carried out totally at the end location.

LINEAR INTEGRATION



In this system, linear precast elements, such as beams & columns are assembled together at site, using in-situ or mechanical connections.

2D INTEGRATION



Pre-cut, pre-sized, pre-moulded or pre-shaped components manufactured off-site and assembled on-site. They often arrive as flat-packed panels or non-volumetric systems which are ready for assembling.

3D INTEGRATION



Prefabricated Prefinished volumetric construction (PPVC), modules completed with finishes and fit outs, produced in the factory and transported as separate units to the location for final installation.

SITE BUILT

PARTIALLY PREFABRICATED

FULLY PREFABRICATED

1 Time saving



Up to 40 %

4 Environment Friendly



Less noise and dust

2 High Quality



Factory finished

5 Zero Wastage



Cleaner job site

3 Better Safety



Less Job site hassles

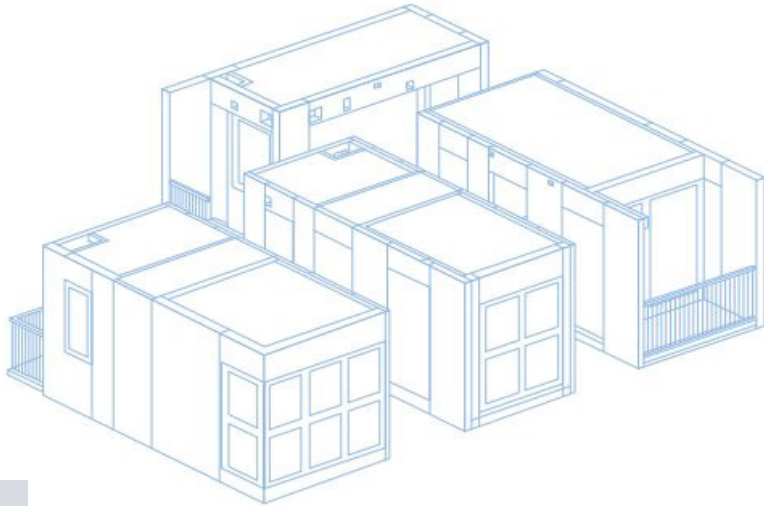
6 Improved Productivity



Quick Handover

PPVC MODULAR CONCEPT AND PROCESS

ICC modular building solution adopts PPVC Technology where the modules are being built in controlled factory conditions and delivered to the site with all finishing materials and services installed.

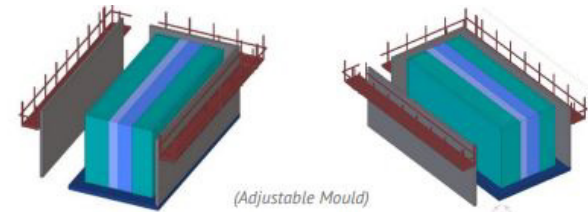


1. DESIGN PROCESS

PPVC has its own proprietary system for manufacturing different PPVC modules, according to the requirement of the clients. Hence, ICC as the PPVC Fabricator as well as the main contractor will coordinate with the client and the architect from the initial design stage itself, to incorporate clients and architects inputs into the design for better and more effective technical solutions. This will vastly increase the buildability of the PPVC designs, leading to greater productivity in construction.

1

Mould design



2

Mould fabrication



3

Mould delivery to factory and setting up at factory





2. MANUFACTURING PROCESS

Moulds are fabricated in steel, to increase the number of reuses and to maintain consistent precision in module dimension. These moulds are three-dimensional and can be customized to cater to several combinations of dimensions according to customer requirements.

- Mould Design and Fabrication
- Mould delivery to factory and setting up at factory
- Reinforcement cage fabrication
- Installation of MEP and other cast-in items
- Inspection prior to concreting
- Concreting carcass
- Completion of curing, de-moulding and post-pour inspection
- Shifting / turning and storing the modules
- Carcass Fit out of the interior

3. TRANSPORTATION PROCESS

To maintain QAQC standards of PPCV modules, ICC develops a comprehensive transportation and logistics plan to avoid potential damages during transportation. The deliveries are being planned and coordinated to avoid traffic congestions especially in urban areas and at the site.

4. ON SITE ASSEMBLING PROCESS

The modules are configured according to the design layout. The geometry of the modules can be simplified for easy construction. The number of modules will vary, depending on the type of the project or the design (Residential – low rise, Executive accommodation – midrise, etc.)

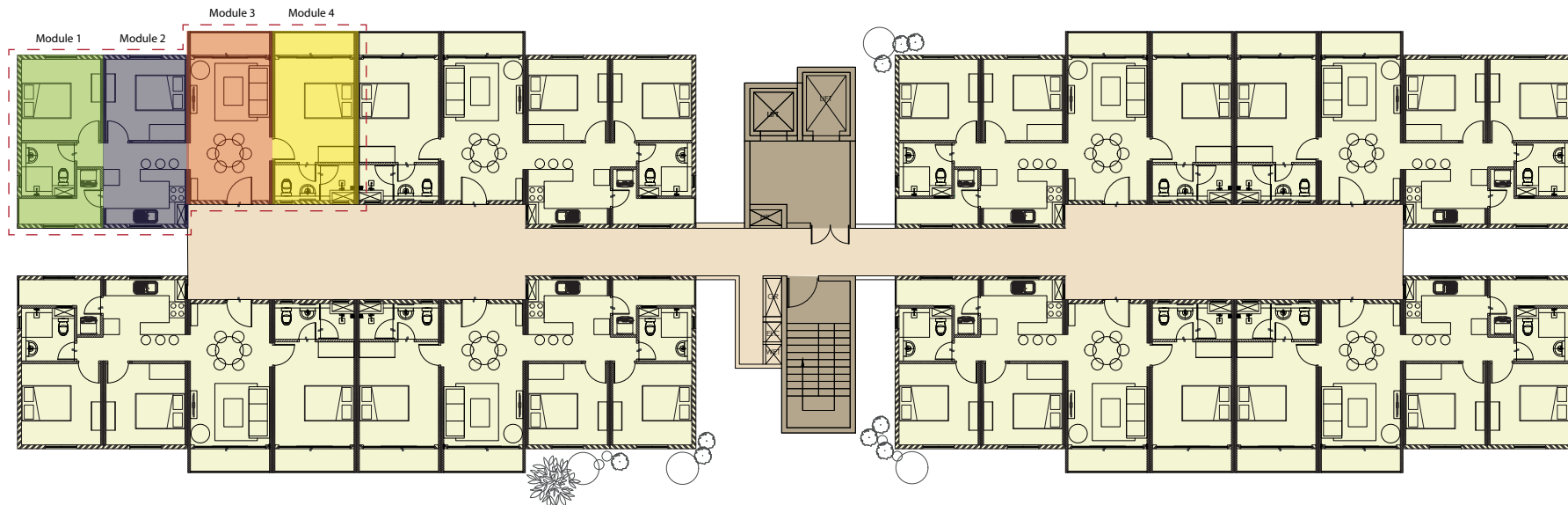
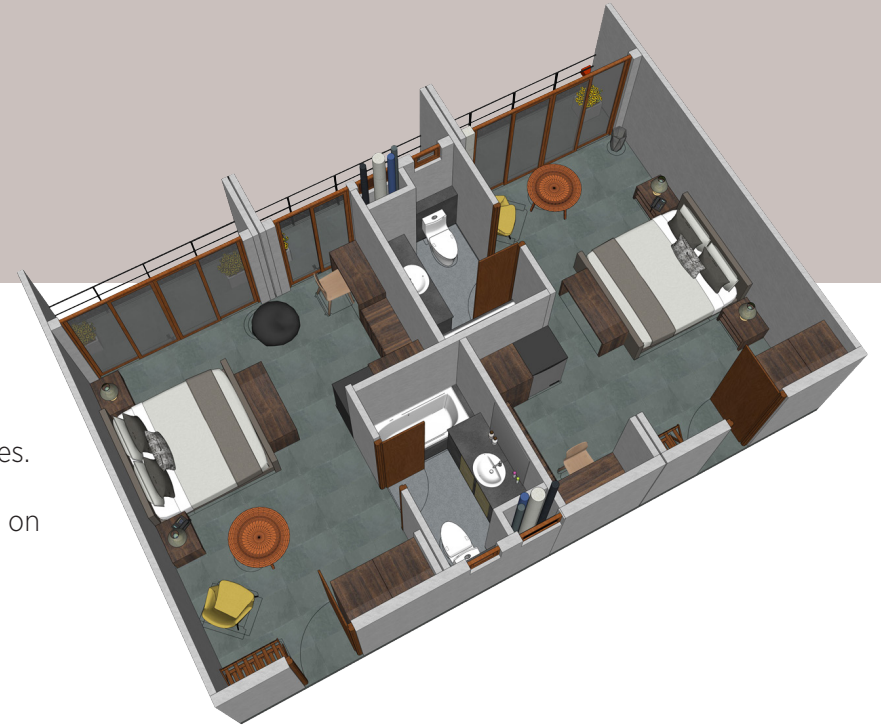


APARTMENTS

MODULAR SOLUTIONS

PPVC apartment complexes by ICC is the ideal solution to accommodate the rapid demand for apartments. Designed for low and mid rise, ICC -Modular building solution will revolutionize the construction industry of Sri Lanka.

- The sample layout shows an apartment floor consisting of 3 BR apartments (4 on each)
- 2BR apartment is formed using 3 modules while a 3BR apartment is formed using 4 modules.
- Layouts can be adjusted accordingly, to accommodate customer requirements, depending on the availability of land.
- The structural rigidity of the building is obtained by providing peripheral and internal ties according to the standard guidelines.



EXECUTIVE ACCOMMODATIONS

WELCOMING COMFORTS

PPVC technology is ideal to construct facilities such as Accommodation and Hostels, since the repetitive nature of the design makes it very convenient to construct medium to high rise complexes.

- The sample layout shows a combination of 9 PPVC modules.
- One modular box is converted to accommodate the amenities of a hostel room, the staircase and the corridor are cast in-situ.
- Layouts can be adjusted accordingly, to accommodate the customer requirements, depending on the availability of land.

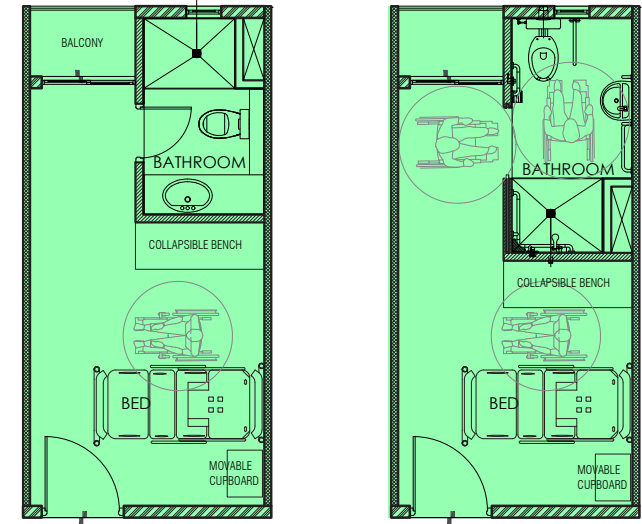


HOSPITALS

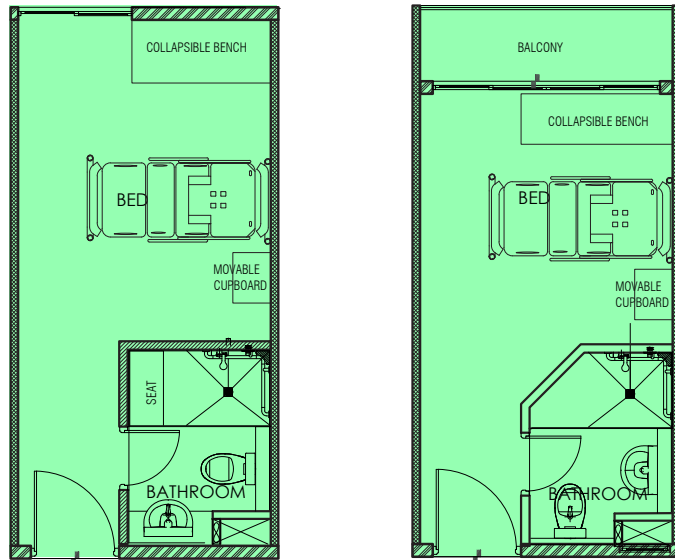
PLEASANT STAY

Demand for private and government medical facilities remains high in Sri Lanka, PPVC technology comes as an ideal solution using less labour force in a timely manner, with better consistency in all aspects.

- The sample layout shows how a PPVC modular box can be converted into a hospital room.
- Different hospital room layouts (interiors, size, positioning) can be fabricated using a single module.
- Layouts can be adjusted accordingly, to accommodate the customer requirements, depending on the availability of land.
- A hospital ward or a combination of wards with in-situ corridors can be formed by combining multiple PPVC modules.
- Ideally suited for locations with poor infrastructure and non availability of raw materials.
- Suitable for low and medium rise buildings.



LAYOUT 2



LAYOUT 1

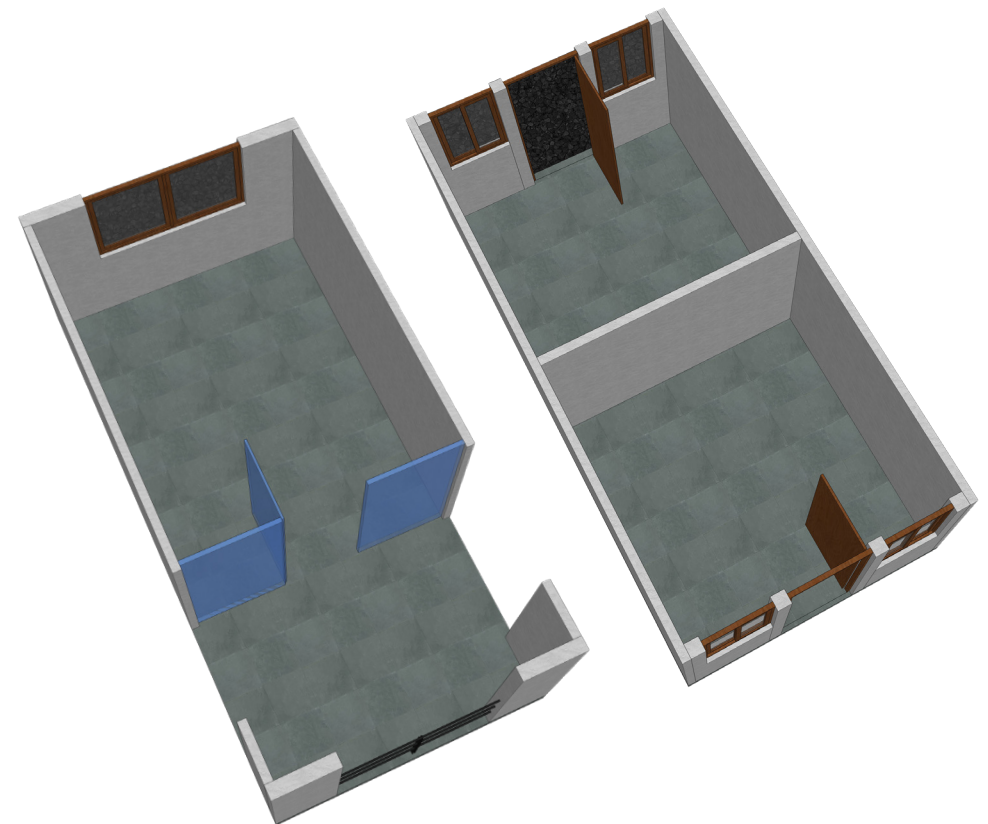
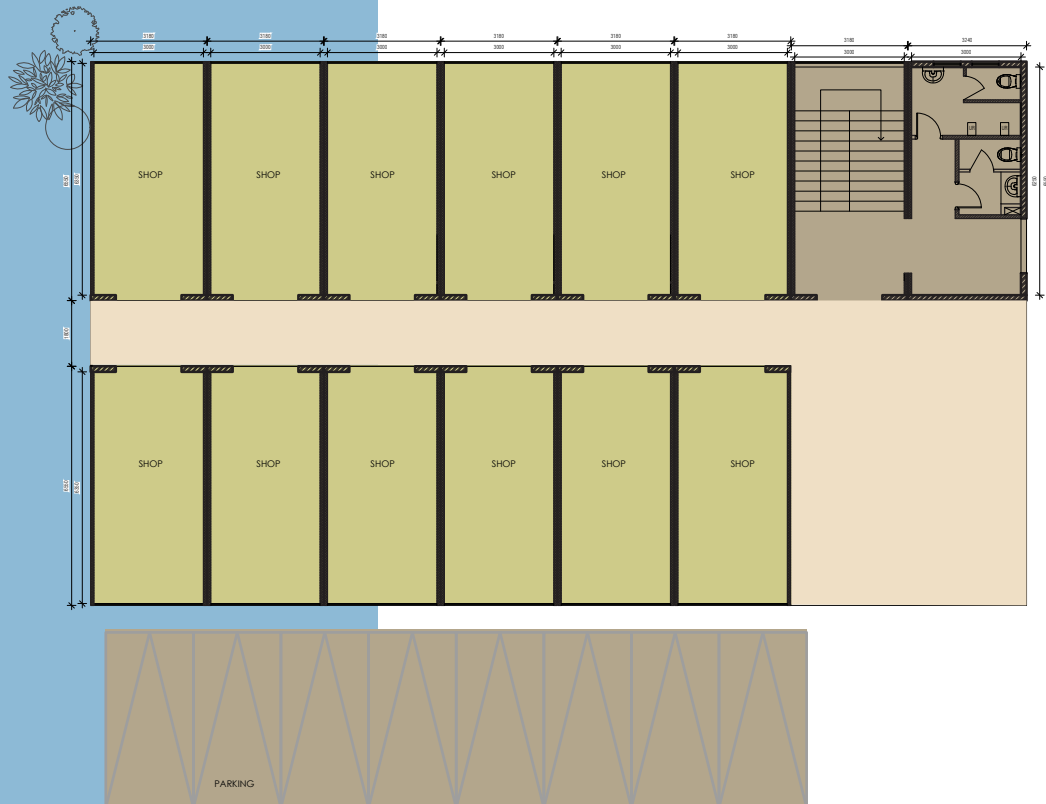


COMMERCIAL BUILDING

TOWNS BEST

PPVC technology involves more off-site fabrication than in-situ construction which will result in less carbon footprints and low environment impact. Factors such as less time consumption, less labor cost will be considerable when building retail spaces in highly congested areas.

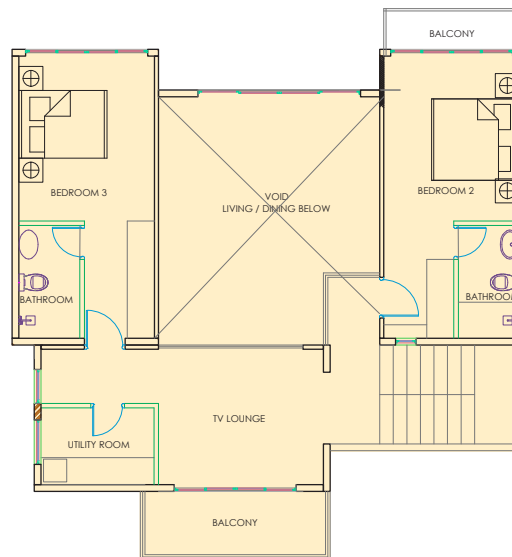
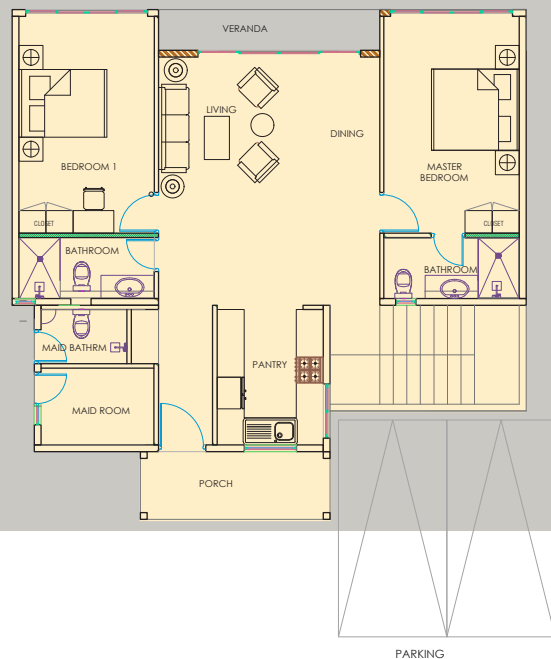
- The sample layout shows a retail space consisting of 12 stalls and a restroom. The corridor, entrance and the staircase will be cast in-situ.
- Layouts can be adjusted accordingly, to accommodate the customer requirements, depending on the availability of land.
- Low and medium rise retail spaces can be developed by combining multiple PPVC modules.



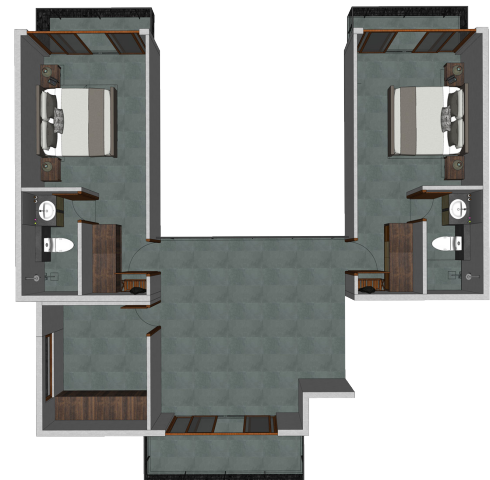
RESIDENTIAL SUITES AND HOMES

Ideal for housing schemes with smaller and relatively simple designs, PPVC technology can be used in residential facilities. Considering factors such as cost, labor and time, PPVC technology offers better advantage and ROI.

- The sample layout shows a single storied residential area, proposed to a smaller residential space with a land sized around 7-10 perches.
- The layout includes 2 bedrooms with attached bathrooms, a living area, a dining area, a wet kitchen and a pantry.
- Layouts can be adjusted accordingly, to accommodate the customer requirements, depending on the availability of land.



TWO STOREY





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