



PRECAST TECHNOLOGY ELEMATIC OY AB AKAA, FINLAND

2017



Elematic – Leader in Precast Technology

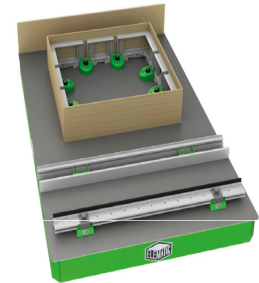


- Elematic comes from Finland and we are Headquartered at Toijala. We are the world's largest precast machine and mould suppliers and a one-stop shop for all your precast needs.
- **Technology and services with complete support right here from India- 70 member team**
- We were established in 1959 → 58 years of precast plant deliveries worldwide.
- Elematic has supplied and installed over 3600 factories in over 100 countries across the globe.
- Elematic setup 19 plants in India since it's operations in India in 2009, setting up the first precast plant for **VME Precast, Chennai.**



Innovation

- 450 patents at your service. R&D and engineering department with 35 dedicated co-workers.
- Some Elematic innovations:
 - **FaMe.** Fast preparation of side forms sand openings. Time savings up to 70%.
 - **Comcaster.** Accurate and fast dosing of concrete. Saves raw materials and time.
 - **Acotec line.** Cost-efficient production of light-weight and non-load bearing partition walls.
 - **Extruder E9-1200e.** Concrete savings, accurate dimensions and prolonged lifetime with innovative shear compaction technology.
 - **ELiPLAN ERP.** Secured up-time and controlled/reduced material consumption, etc. Developed specifically for precast production.

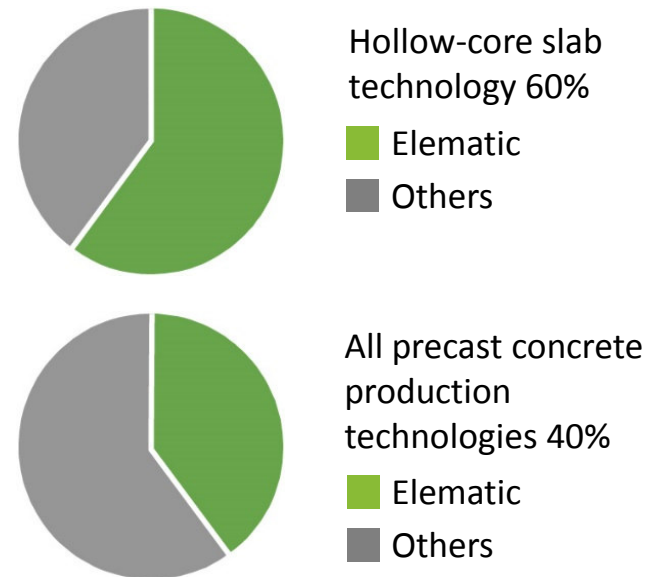


The only one-stop-supplier in the precast concrete industry



- Delivering anything from a single machine or production line to a complete plant for any precast product
- World-leading technology, knowhow, process excellence and software
- The most extensive customer services in the market
- **Setting up World's largest precast plant at Iraq producing 8,300 sq.mt. of walls and slabs per day.**
- Link - <https://www.youtube.com/watch?v=ScIT0CPqYVA>

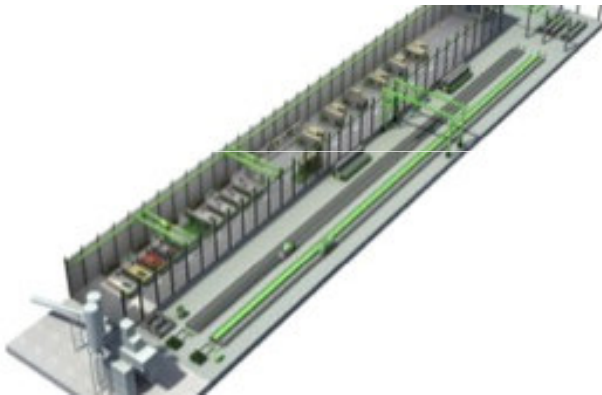
Global market share



Three technology levels. Your choice.

Complete precast plants for walls and floors

SEMI



Simple and easy start up level production with low initial investment

PRO



Large capacity production for a broad product range

EDGE



Advanced and highly automated plant for high volume production

Some of our key customers



Key customers in India & SL

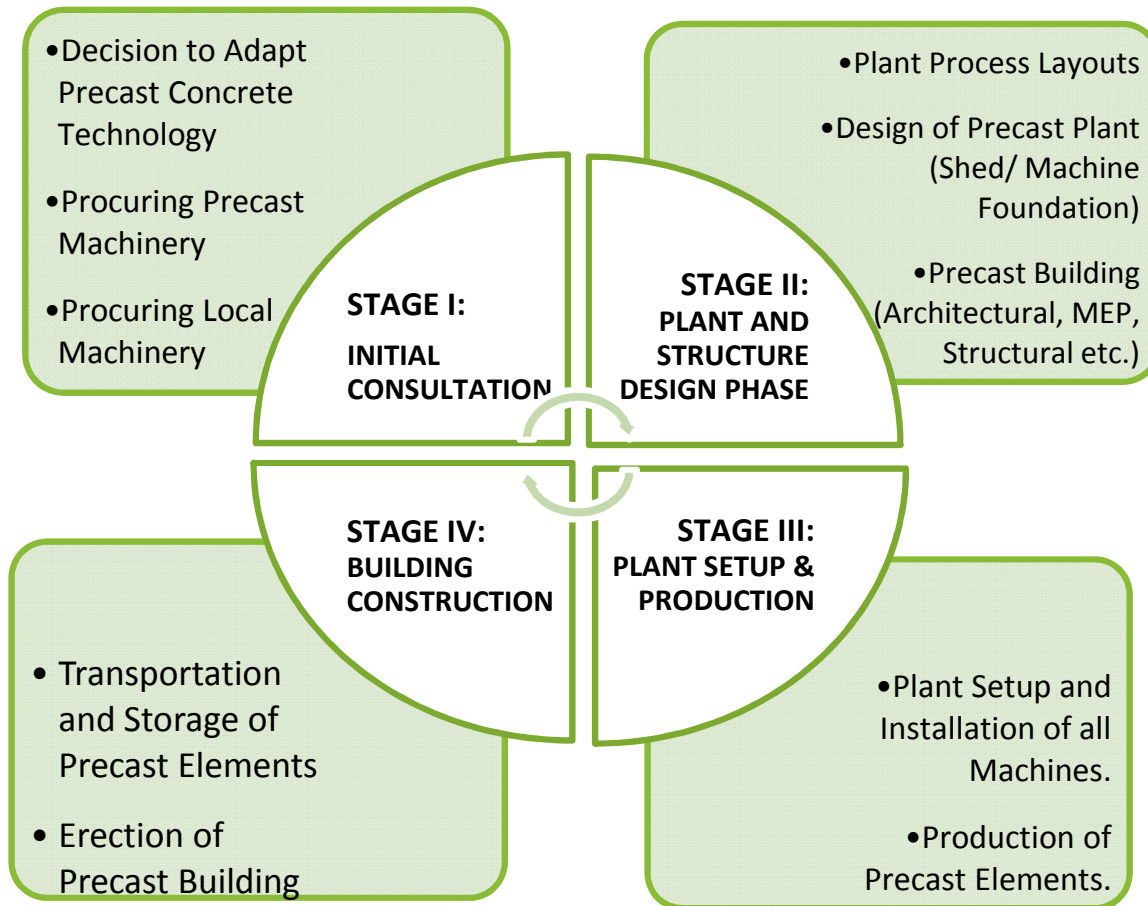




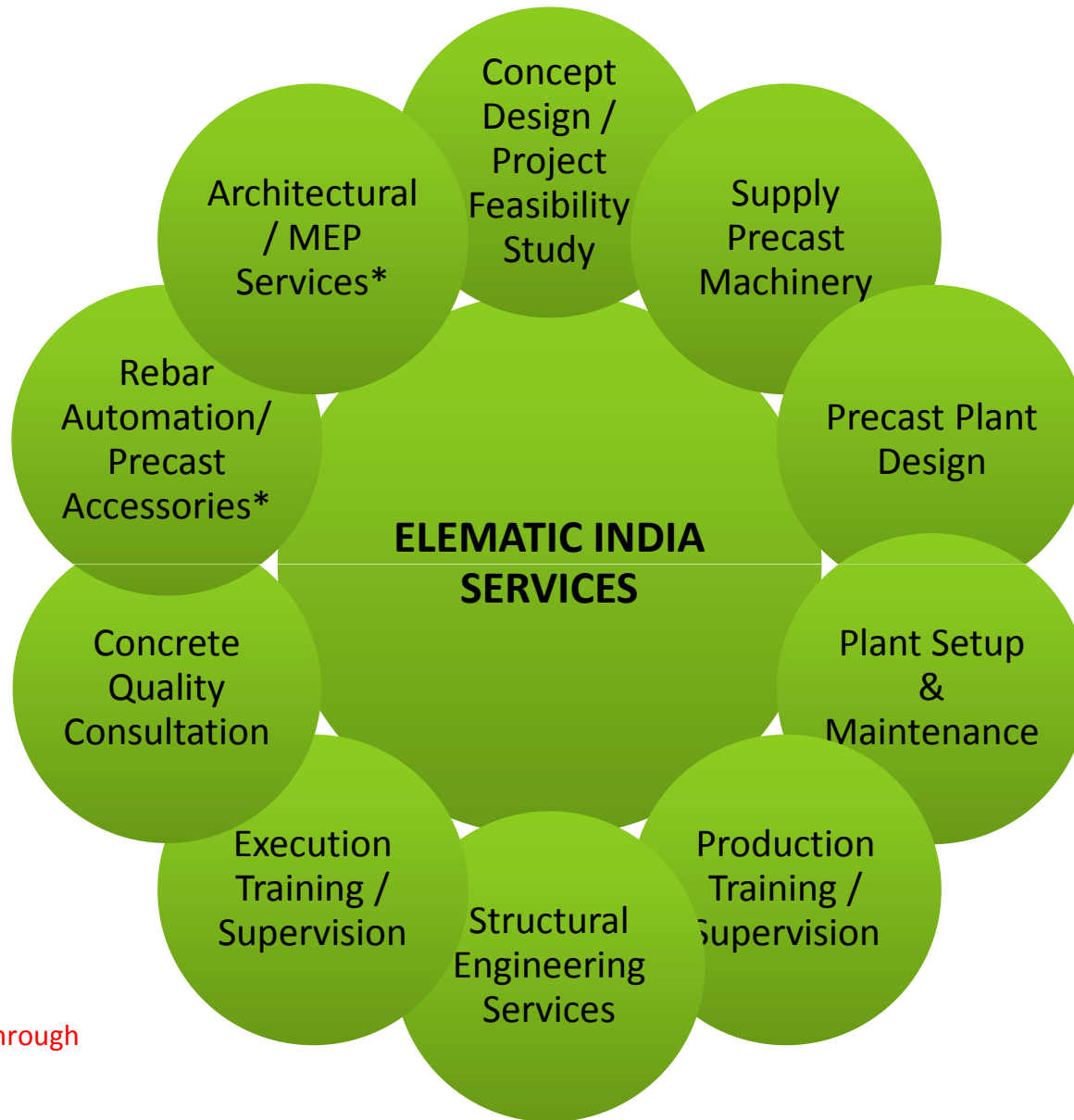
ELEMATIC IN INDIA



Complete Support for Precast Technology



- **End-to-end services for successful implementation of precast concrete technology.**
- **With our local and international partners, we are capable of providing a complete range of services for the various stages of precast technology implementation -**
 - Decision to adopt Precast Concrete Technology
 - Setup of Precast Plant
 - Production of Precast Elements
 - Safe and systematic storage and transportation of Precast Elements
 - Construction of Precast Building



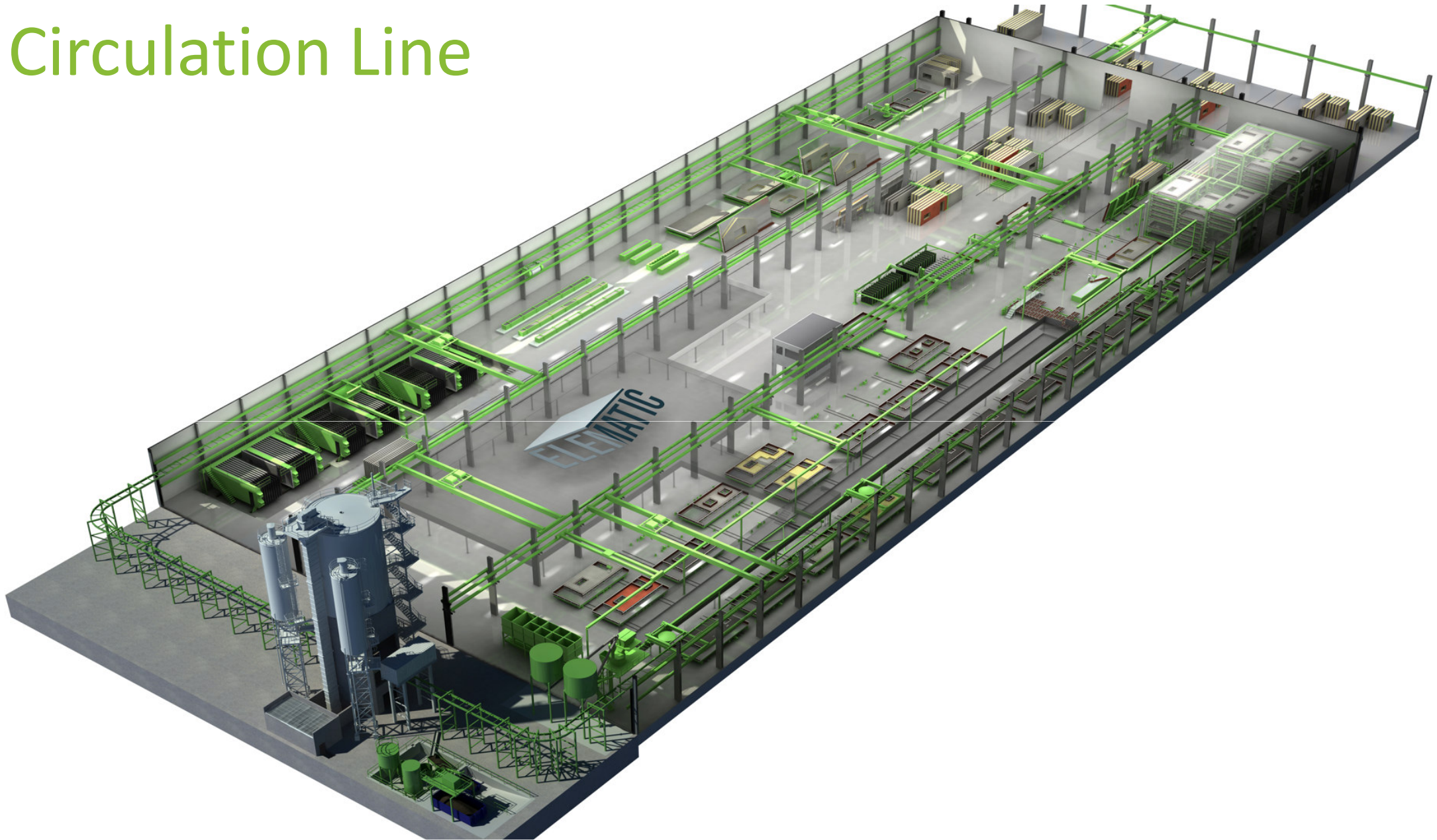
* Services provided through our partners

Precast Plant Setup

- Elematic can help you setup a precast plant as per your project needs.
- Every precast plant is tailor made and is flexible as per your current and future needs.
- Elematic can help you setup site based or central precast plants with investments ranging from Rp 2cr to Rp 50cr!
- Elematic has setup the world's largest precast plant in Iraq, capable of producing 8,300m² built of area per day.

MACHINERY FOR PRODUCTION OF LOAD BEARING WALLS AND FACADES

Circulation Line



Circulation Line – Tables



Circulation Line – Casting & Vibration Station



Circulation Line – Floating Machine



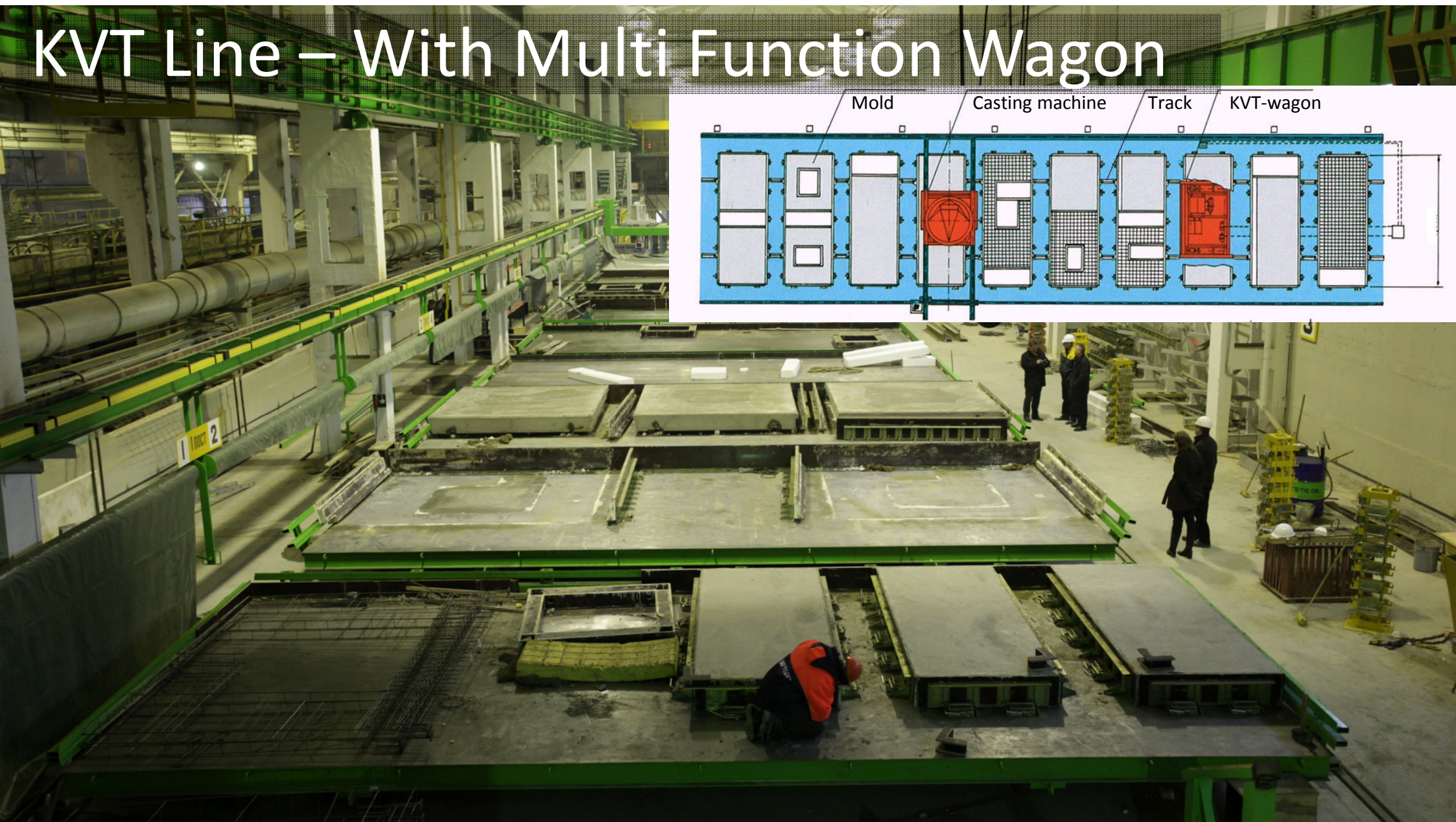
Circulation Line – Curing Chamber



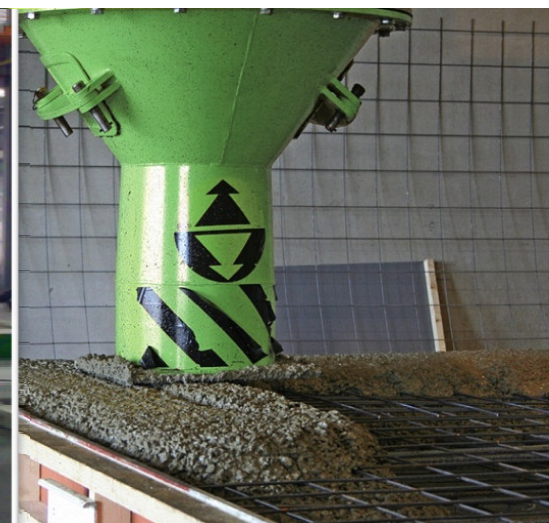
Circulation Line – Demoulding & Tilting Station



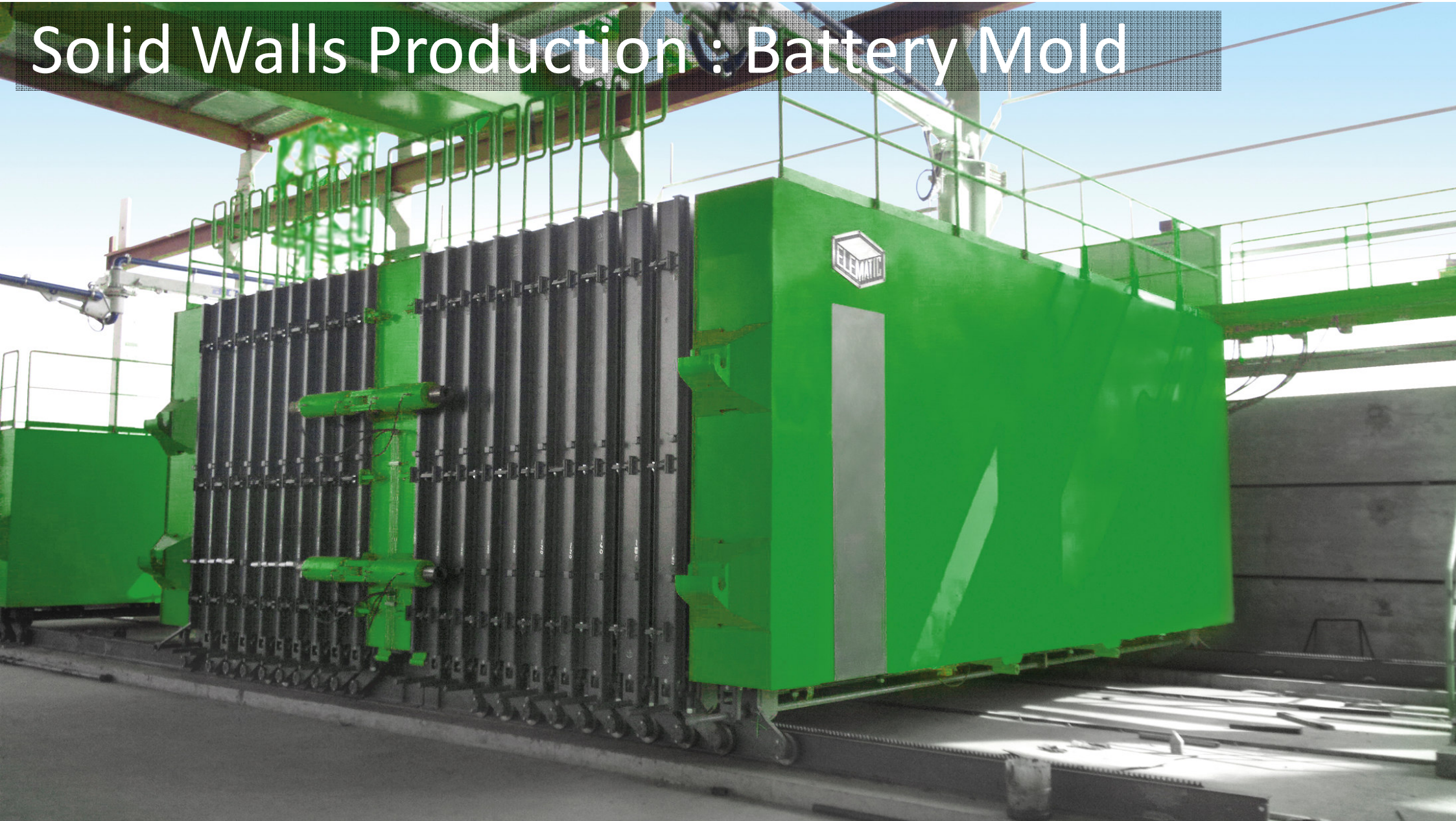
KVT Line – With Multi Function Wagon



KVT Line



Solid Walls Production : Battery Mold



Battery Mold with Cold shutters

- Two panel production in same cell.
- Pre-preparation outside mold for simultaneous activities.
- Stripping by cold shutter, quicker demolding.



Site Based Solutions - Tilting Tables



Site Based Solutions - Tilting Tables



Site Based Solutions - Tilting Tables



ELEMATIC MACHINERY FOR PRODUCTION OF SLABS (PRESTRESSED & NORMAL REINFORCED)

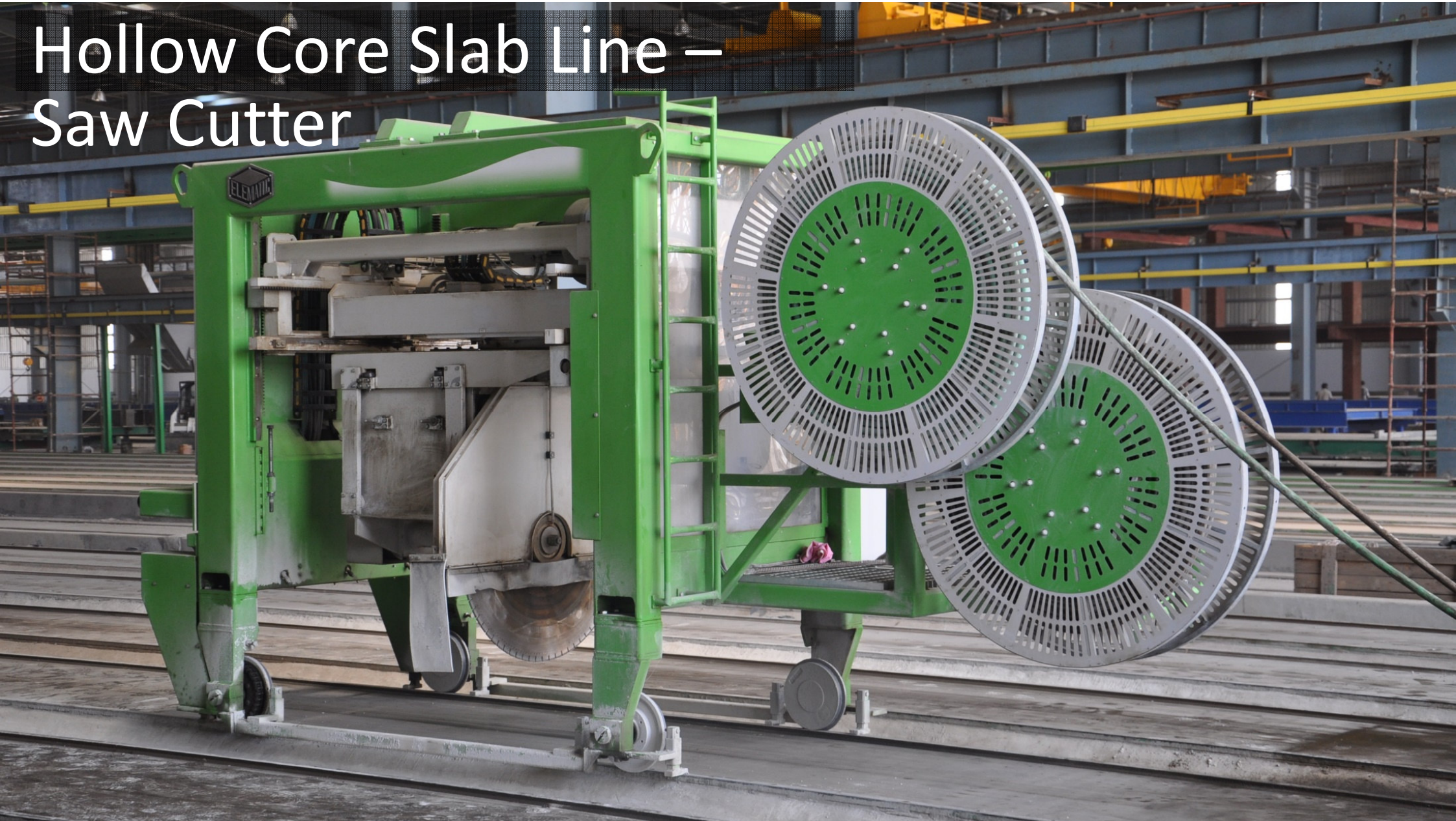
Circulation Line – For Half Slabs



Hollow Core Slab Line



Hollow Core Slab Line – Saw Cutter



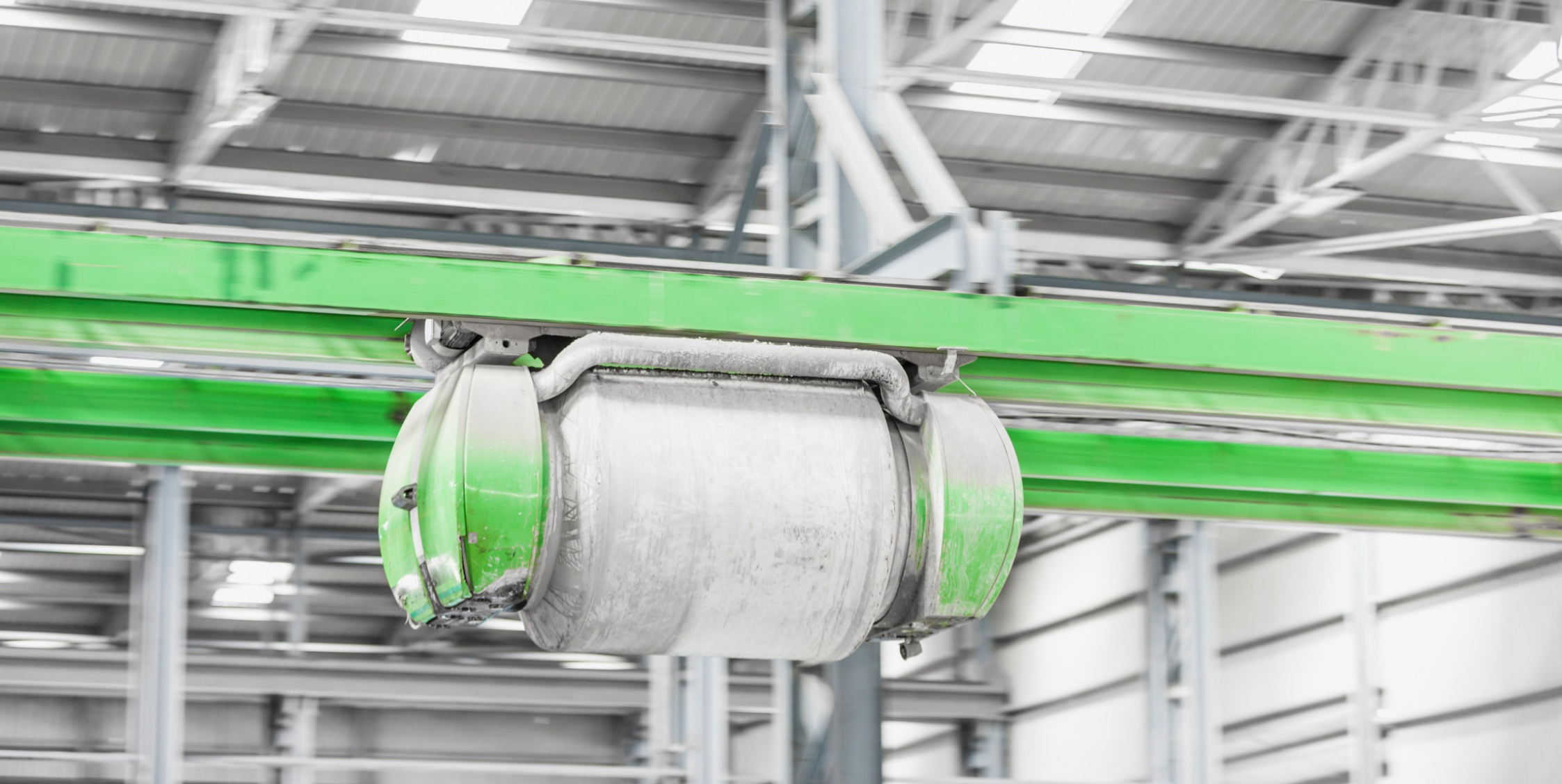
Hollow Core Slab Line – Bed Preparer & Extruder



Hollow Core Slab Line – Lifting & Transport Equipment



Hollow Core Slab Line – Automated Concrete Distribution

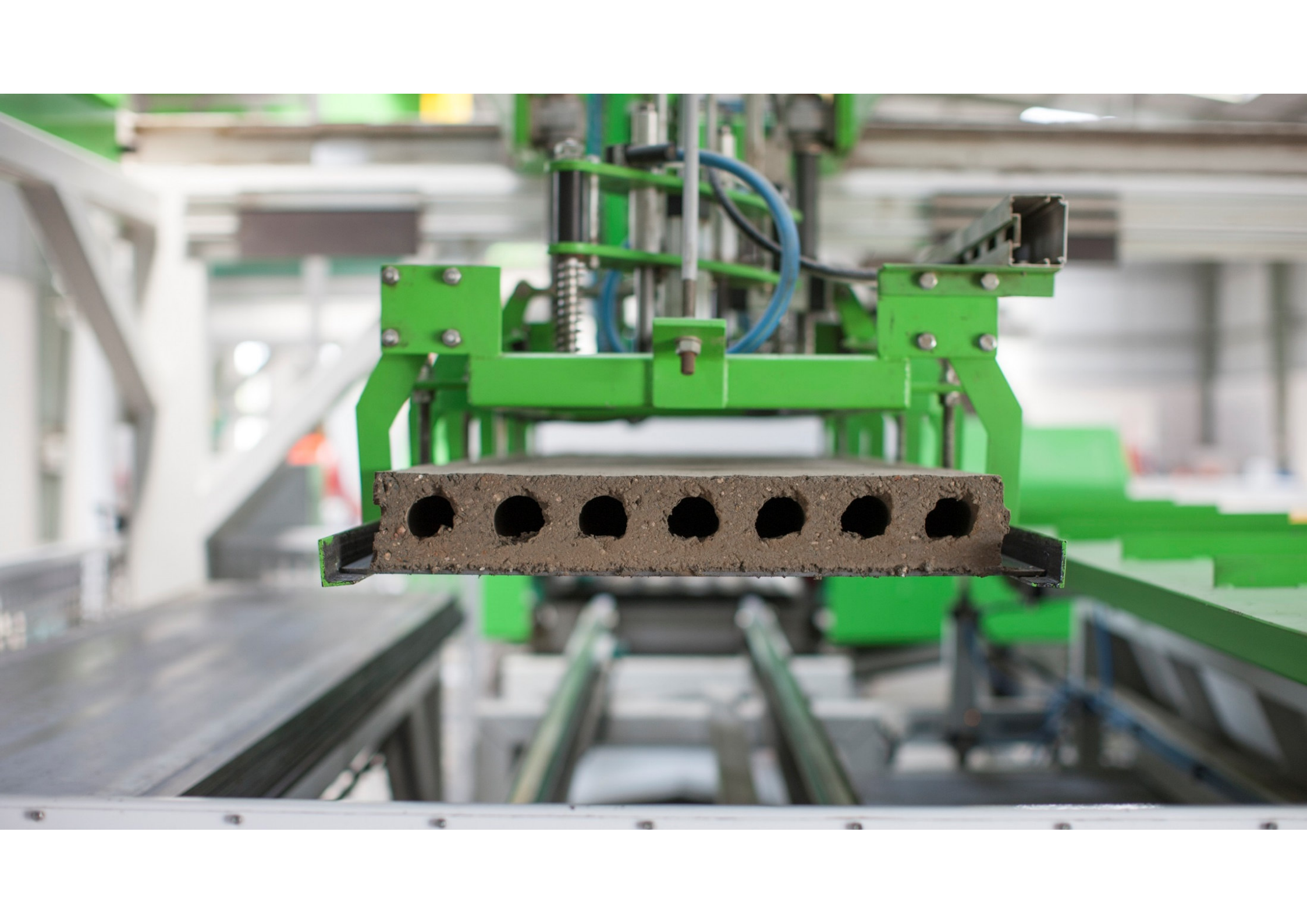




ELEMATIC MACHINERY FOR PRODUCTION OF PARTITION WALLS











Partition Walls –
ACOTEC Panels

ACOTEC Panel Geometry



Standard thicknesses

68 mm 

75 mm 

85 mm 

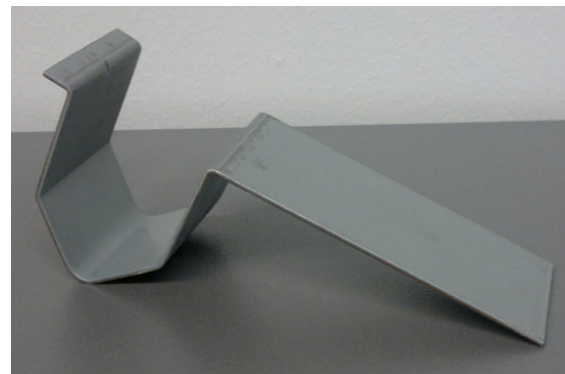
92 mm 

100 mm 

120 mm 



ACOTEC Installation



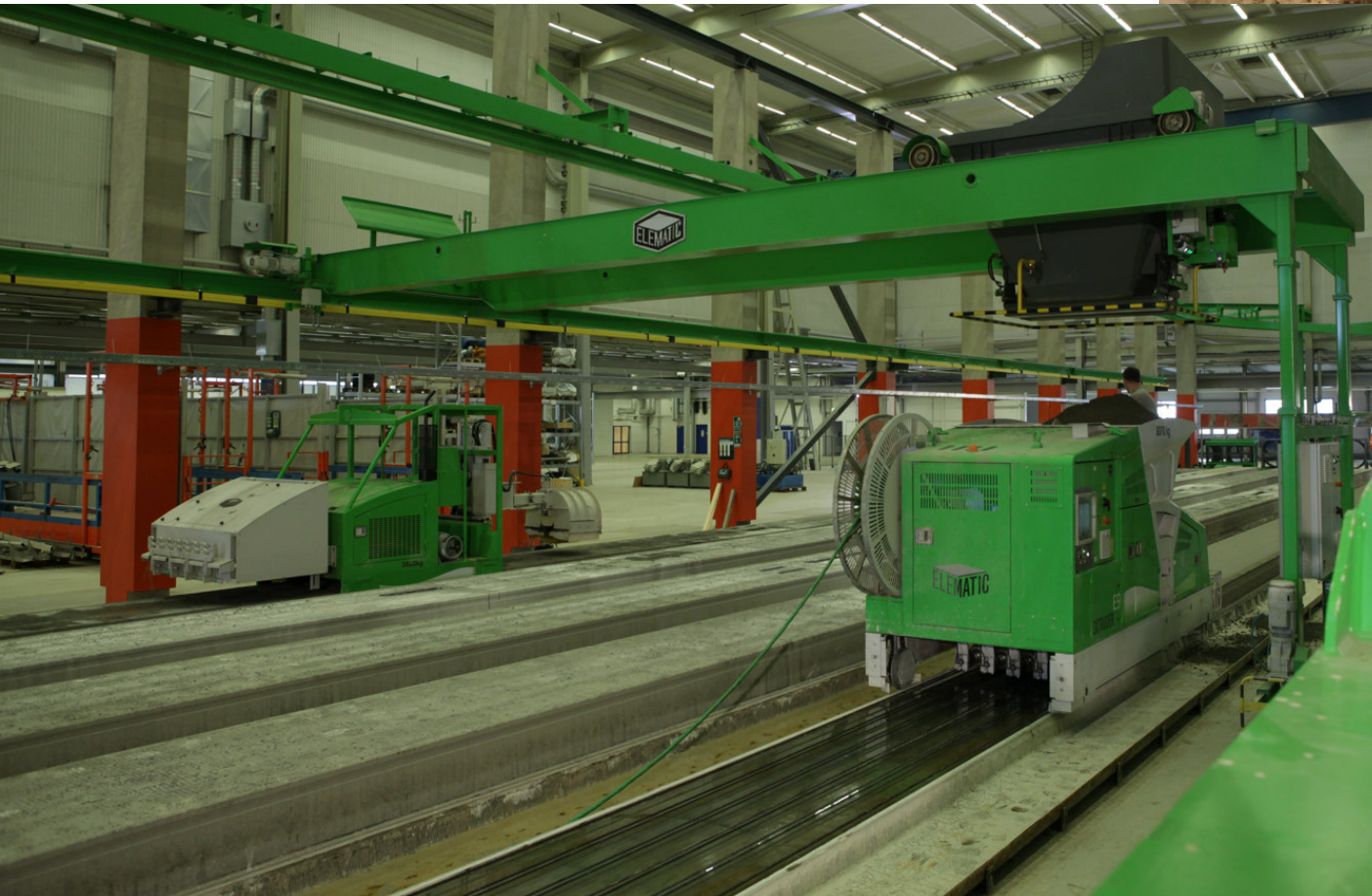
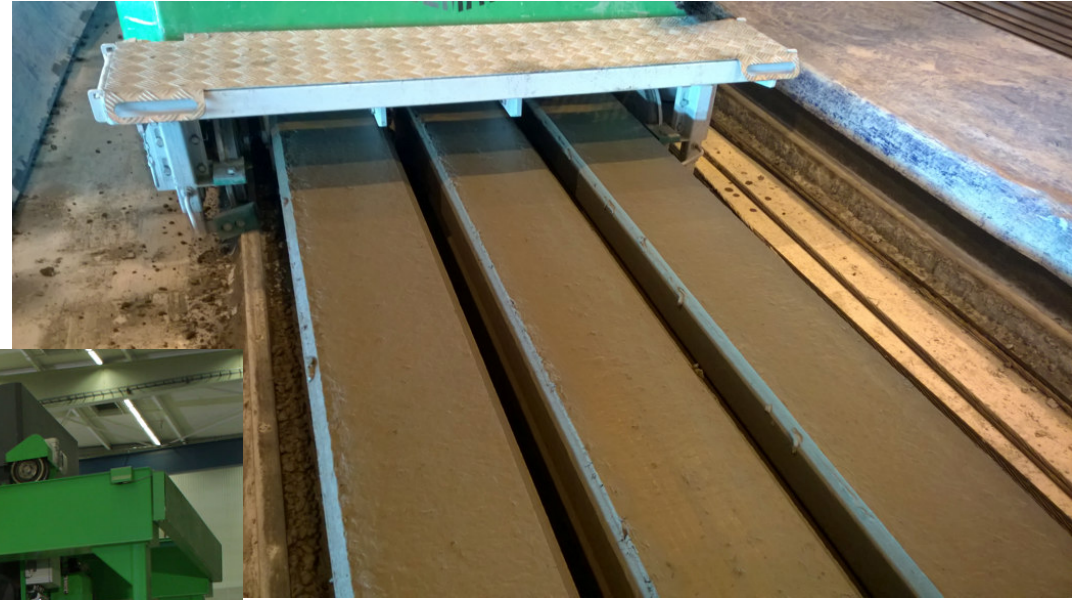
ELEMATIC MACHINERY & MOULDS FOR PRODUCTION OF OTHER PRECAST ELEMENTS

Solid Piles Production



Hollow Pile Production

- Long line production system.
- Prestressed element.



Solid Column/ Beam Production



Hollow Column Production



Double Tee Slab Mold



SOFTWARE FOR PLANT & PLANNING MANAGEMENT

ERP Software



Production Management in Precast Factory:

Advanced software for process excellence specifically designed for the precasting industry.

- Boost efficiency
- Optimize production
- Cost management



Benefits



- **Factory and plant managers:**
 - Up-to-date backlog information on load situation including both orders and bids, as well as information on manufactured and shipped amounts by plants and lines.
- **Sales personnel:**
 - A practical offer calculation tool.
 - A common customer register and product data shared with production units.
- **Production management and personnel:** An irreplaceable tool for
 - production scheduling
 - manufacturing
 - shipping
 - material management
 - storage management
 - machine maintenance scheduling
 - cost calculations





Barcode for Storage Management



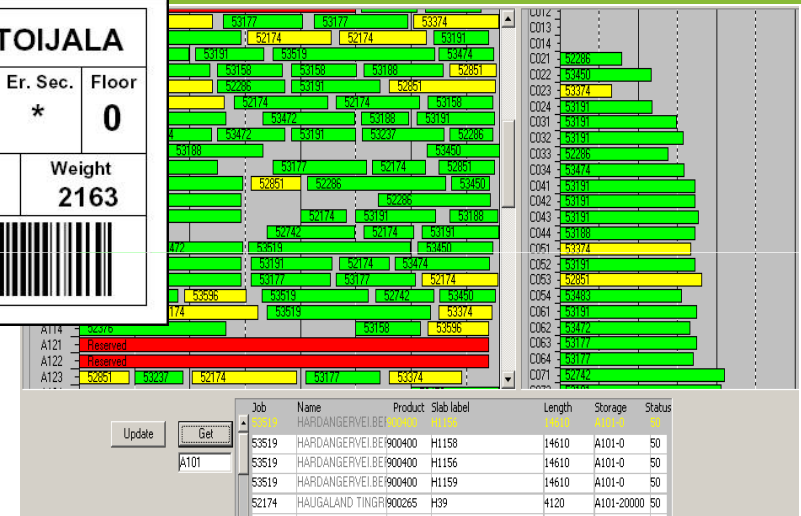
LABEL

BARCODING



| | | | | | |
|---|---------|---|------|----------|--------|
|  999999 MALL OF TOIJALA | | | | | |
| Product Type | | Piece # | | Er. Sec. | Floor |
| 1248 | | 21 | | * | 0 |
| St. Location | Strands | Bed | Pos. | Length | Weight |
| A005-15 | 10 | H03 | 1 | 54.5 | 2163 |
| 1000021 | |  | | | |
| Casting Date: 06/24/2003 | | 999999-1778 | | | |

STORAGE MANAGEMENT



- Accuracy
- Speed
- Saving on stockyard space
- Better decision making
- Productivity

- Optimized usage of storage yard
- Products easy to find
- Entire situation can be seen at one sight



Production Scheduling



EP Casting Program

ELEMATIC Hall Hollow core 24.05.2011

| Program | Product | Strand | Status |
|----------|---------|--------|--------|
| 50221902 | 900265 | 05010 | 00 |

| Job | Label | Er.Sec. | Delivery | St. |
|-------|-------|---------|------------|-----|
| 55718 | H200 | 2 | 06.06.2011 | 30 |
| 55718 | H200 | 2 | 06.06.2011 | 30 |
| 55718 | H200 | 2 | 06.06.2011 | 30 |
| 55718 | H202 | 2 | 06.06.2011 | 30 |
| 55718 | H203 | 2 | 06.06.2011 | 30 |
| 55718 | H204 | 2 | 06.06.2011 | 30 |
| 55718 | H205 | 2 | 06.06.2011 | 30 |
| 55718 | H220 | 2 | 06.06.2011 | 30 |
| 55718 | H221 | 2 | 06.06.2011 | 30 |
| 55930 | H100 | HD | 30.05.2011 | 30 |
| 55930 | H101 | HD | 30.05.2011 | 30 |
| 55930 | H102 | HD | 30.05.2011 | 30 |
| 55197 | H29 | 2 | 06.06.2011 | 30 |
| 55930 | H104 | HD | 30.05.2011 | 30 |
| 55930 | H107 | HD | 30.05.2011 | 30 |

| | Tue 24.05 | Wed 25.05 | Thu 26.05 | Fri 27.05 | Mon 30.05 | Tue 31.05 | Wed 01.06 |
|-----|--------------------------------|--------------------------------|--------------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|
| H01 | 900210#04010 50221866#40# | | 900210#05010 50221877#40# | 900400#09010 50221892#40# | | 900210#05010 50221893#40#AL | |
| H02 | 900400#14010 50221869#40#PO | 900265#08010 50221875#40# | | 900400#04010 50221883#40# | | 900210#04010 50221895#40# | 900320#05010 50221905#00# |
| H03 | | 900265#10010 50221874#40# | | 900400#09010 50221882#40# | | 900320#08010 50221896#40# | |
| H04 | 900400#10010 50221870#40# | | 900210#04010 50221880#40# | | 900320#11010 50221887#40# | 900320#11010 50221899#40# | 900265#05010 50221902#00# |
| H05 | 900400#14010 50221868#40# | | 900320#11010 50221879#40# | | 900320#09010 50221889#40# | | 900320#11010 50221903#00#++ |
| H06 | 900210#04010 50221867#40#16 | | 900320#11010 50221878#40# | | 900265#08010 50221890#40# | | 900265#07010 50221901#00# |
| H07 | 900210#07010 50221860#40# | 900210#04010 50221873#40# | | 900320#09010 50221886#40# | 900265#04010 50221898#40# | | 900265#09010 50221900#00#AM |
| H08 | | 900265#05010 50221876#40# | 900320#05010 50221884#40#PO | | 900265#05010 50221888#40# | 900210#07010 50221894#40# | |
| H09 | | 900210#05010 50221872#40#AM | | 900320#11010 50221885#40# | | 900320#08010 50221897#40# | |
| H10 | | 900210#05010 50221871#40# | 900210#04010 50221881#40#PO | | 900320#05010 50221891#40# | | 900320#09010 50221904#00# |

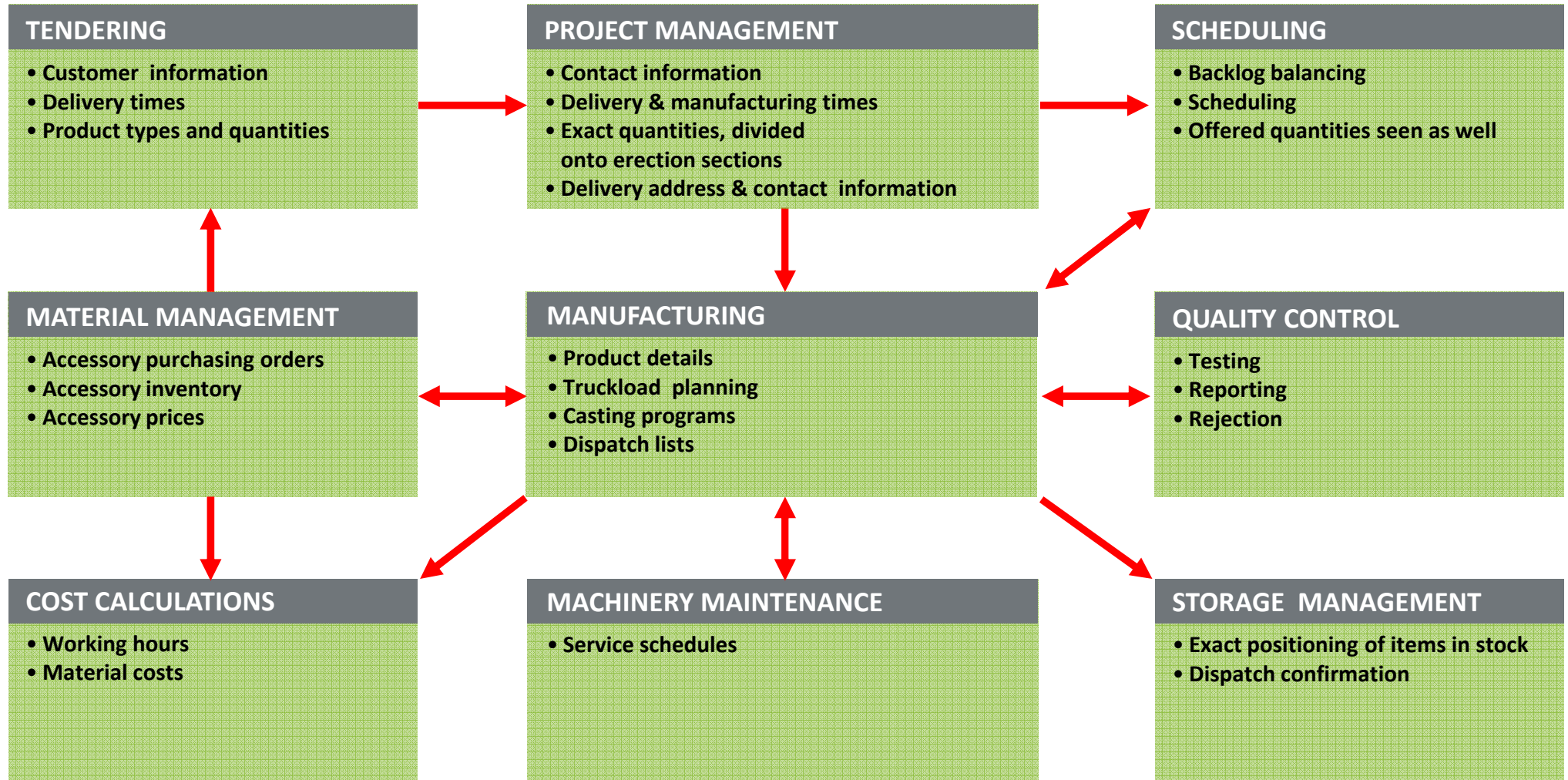
Notes

Total Length 107221

Move: Move Casting Program <= 1 DAY 1 DAY =>



Data Flow and Management





BISMAYAH – LARGEST PRECAST HOUSING PROJECT IN THE WORLD



Bismayah New City Project

- Bismayah is a new city being constructed 10km from Baghdad in Iraq.
- This city will house 600,000 residents and is an \$8 billion project.
- This will include construction of 1,000 towers of 10 story each.
- 100% precast buildings, utilising precast sandwich walls, hollow core slabs, staircases and other special precast elements.

Bird's Eye View



Project



3 x Battery Mould Plants

4 x Circulation Wall Lines

Battery wall plant

4 x Prestressed Hollow Core Plants

Facts in Brief

Circulation wall line (4 pcs)

| | |
|-----------------------------------|----------|
| Table with sideforms and openings | 300 |
| Comcaster | 4 |
| Curing chamber with lift | 4 |
| Cross transfer beam | 26 pairs |
| Tilting station | 4 |
| Compaction station | 4 |
| Panel transportation | 8 |
| Roller track | 1400 |
| Friction wheel | 280 |



Facts in Brief

HC line (4 pcs)

| | |
|---------------------|---------------------|
| Casting Bed | 32, a 156 m -> 5 km |
| Gantry crane | 4 |
| Extruder | 9 |
| Saw | 4 |
| Preparer | 4 |
| Modifier | 3 |
| Bundle stressing | 4 |
| Lifting equipment | 44 |
| Slab transportation | 8 |



Facts in Brief

Battery hall (4 pcs)

| | |
|--|----|
| Battery mold 6 + 6 with Cold shutter, incl. sideforms and opening | 3 |
| Battery mold 10 + 10 incl. sideforms and opening | 2 |
| Staircase mold | 18 |
| Casting machine | 2 |
| Lifting equipment | 17 |
| Panel transportation | 2 |



Facts in Brief

Tower B&M Station (3 pcs)

| | |
|----------------------|--------|
| TS Mixer | 6 |
| Cement silo | 12 |
| Aggregate silo | 32 |
| Shuttle | 11 |
| Transportation track | 2,2 km |
| Heating plants | 10 |



Facts in Brief

Others

Automation for all production lines

EliPlan for all production lines

Supervision

Training



Facts in Brief

Housing

Capacity (wall) 8 500 m² / day

Capacity (floor) 8 500 m² / day

Housing Units 100 000

Inhabitants 600 000

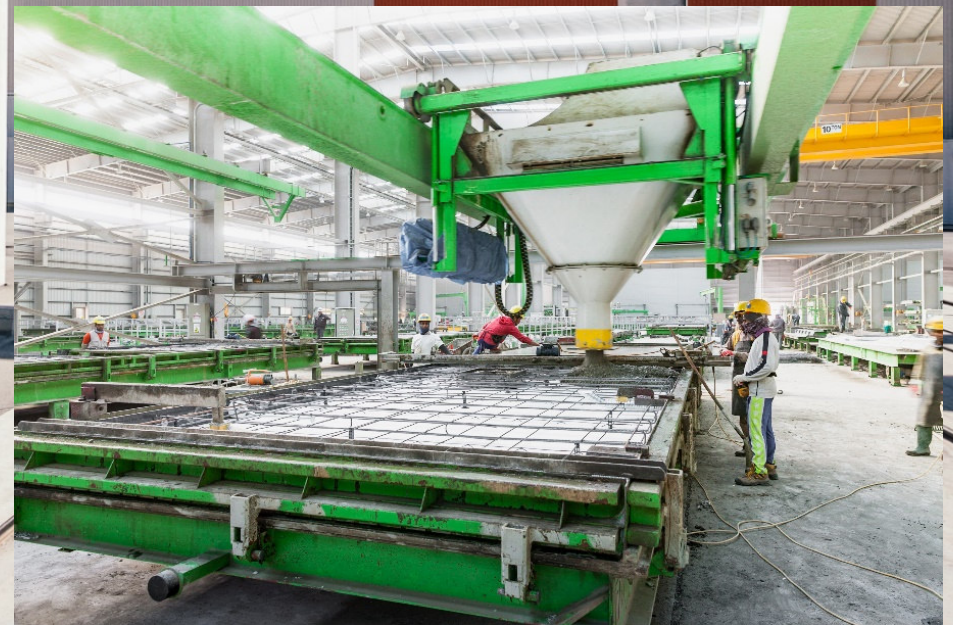
Finish design All houses

[Video](#)











BISMAYAH CONSTRUCTION SITE PICTURES















THANK YOU

www.elematic.com

