



INNOVATIVE CONSTRUCTION & ENGINEERING SOLUTIONS

EPITOME OF MODERN ENGINEERING



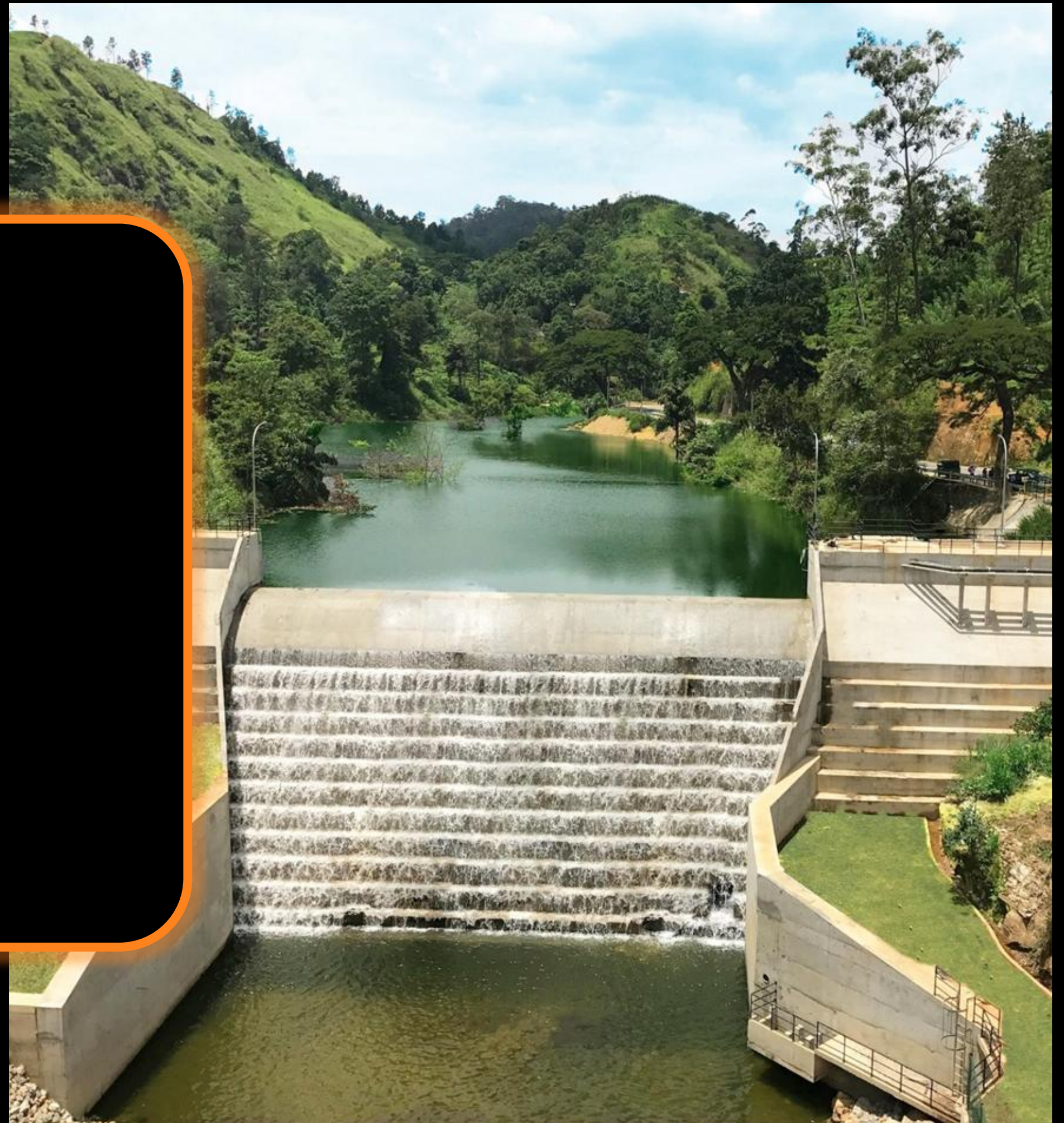
AN INNOVATIVE CONTRACTOR

- ❖ Established in 1980
- ❖ Over **40 Years** of Experience in Construction Industry
- ❖ ISO 9001-2015, 140001-2015 & 45001-2018 certifications
- ❖ Established divisions in **Building Construction, Roads & Bridges, Water Supply & Sanitation, Architectural, MEP & Structural designs**
- ❖ Diversified into Various Segments such as,
 - Precast Concrete Solutions
 - Ready-mix Concrete Solutions
 - Wall Paneling Solutions
 - Property Management Solutions



WE OFFER

- ❖ Modern Technology
- ❖ Ensure the Timely Completion with High Quality
- ❖ High Quality Material
- ❖ Promise of Distinct Service
- ❖ Comply with International Contracts (FIDIC)



OUR ENGINEERING SOLUTIONS



SHOULD WE ALL BE LIKE KUPA
MANDUKA?

NO!

ICC'S APPROACH

Regular Technology Scouting

ICC'S APPROACH

Investment in Research and Development

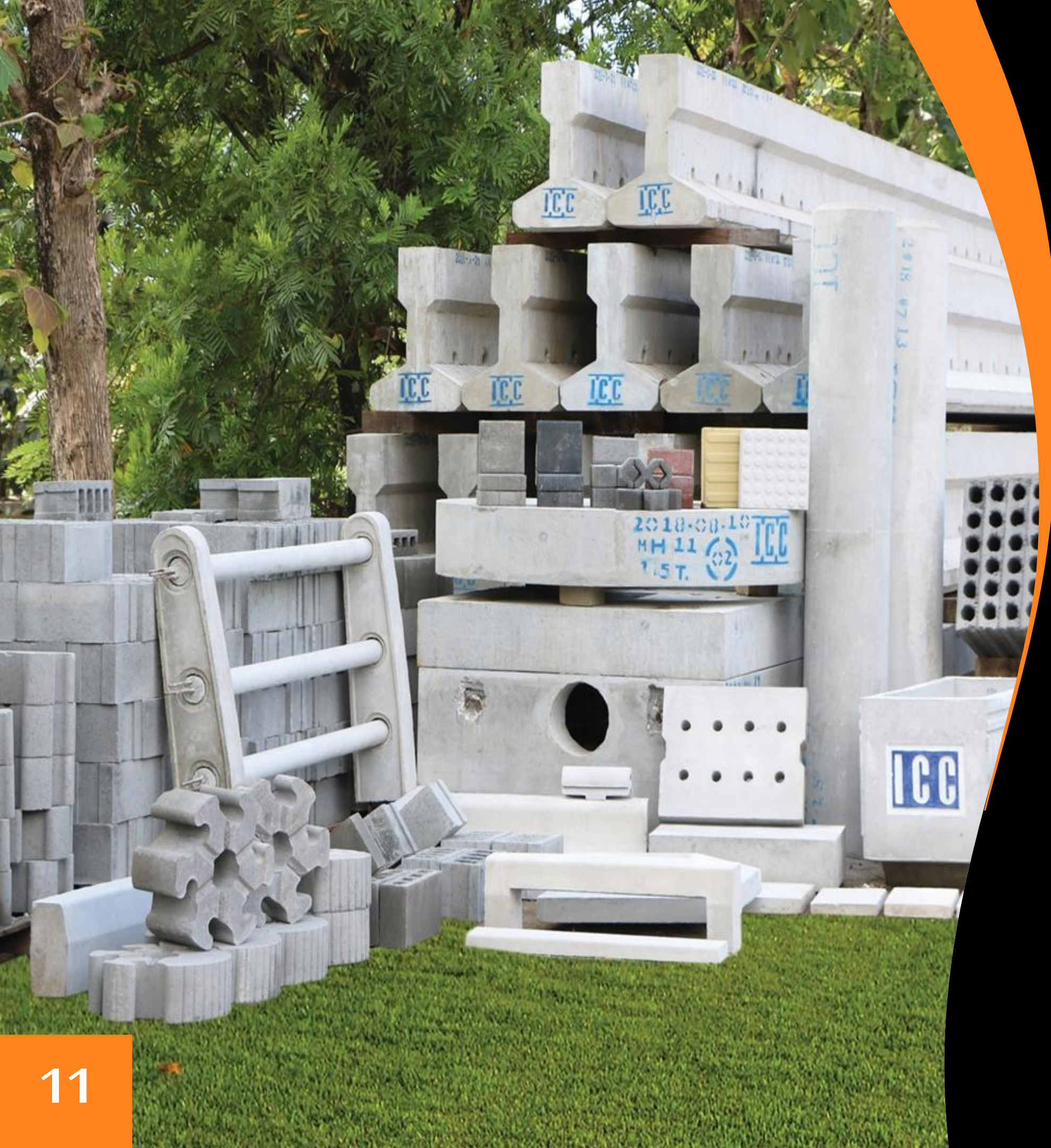
ICC'S APPROACH

Participation in Tech Conferences and Events



ICC'S APPROACH

Technology Partnerships



SAVES

Material
Labour
Time



ICC PRECAST
FAST - QUALITY - INNOVATIVE

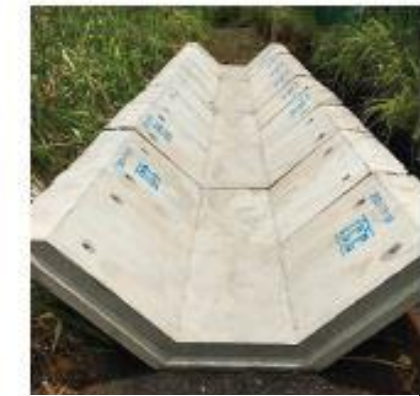
ICC PRECAST SOLUTIONS



Cellular and Solid
Cement Block



Easy Slab Floor
System



Drain Units



SBS Floor System



Solid Plank Floor
System



Concrete Driven
Pile



Precast Cover
Slabs



Road Kerbs



Retaining
Solutions



Pre-Stressed
Bridge Beams



Box Culvert
Segments



Precast Hand Holes



Paving Solutions



Precast Manhole
Segments



Precast Flower
Troughs



Precast Concrete
Pipes



Precast Valve
Chambers



Precast Barrier
Solutions

PRECAST VANGUARD OF ICC

LINEAR PRECASTS



2D PLANAR ELEMENTS



TRANSFORMATION IN
TIMES OF CRISIS

ACOTEC USED BY MOST DEVELOPERS

TRANSFORMATION IN
TIMES OF CRISIS

ROSTEN PARK IN YEAR 2000

TOTAL PRECAST
12 STORIED
TOWER
ORCHID -1



TRANSFORMATION IN
TIMES OF CRISIS

MOUNT CLIFFORD RANGE

688 APARTMENTS

600

DAYS

EVOLUTION IN PRECAST CONSTRUCTION

1980
IN-SITU
CONSTRUCTION

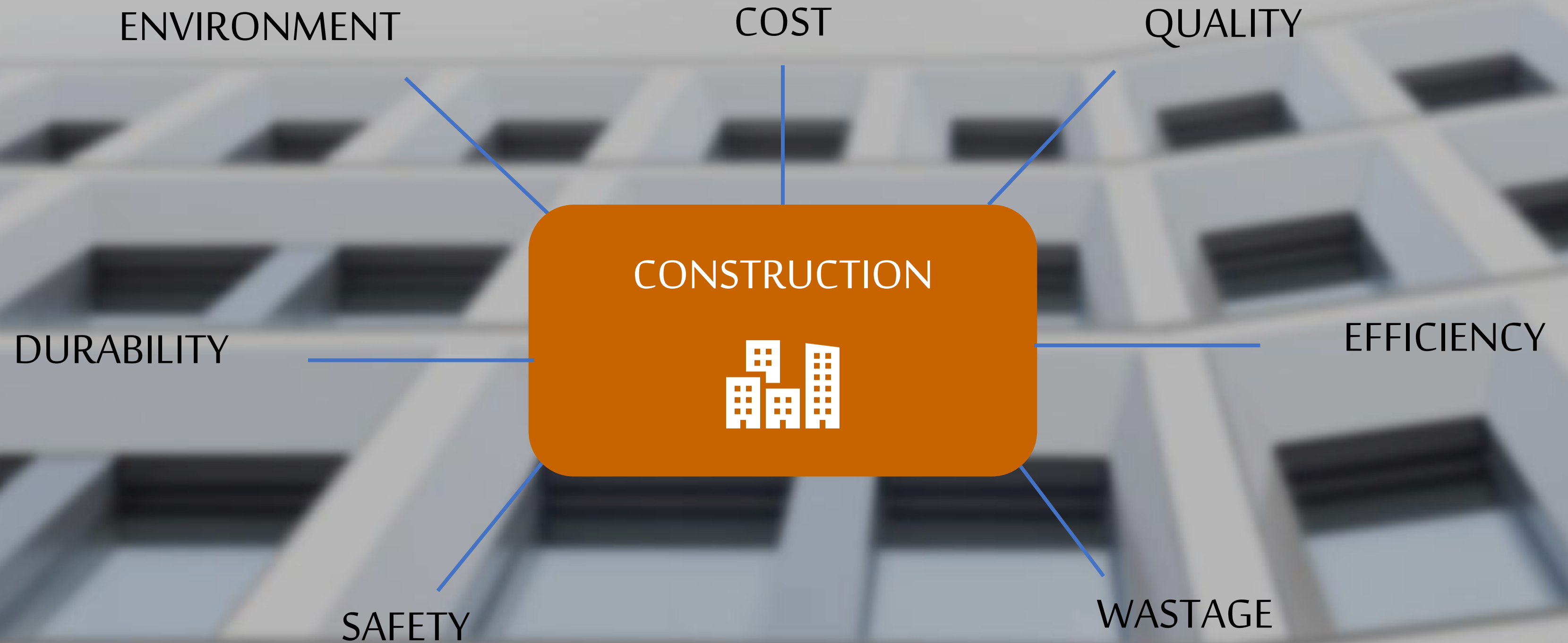
1996
LINEAR
INTEGRATION

2000
2D
INTEGRATION

3D
INTEGRATION



KEY CHALLENGES



TECHNOLOGICAL ADVANCEMENTS IN THE CONSTRUCTION INDUSTRY



ROBOTIC BRICKLAYER



THERMOCHROMIC ROOFS



SURVEYING & MONITORING PROGRESS
USING DRONES



BUILDING INFORMATION MODELING (BIM)



MODULAR CONSTRUCTION

MODULAR CONSTRUCTION

TIMBER
MODULAR

PPVC

HYBRID
MODULAR

STEEL
MODULAR

MODULAR
ELEMENTS



WHAT IS PPVC?

PREFABRICATED

PREFINISHED

VOLUMETRIC

CONSTRUCTION

BENEFITS OF PPVC CONSTRUCTION

UP TO 40% TIME SAVING



HIGH EFFICIENCY

HIGH QUALITY



FACTORY FINISHED

BETTER SAFETY



LESS JOB SITE HASSLES

ENVIRONMENT FRIENDLY



LESS NOISE AND DUST

ZERO WASTAGE



PRE-PLANNING

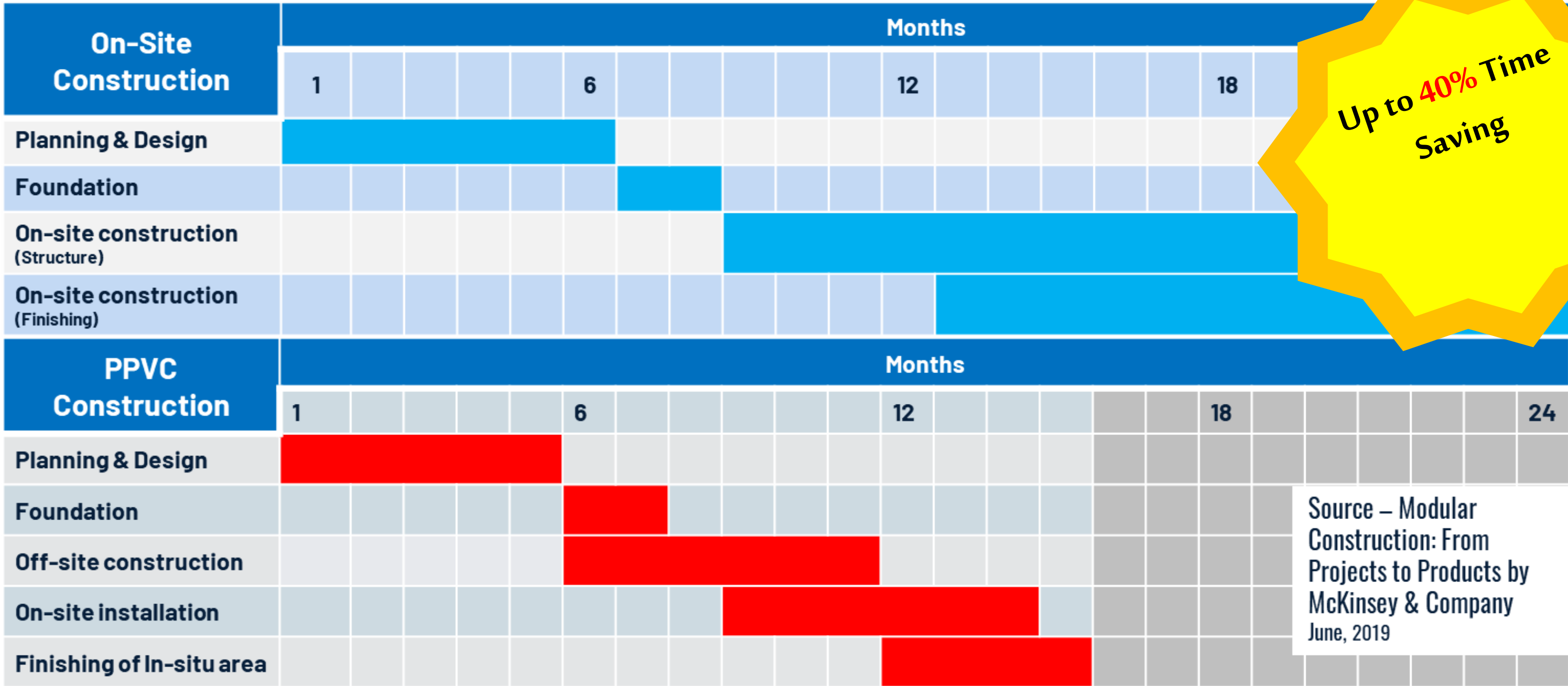
HIGHER ROI



QUICK HANDOVER

ON-SITE CONSTRUCTION VS. PPVC CONSTRUCTION

Up to 40% Time Saving



AVENUE SOUTH RESIDENCE

SINGAPORE

World tallest — PPVC Building

2 X 56 Story Building

1,074 Housing Units



THE CLEMENT CANOPY

SINGAPORE

- 2 x 40 Story Building
- 505 Units
- 1866 Modules
- 100 % - PPVC Units
- 2 Nos of 48 Ton Tower cranes
- Basement + Piling – 8 Months
- L1 to Roof – PPVC Installation 10 Months
- Total Completion – 24 Months



STERLING RESIDENCE

SINGAPORE

- 2 X 40 Story Blocks &
1 X 38 Story Block
- 1,259 Housing Units



PARK COLONIAL

SINGAPORE

- 2514 PPVC Modules
- 6 Blocks
- 14,15,16 Storey Blocks



LATEST PPVC ONGOING CONSTRUCTION PROJECTS IN SINGAPORE



OTHER COUNTRIES TO USE DIFFERENT TYPES OF MODULAR CONSTRUCTION METHODS



CHINA — PPVC, STEEL MODULAR



AUSTRALIA — PPVC, STEEL MODULAR



SOUTH KOREA — PPVC,
STEEL MODULAR

OUR APPROACH TOWARDS ACQUIRING THE TECHNOLOGY

FROM DECEMBER 2020 - MARCH 2021

Singaporean Developers

UK Professionals

Australian Professionals

SYNERGY

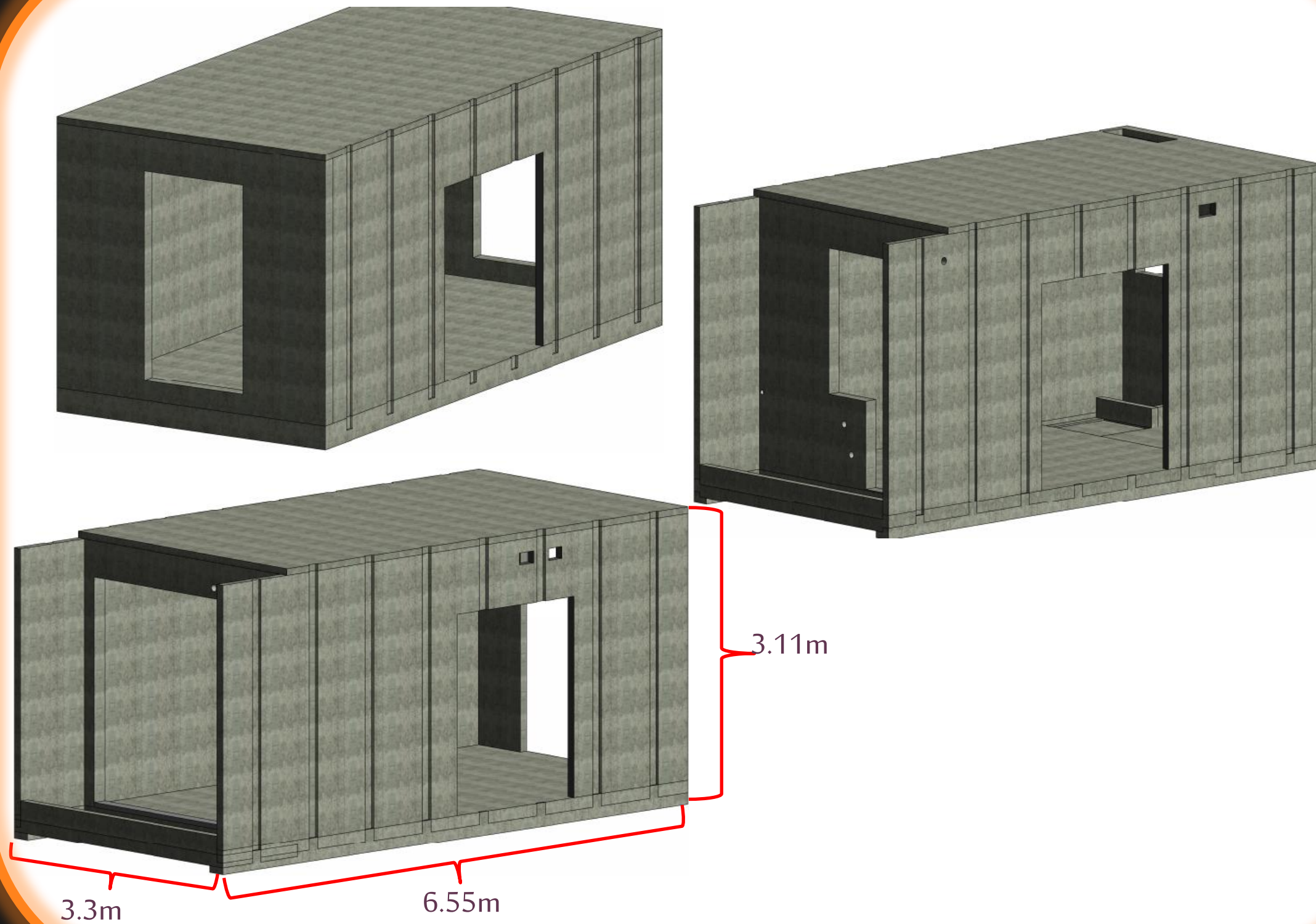
- University of Moratuwa
- ICC In-House Teams (Structural Engineers and MEP)
- Architects
- All the other Divisions of ICC

Various International Publications

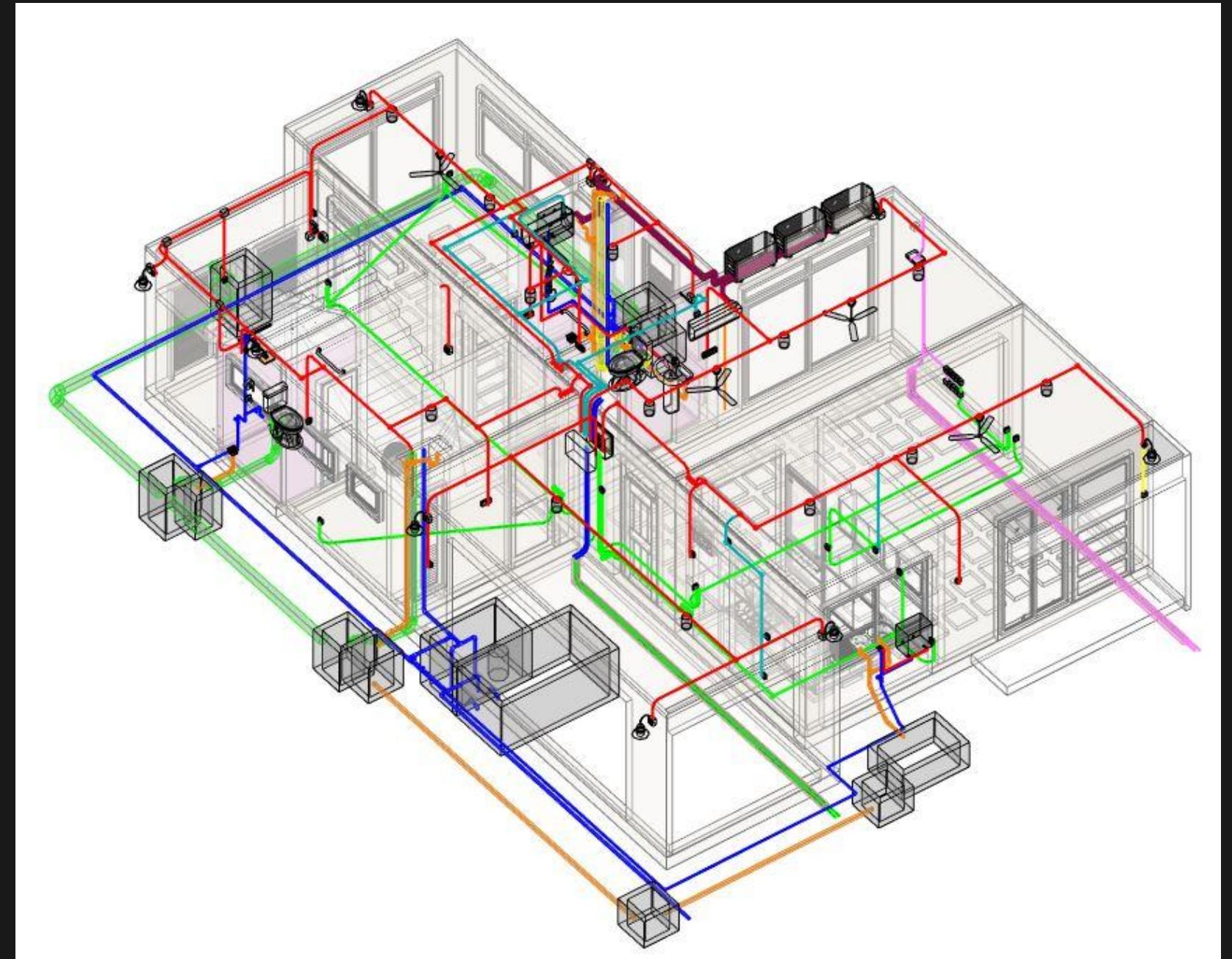
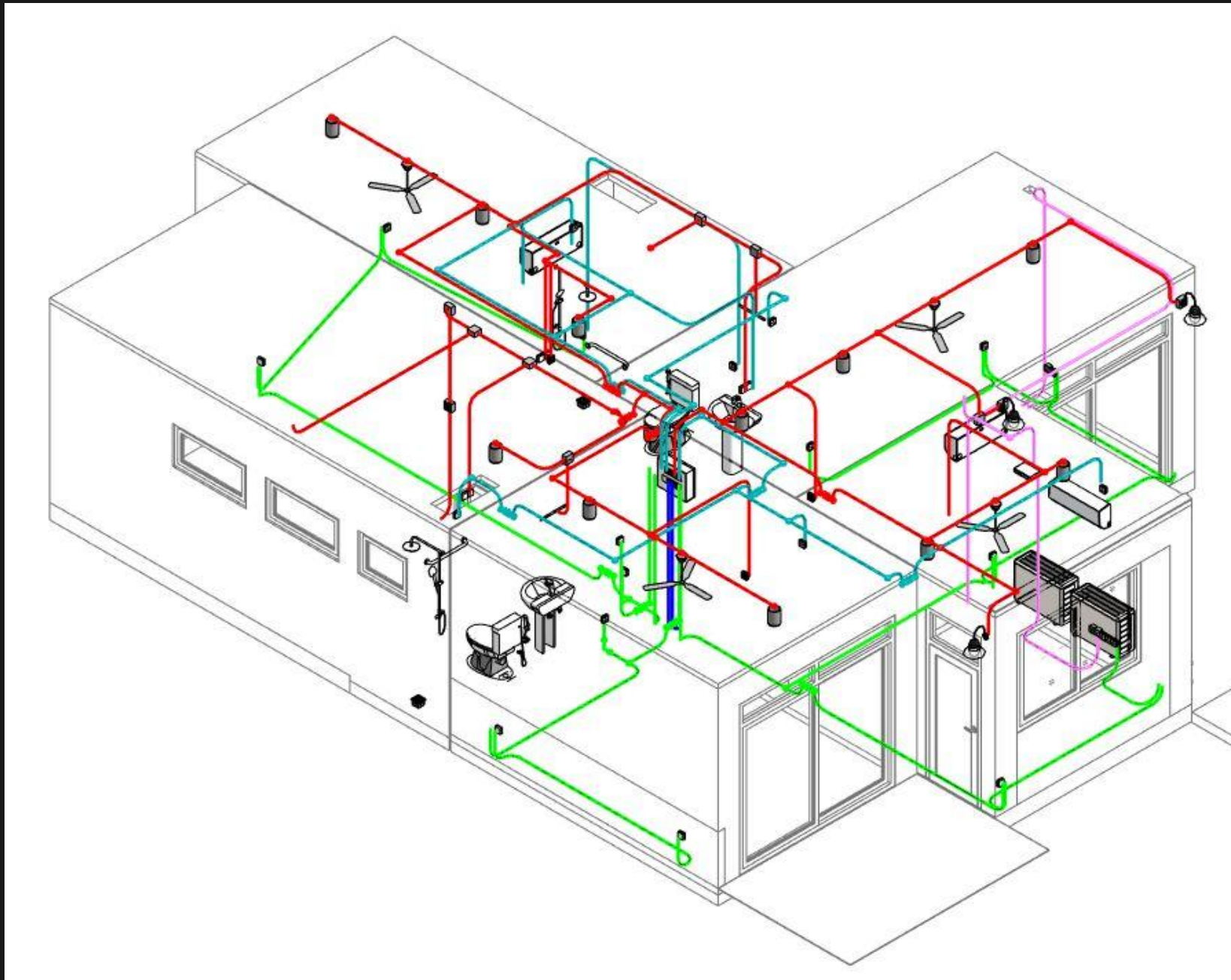


CARCASS PROPERTIES

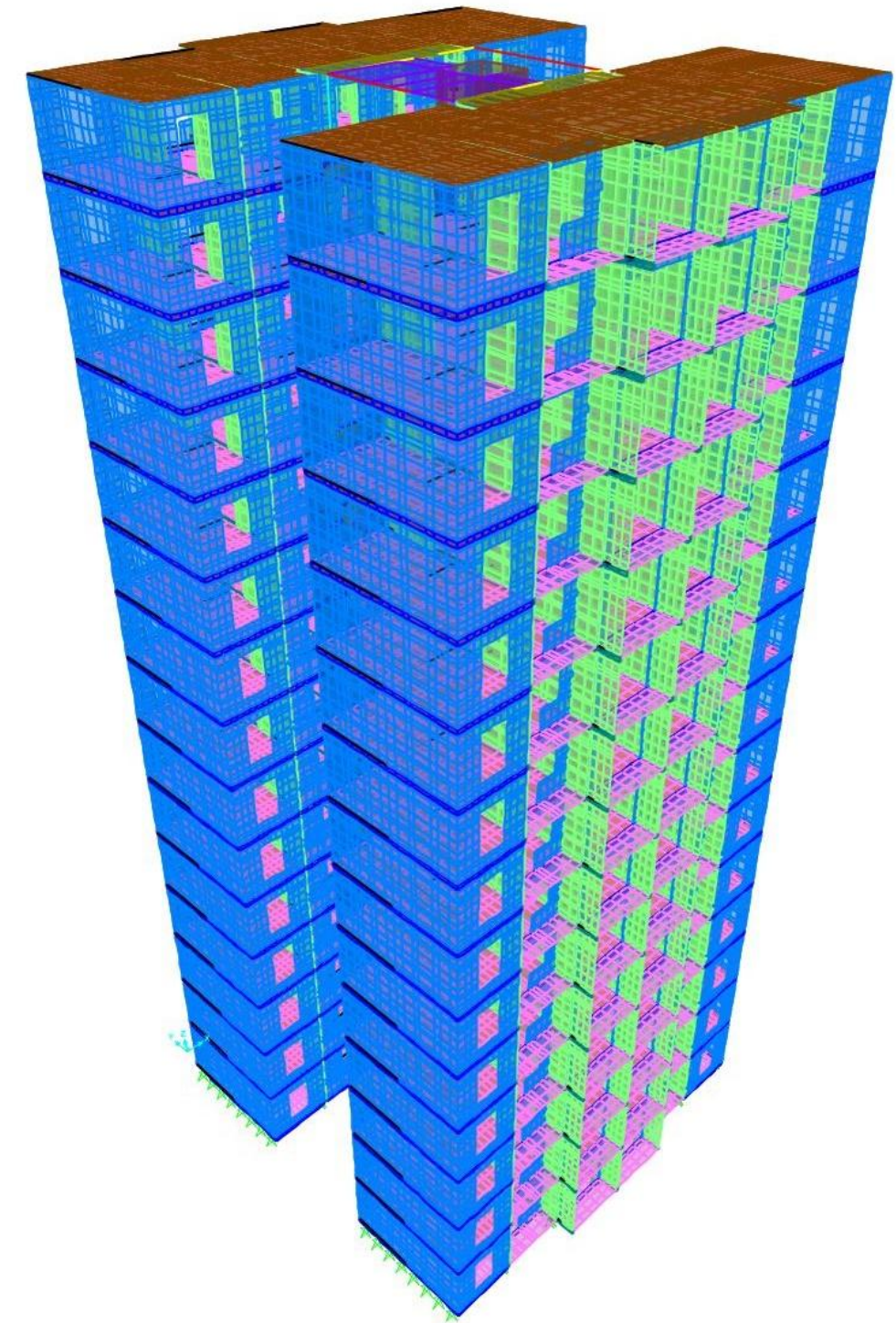
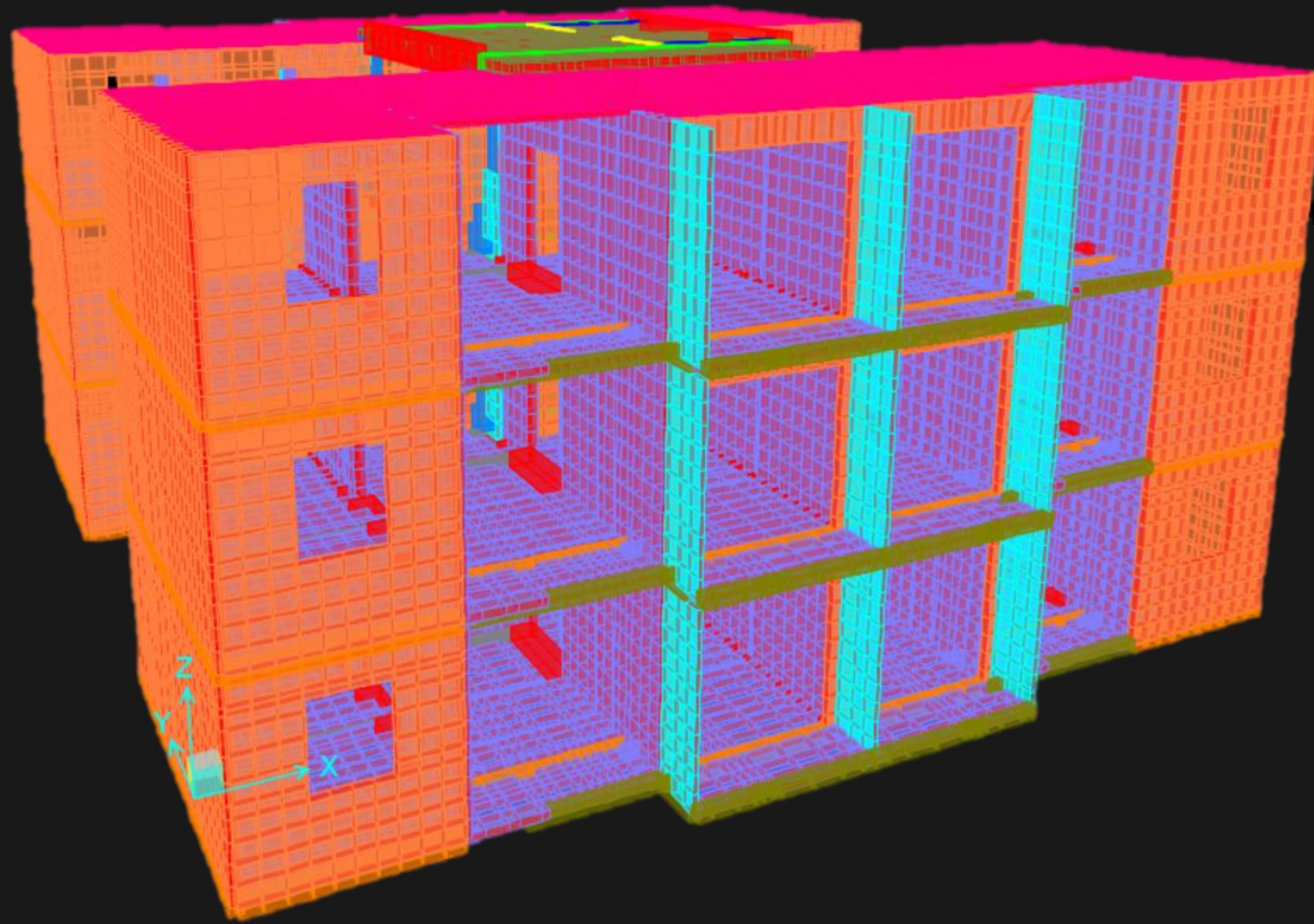
- Maximum Size = 6.55m x 3.2m
- Minimum Size = 3m x 3.2m
- Clear Height = 2.795m
- Floor-to-floor Height = 3.11m
- Maximum Tonnage = 25 tons
- Grade of Concrete = Grade 40



MEP SPECIAL FEATURES



FINITE ELEMENT MODELS



Chinthaka Mallikarachchi BSc Eng (Hons), PhD(Cambridge), CEng, MIESL, MSSE(SL)
Senior Lecturer in Civil Engineering (University of Moratuwa)
Chartered Engineer

448/5, Koswatte Road, Kalapaluwawa
Rajagiriya, Sri Lanka

Tel: 071-3444157
e-mail : yasithcm@gmail.com

UNIVERSITY ENDORSEMENT

Mr Thilak Jayathunga
General Manager – Compliances
International Construction Consortium (Pvt) Ltd

Analysis of 15-Storey Prefabricated Prefinished Volumetric Construction (PPVC) Proposed by International Construction Consortium

A. Background

A.1. International Construction Consortium (Pvt) Limited (ICCC) is a leading provider of Prefabricated Prefinished Volumetric Construction (PPVC) in the construction industry.

A.2. As a part of the assessment of structural plausibility of such construction, ICCC was requested to perform finite element analysis of a 15-storey building. The specific location of the site and the time of the study and hence a conservative analysis was performed.

B. Construction Details

B.1. Three types of prefabricated modules, namely MOD1, MOD2 and MOD3, are proposed for construction of the 15-storey apartment building. The approximate plan area of 6.55 m × 3.2 m and a height of 3.2 m. The building consists of two wing buildings connected via an insitu cast access stair. The building is made of six modules (two each from three module types) leading to a total area of 20 m × 7.5 m.

B.2. Each module is prefabricated and fitted with all amenities before moving to the construction site. Individual modules are placed appropriately by means of a crane at the site and connected to adjacent modules.

C. Structural Idealization and Analysis

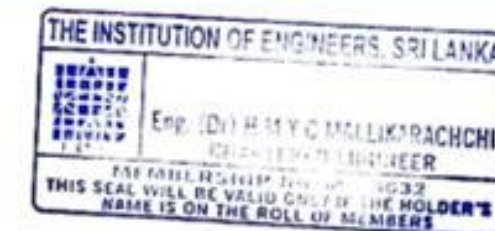
C.1. Finite element analysis was performed in two parts where the overall behaviour of the 15-storey building, and construction and handling of individual modules were considered separately.


C.2. Walls, floor slab and ceiling of each module were modelled using shell elements with appropriate thicknesses to capture the monolithic nature of the unit.

D.1. Merits of modular construction, especially with related to quality and speed of construction are highly commendable and the technology should be introduced to the local industry.

D.2. As per the two-stage analysis conducted, the proposed structural arrangement is feasible for a 15-storey building. The design of each module is governed by the ultimate design forces due to applied loads on the 15-storey building.


Dr. (Eng.) H.M.Y.C. Mallikarachchi
Chartered Engineer and
Senior Lecturer in Civil Engineering



Reviewed by

Prof. (Eng.) S.M.A. Nanayakkara
Chartered Engineer and
Senior Professor in Civil Engineering



PPVC **MODULE** PRODUCTION SEQUENCE

PRODUCTION SEQUENCE

1. FABRICATION & INSTALLATION OF THE R/F CAGE



2. CONCRETING (WALLS AND SOFFIT)



3. DEMOLDING & LIFTING



PRODUCTION SEQUENCE

4. CONCRETING (FLOOR)



5. FINISHING & INSTALLATION OF FITTINGS AND FIXTURES



6. TRANSPORTATION AND ERECTION



FIRST MODULAR BUILDING IN SOUTH EASTASIA

RATHMALANA

LUXURY APARTMENT PROJECT



AT THE ICC COMPLEX, RATHMALANA

SIX 660 SQ.FT

2BR LUXURY APARTMENTS

-COMPLETED WITHIN 90 DAYS



AT THE ICC COMPLEX, RATHMALANA

SIX 660 SQ.FT

2BR LUXURY APARTMENTS

-COMPLETED WITHIN 90 DAYS

SECOND MODULAR BUILDING IN SOUTH EASTASIA

SAAMA VILLAS

LUXURY VILLA PROJECT



AT AKUREGODA, SRI LANKA

FOURTEEN

4BR LUXURY VILLAS

-COMPLETED WITHIN 12 MONTHS



AT AKUREGODA, SRI LANKA

FOURTEEN

4BR LUXURY VILLAS

-COMPLETED WITHIN 12 MONTHS



NEXT EXPLORATION!

ICC PREFINISHED TIMBER FLOORING

- ❖ Premium Quality
- ❖ ISO Certified
- ❖ Wide Range of Products

STEP – 01



STEP – 02



STEP – 03



STEP – 04



DO IT YOURSELF

ANYONE CAN INSTALL

Step 1 : Clear the floor & measure
levels

Step 2 : Laying the Elastilon Layer

Step 3 : Lay the Timber Planks

Step 4 : Removing the Elastilon layer

WAIT!

IT GETS EVEN **BETTER**

Can Lay

On any Surface

5X

Faster than conventional method.

No

Battens / Painting / Sandering/ Dust on site

Convenient

Installation

Prefinished

Made to measure



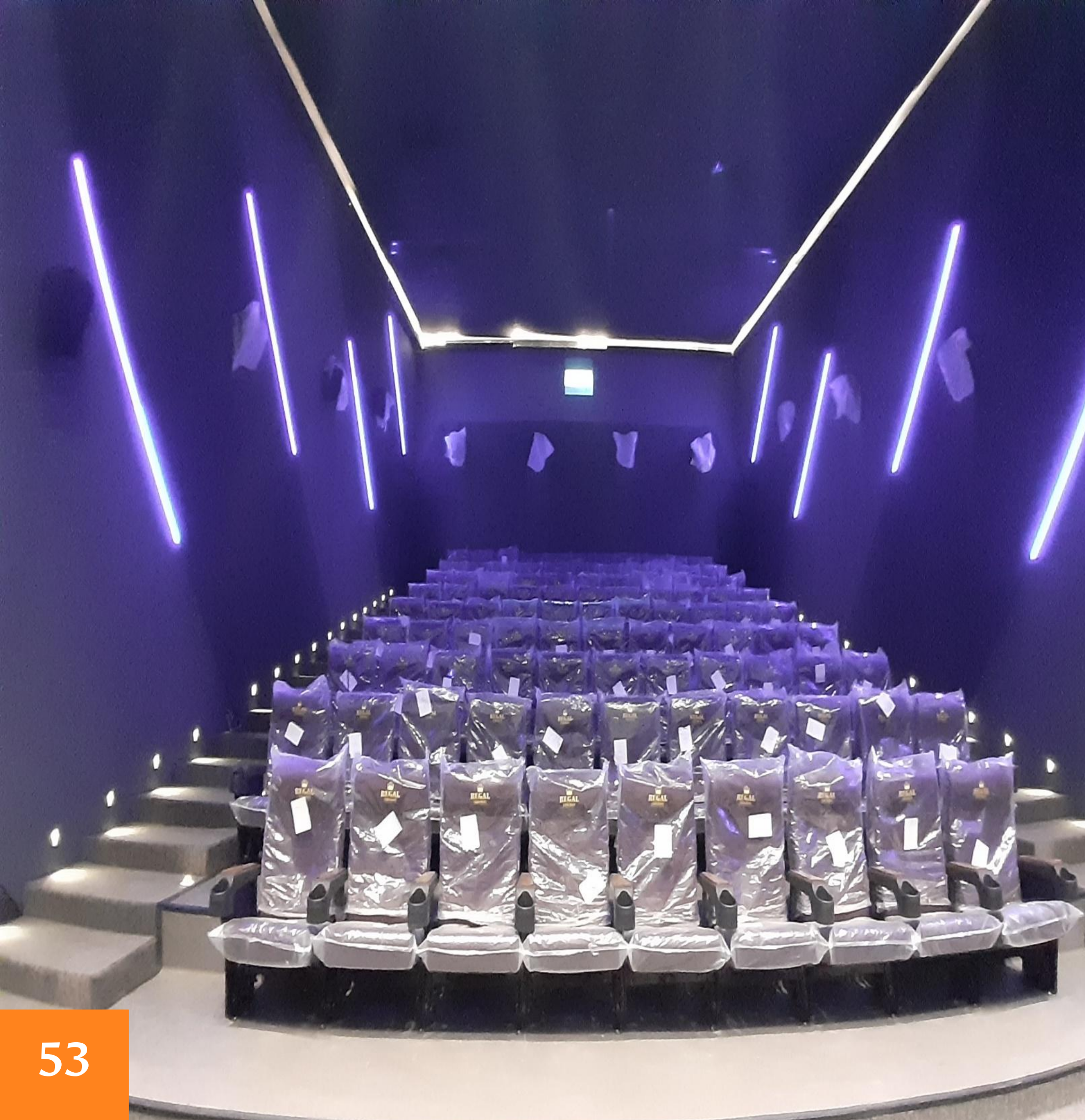
NEXT EXPLORATION!



SAVES

Material
Labour
Time

Sustainable Green Solutions



DURRA Fire & Acoustic wall Systems

Product Features

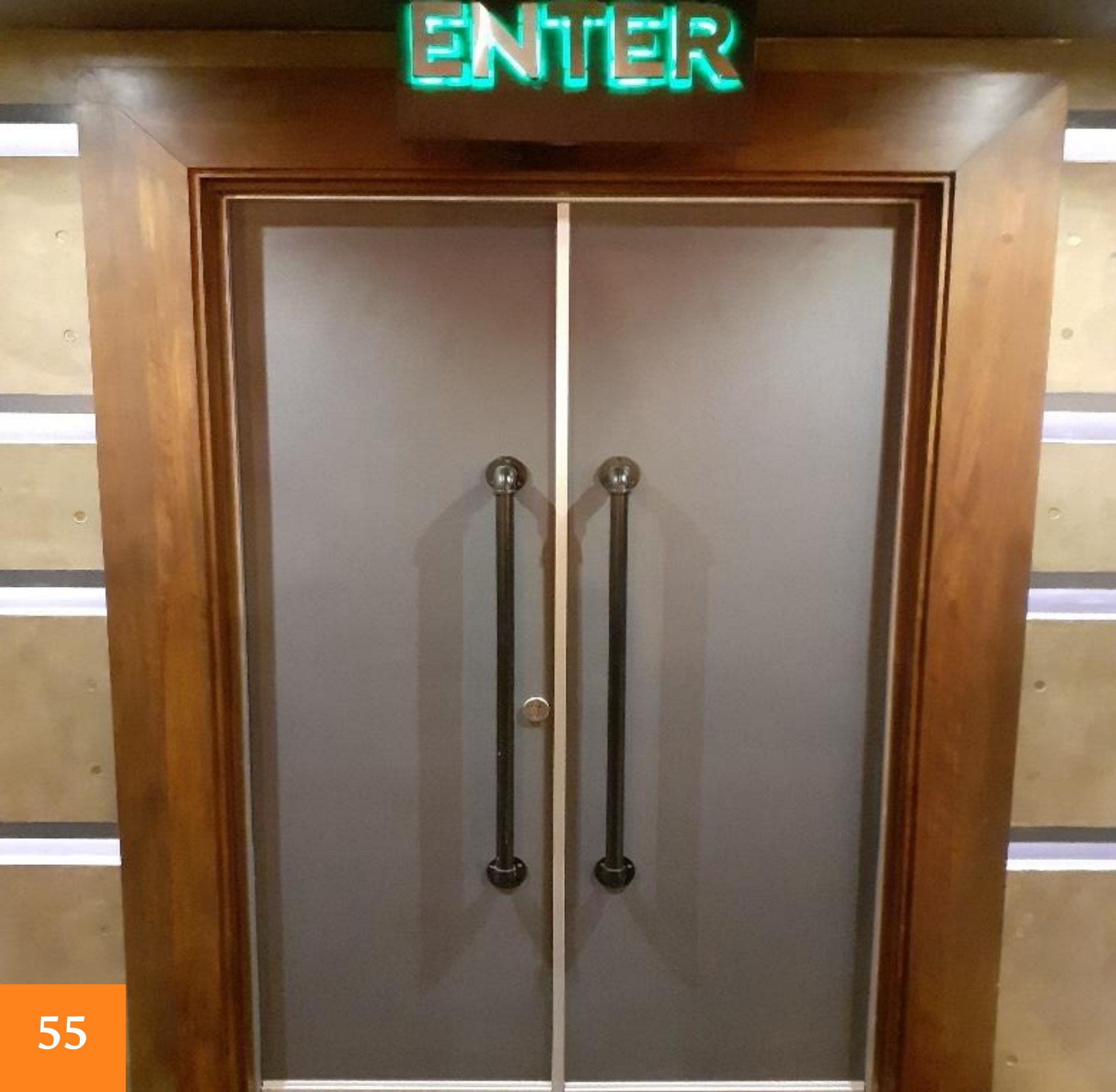
- Environmentally Friendly
- Superior Acoustic Performance (STC 38dB NIC 0.63 Seconds)
- Quality Conforms to ISO 3382-1 Room Acoustic
- Fire Resistance
- Impact Resistance
- Thermal Insulation
- Simple Construction
- Reduce Labor Time
- Cost Saving
- Strength and durability
- Flexible design solution
- Light weight

DURRA Modular Building Systems

Product Features

- Modular Design
- Dismantled & Relocate with ease
- Flat pack and mobile
- Fire rated
- Different Finishes as per your requirement
- Durable
- 100% sustainable system
- Light weight
- Customized to customer sizes
- Made in Sri Lanka.





DURRA Other Solutions and Products

- Durra Server Rooms
- Durra Fire Safety Rooms
- Durra Fire Safety Lobby
- Sound Doors
- Raised Floor
- Collapsible Wall



WHY ICC?

- ❖ OVER 40 YEARS OF EXPERIENCE AS A CONSTRUCTION AND INNOVATIVE ENGINEERING SOLUTION PROVIDER
- ❖ ICC'S STRATEGIC APPROACH TO BE FINANCIALLY STRONGER WHILE CREATING MORE OPPORTUNITIES
- ❖ UNPARALLELED EFFICIENCY, AND QUALITY STANDARDS



VISIT OUR WEBSITE

<https://icc-construct.com/>



SCAN THE QR TO ACCESS OUR
COMPANY PROFILE

PLEASE VISIT OUR STALL..!!



THANK YOU!