MONOLITHIC VOLUMETRIC PRECAST

by

SALMON India Leap | HOMMISSION Abode All

change the paradigm

Manufacture & Install

Consult“ACT”ants

providing

- Consultancy
- Advisory
- Implementation
- Operational

. . . services

DOMAINS

- New City Developments
- Budget & Value Housing
- Integrated Townships
- Electronic Manufacturing Cluster
- Industrial Parks
- Special Economic Zones
- Airports / Seaports
- International Financial Centre

New Energy

Digital Utility

Project Finance

Banking & Finance

Summary of Services

PROGRAM MANAGEMENT

- Strategic Advisory
- Conceptualization
- Market Study
- Financial Model
- Business Model
- Collaborations
- Funding
- Marketing
- Implementation
- Listing

Partner **Ecosystem**

Master Planning	AECOM CH2MHILL
Architecture	Vistar Architecture and Planning
Water & Water Treatment	VEOLIA
Energy	VEOLIA
Solid Waste Management	VEOLIA
Municipal Service	2EI
Transportation	VEOLIA intrago smart mobility solutions
Digital Infra	CISCO
Cloud Computing	EMC² where information lives
Energy Services	LG
Knowledge Partner *for*	RICS

Some of our

Clients…

Channeling

GLOBAL EXPERTISE

through its own

NATIONAL LEADERSHIP

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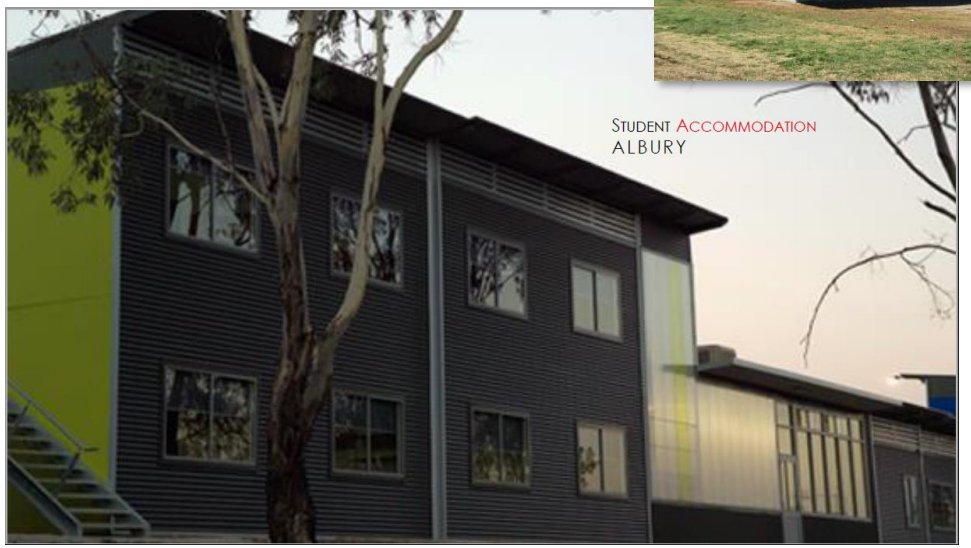
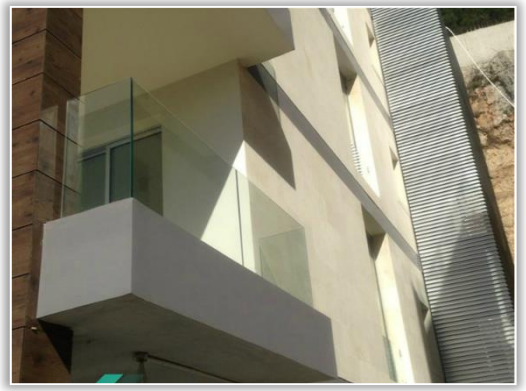
Few Completed Projects in Australia..



Few Completed Projects in Australia..

Rabweh heights, Lebanon

other completed projects



Rabweh Heights, *Lebanon*

4 & 5 Storeys buiildings

Apartment Unit Size

2,150 – 2,910 sq. ft.

MONOLITHIC | LOAD-BEARING

PRECAST SOLUTION

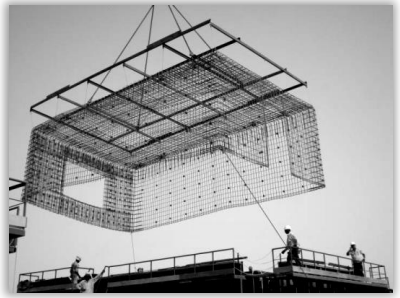
Manufacture & Install Indian housing

VILLAS

from Value to Luxury

APARTMENTS

from Value to Luxury
(upto to 12 floors)



load bearing

zero wastage

3D

blast proof

50+ years Structural Guarantee

5k – 100 k sq. ft. in 24 hours

embedded insulated wall

power finished floor

high seismic load

1st & 2nd fix MEP

no scaffolding

no joints

3D MONOLITHIC PRECAST SYSTEM

monolithic

modular

95% less gas emission

on site casting

5 panel in one

no propping

ongoing maintenance reduced by 95%

no timber

no plastering

fair finish, inside/out

3D Volumetric Casting

Computerized mould system

The Technology

Main Ingredients
casting

welded mesh

- reduces steel usage
- reduces wastage in steel
- precise dimensions

1st fix MEP conduits

- standardization of design
- reduces labor cost
- no cutting & chasing
- accurate tapping points

window & door

- precise dimensions
- can be ordered straight from the drawing
- better prices from vendors / bulk wholesale prices

M40 RMC

- class 'A' finish inside & outside
- no plastering
- power finished floor, no screeding required
- quicker setting time
- better strength

The Technology

Plant & Machinery
casting + assembly

mould

- patented
- mechanized
- computerized
- seamless

cranes

casting yard
gantry / all terrain

assembly
all terrain / crawler

transportation

- prime movers
- low bed trailers

The Technology

Process

casting

main ingredients

+

mould

crane

=

module

assembly

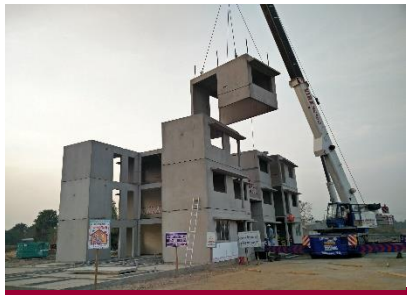
module

+

transportation

crane

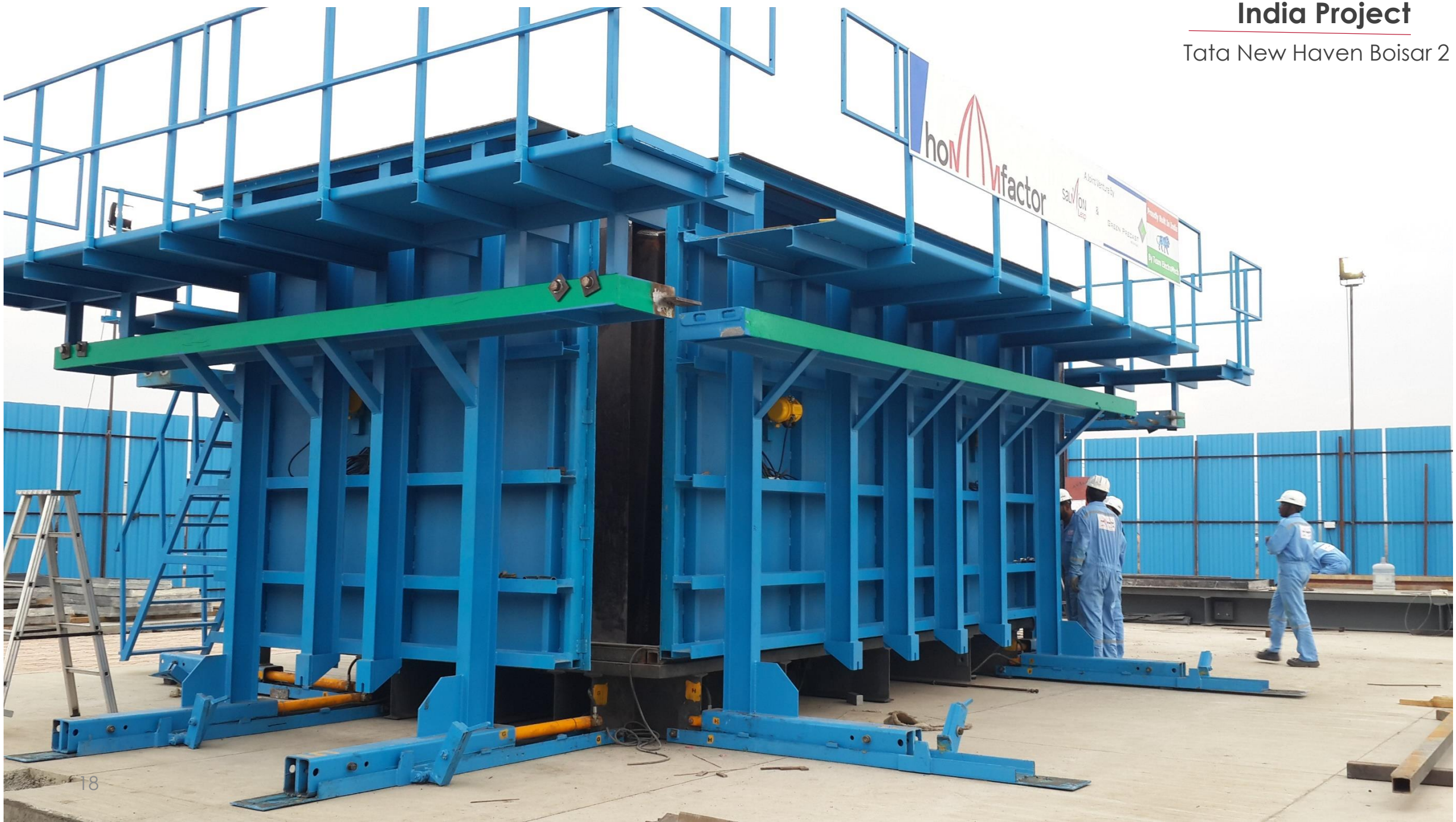
=



superstructure

India Project

Tata New Haven Boisar 2



India Project

Tata New Haven Boisar 2

India Project

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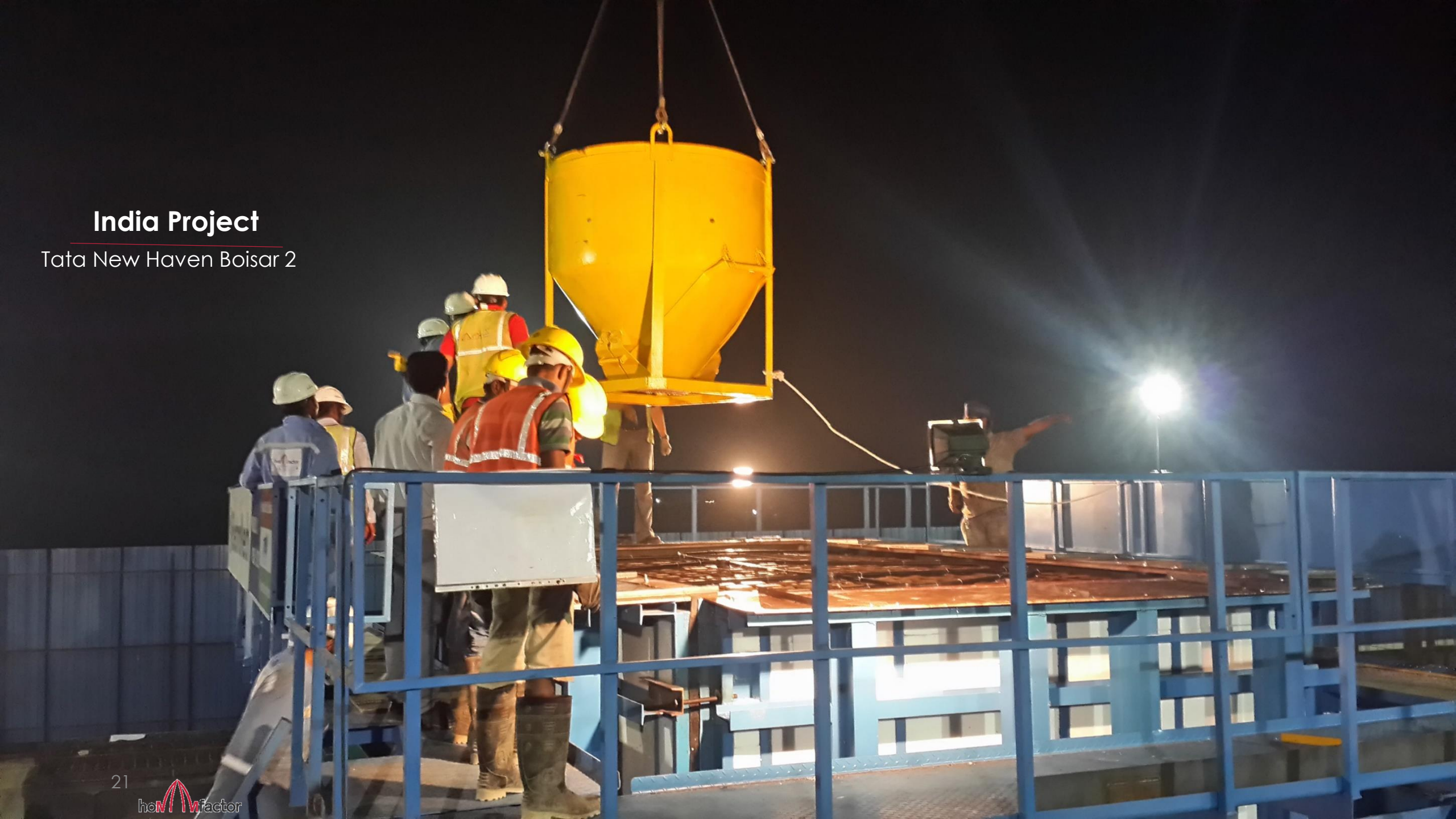

India Project

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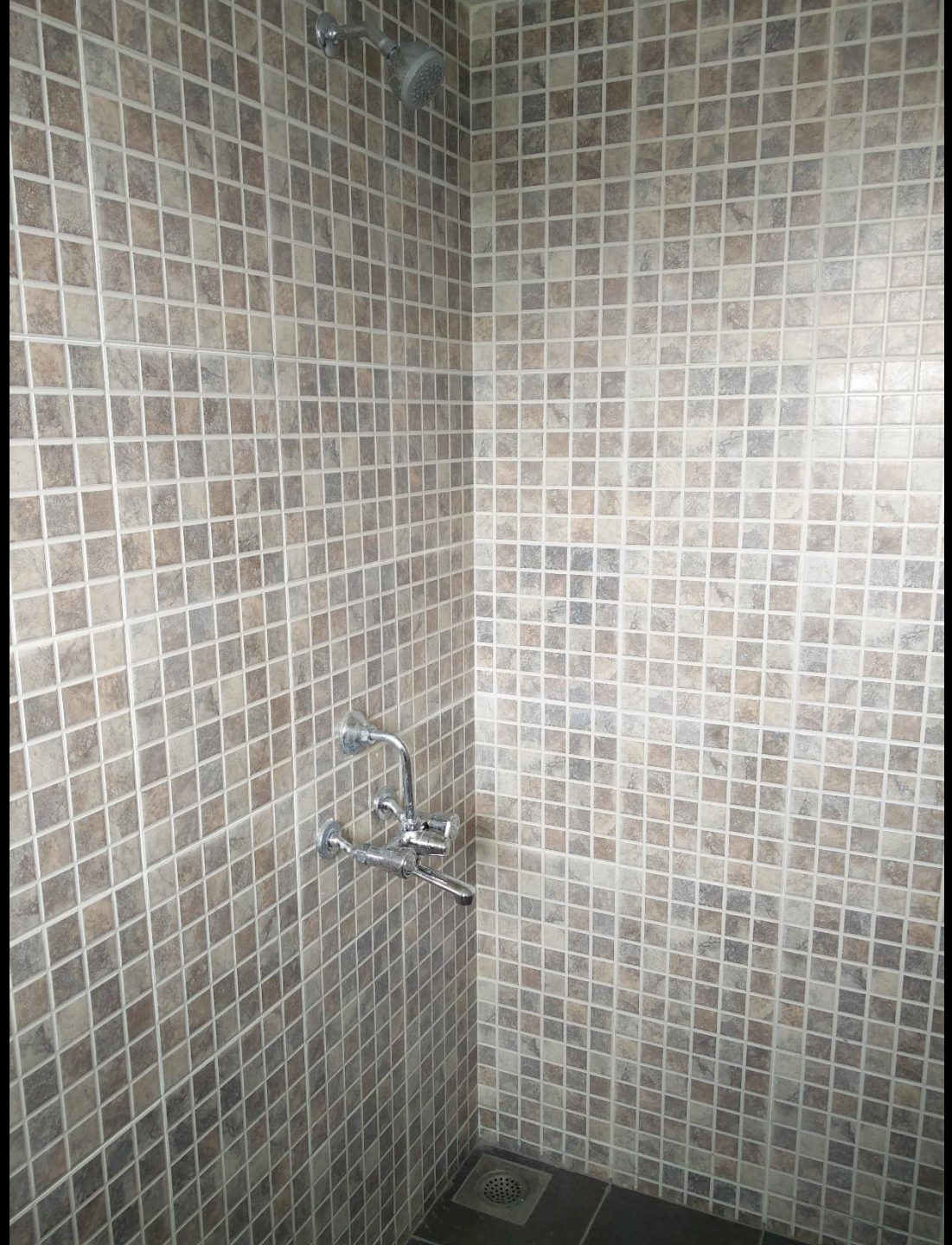
India Project

Tata New Haven Boisar 2

CONSTRUCTION PRIVATE LIMITED
याद रखिये !
WARNING
VIRA CRANE SERVICE
LIFT
DRIVE
HORN NO SIGNAL PLEASE



India Team

The Technology
can be

upto **80 %** **FASTER**
than traditional construction methods

upto **50 %** **STRONGER**
monolithic module

upto **50 %** **LESSER**
material & labor costs

upto **90 %** **WASTE FREE**
precision

in factory like condition

by trained production crew

delivering better finish

& faster monetization

enabling better project management

& sustainable development

note
depends on project design, size & time

Applications

Villas - *high end, medium and affordable housing*

Apartment buildings

Project / Corporate / Employee Housing

Anganwadi / NandGhar / Rural Structures

Aged persons accommodation

Schools

Hotels/motels

Hospitals/clinics

Student accommodation

Labour camps

Military accommodation

Blast-proof structures for oil & gas /military applications

NO

Buying Formwork

Training Form-workers

Labour Management

Investment

Supervision

Production Responsibilities

with

Guaranteed

- quality

- delivery schedule &

- cost (*indexed to BM*)

Options of Engaging honMission Abode All

OPTION 1

Turnkey Master Contractor

Sub structure | Super structure | MEP Services | Finishing

OPTION 2

Sub - Contractor

Casting, Lifting & Assembling of super structure

provides
developers

faster

Scalable, rapidly

stronger

flexible

better

Efficient

Minimal Dependency on Labour

construction solution....

NOTE

Ideal for large and repetitious projects where onsite manufacturing delivers optimum benefits

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Construction Systems Comparison

	3DIMEMSIONAL MONOLITHIC PRECAST	2D PRECAST	ALUMINIUM FORMWORK	BLOCK WORK / CONVENTIONAL
BUILD CONCEPT	▪ Cast complete rooms as one piece and install in a single lift ▪ Eliminates 8 out of the 12 joints in 2D Precast ▪ One Contract Package for all Trades	▪ Multiple elements cast on flat tables with multiple individual elements & and require alignment, numerous joints, brackets and grouting	▪ lightweight frame, clad with gypsum. Many joints to flush fill. ▪ Requires top/bottom elements install first due to tolerances or structure complete for site measure.	▪ Requires multiple elements of beams, columns and floor system cast in-situ ▪ Wall in-fills need more jointing detail ▪ Must use separate floor system for multi-level to be built with labour
FACTORY PRODUCTION	▪ Single cast of 4 wall units & ceiling (equivalent of 5 - 14 flat panels) ▪ No brackets, props & no vertical joints. ▪ Customized penetrations and openings ▪ Repeated machine made quality	▪ Larger factory area for equivalent production and more vertical joints ▪ Offsite Production & Transportation ▪ Larger Capital Intensive	Labour & Skill intensive Rapid Formwork deterioration Scaffolding required Concrete Grinding due to joints	▪ More number of on-site trades: Reinforcement, Block laying and Plastering ▪ On-site & labour intensive ▪ Manual reinforcement & wet work at site ▪ Concrete pump, messy and wastage
INSULATION	▪ Closed joints reducing locations for air transfer ▪ Mould internal foam layer sandwich panel (200-210mm) ▪ External UV reflective coating (up to 100%), available	▪ Must be cast in foam, walls have a perimeter border without insulation ▪ Many vertical joints ▪ Cast in foam layer does not extend to full area of panel	▪ Needs to be placed in wall cavity, or fixed post construction ▪ Additional Work, Cost & Time	▪ N/A

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Construction Systems Comparison

	3DIMEMSIONAL MONOLITHIC PRECAST	2D PRECAST	ALUMINIUM FORMWORK	BLOCK WORK / CONVENTIONAL
WASTAGE	▪ Walls and roof act together structurally minimizing the volume of concrete, reinforcement leading to less wastage	▪ Minimum 2 layers of reinforcement for insulated walls ▪ Requires extra 12m of vertical jointing per room	▪ Room sizes not always as per standard steel & cladding sheet lengths.	▪ Excessive site wastage, clean-up, disposal: cutting of bricks and blocks, pallets, mortar, sand piles, hoses and water
FINISHES	▪ Internal and external paint can be applied in the Casting Yard itself	▪ Factory painting not possible due to multiple joints ▪ Colour variation as panels are poured separately ▪ More visible joints	▪ Much flushing and filling of joints on site. ▪ Pre-painting not possible	▪ Can be done only at site ▪ increased labour cost + dependency on workmanship ▪ Coloured bricks available but still needs another finish or lining
LABOUR	▪ Primarily by Technicians & Engineers ▪ Least Labour ▪ Hydraulic mould requires just 4 men per Mould ▪ Installation requires 3 people	▪ Each panel requires 2 man-days (10 man-days for 5 panels)Cast in foam layer does not extend to full area of panel	▪ Labour intensive to assemble as many pieces and several different materials required to complete.	▪ Labour intensive ▪ Requires more site amenities, supervision, temporary services and scaffolding ▪ Labour Law compliance
SAFETY	▪ Modern lifting techniques ▪ Safe working platforms ▪ Limited access to external surface required	▪ Installation requires temporary phase (propping) with added safety requirement	▪ Significant site labour with potentially high injury risk ▪ Loose power leads, hoses and scaffolding creates safety risks	▪ Excessive site labour with potentially high injury risk ▪ Loose power leads, hoses and scaffolding creates safety risks

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Construction Systems Comparison

	3DIMEMSIONAL MONOLITHIC PRECAST	2D PRECAST	ALUMINIUM FORMWORK	BLOCK WORK / CONVENTIONAL
INSTALLATION	▪ A single lift ▪ No propping or levelling ▪ Minimal brackets and dowels ▪ Solid working platform immediately available for subsequent levels ▪ Greater accuracy ▪ reduces bracket and joint costs	▪ 5 crane moves to install 1 panel ▪ Individual propping and levelling ▪ Less accuracy with accumulating errors ▪ No immediate working platform until all jointing is completed	▪ Multiple small lifts, ▪ Individual piece propping & leveling. ▪ Post installation access is difficult until floors & other structural elements complete	▪ Slow ▪ Labour intensive ▪ Greater overhead costs
TRANSPORT AND LIFTING	▪ 1 crane to extract and place for yard and site	▪ Need multiple cranes on site	▪ Can be flat packed. Generally lightweight. ▪ Require site storage areas. ▪ Difficult to “load” building until all bracing done.	▪ Extensive scaffolding, materials hoist and safety provisions
SERVICES	▪ Windows and door frames, electrical and plumbing conduits built into mould ▪ Can cast holes in roof slabs for vertical plumbing service running from top to bottom of building	▪ Impractical to factory install windows ▪ Corner electrical joining impossible ▪ Plumbing service holes more difficult	▪ Impractical to factory install windows. MEP coordination extremely difficult and practically better to do on site	▪ Must be progressively manually built in or chased in later

Abode All

Thank You