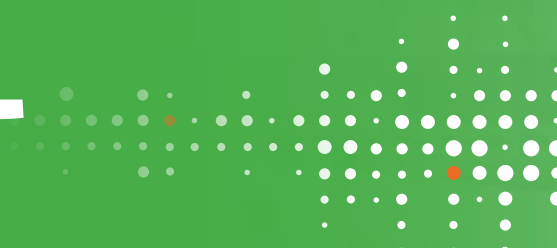




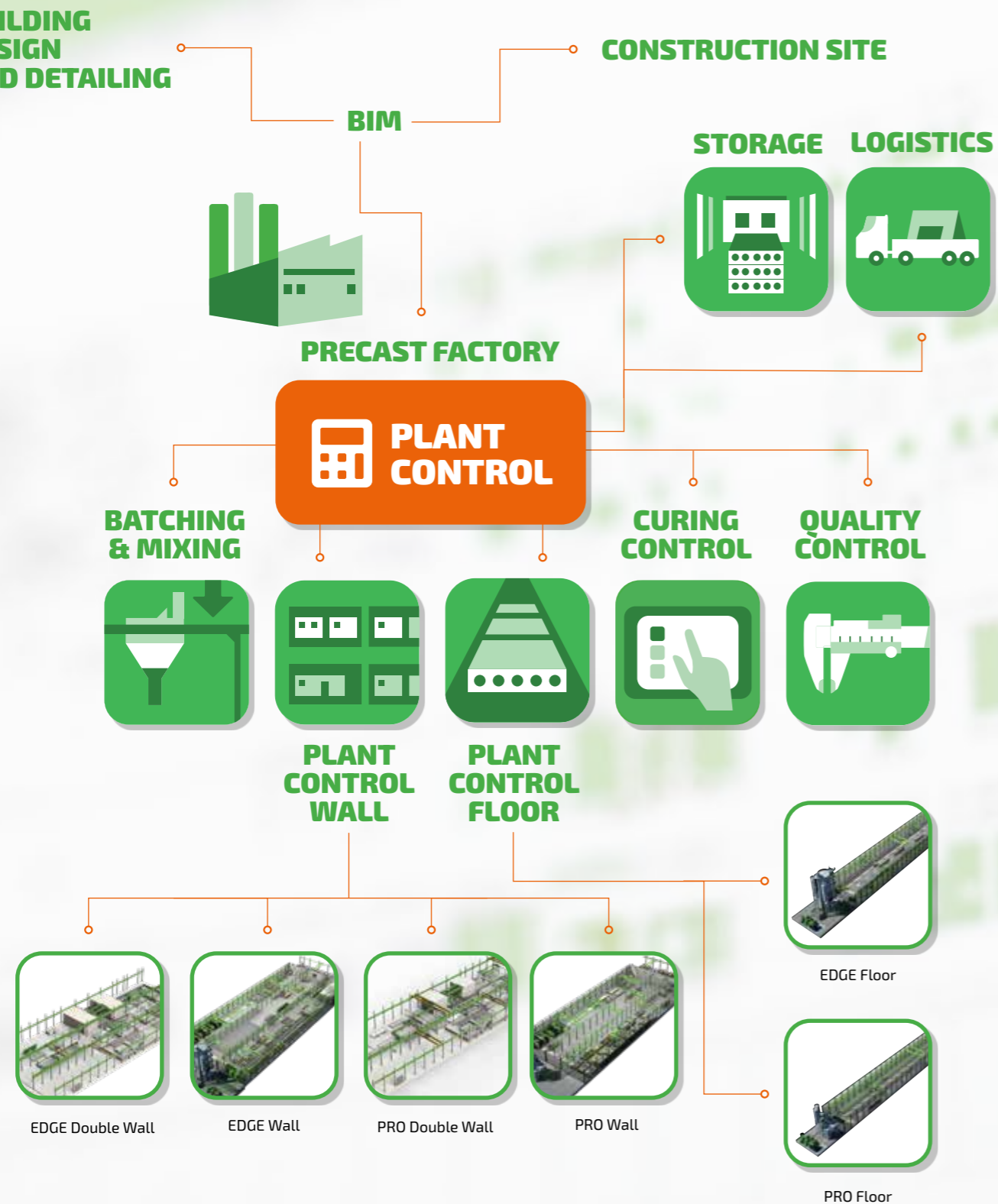
PLANT CONTROL

Optimized production



OPTIMIZE

your precast production flow



Elematic Plant Control is a production operations management software suite specially designed for precast concrete factories. The system has been developed together with precast producers to make sure that it matches requirements from hollow core to circulation lines.

It connects your precast factory's different work processes, streamlines factory automation, and aids in collaboration between designers and the construction site.

With Plant Control, you will always have an up-to-date overview of your plant's production-related operations. You can manage, control, and optimize the whole production process and automatic machines with just one system. When you connect work processes digitally, you can achieve major improvements in the production efficiency and profitability of your plant.

The Plant Control system has various independent modules that connect and support different production lines, sales, storage, quality, logistics, and total plant operation. You can expand the system to cover more functions step by step. This way, there's no need to make a big investment at one time. You can also make sure that everything runs as it should with the selected functions before moving to the next level.

By automating routine tasks and connecting your factory to a BIM system, the software helps you keep up with tight building project schedules.

Efficient collaboration with BIM

A building information model (BIM) is a virtual model of your building or infrastructure project. The designers, the construction site, and the precast concrete factory can all have access to this model and keep it updated.

The Elematic Plant Control system communicates with BIM. Designers can use the BIM system to send their slab and panel design drawings to the precast factory if the factory uses Elematic Plant Control. The data is then used at the factory for production planning, production management, controlling the automatic machinery, storage operations, and so on. Element production data can be uploaded to the BIM model for the use of the construction site and other parties.

Plant Control is network-based. It is located on a server, and the user runs it on a standard personal computer via a web browser.

PLANT CONTROL WALL



Plant Control Wall:
Vabe

High productivity for your wall plant

The Elematic manufacturing execution system for walls – Plant Control Wall – optimizes precast wall panel production and offers a variety of tools for planning and monitoring. It keeps product designs, project, and production details aligned. You can also easily check how production is achieving your key business objectives by tracking KPIs.

Plant Control Wall helps balance work plans and available resources per work phase to achieve a smooth production workflow without unnecessary stops. Furthermore, it decreases operational costs as well as improving the quality of produced panels.

The Plant Control Wall system provides table-specific, real-time production progress data. It compares actual work times versus estimates and waiting times. The system's advanced quality control features, easily customizable reports, and KPI follow-up with a dashboard will help you keep your precast business running smoothly.

The system automatically stores production history, so it is easy to take focused quality improvement actions. For example, you can easily compare quality issues versus hours required for corrections, and identify the work processes where issues have occurred. Automatic planning functions for key processes and a visual, easy-to-use user interface make daily operation of the system easy.

Benefits

- Visual production planning for the tables
- Improved panel quality with advanced quality control
- Work hour estimates
- Customizable reports



PLANT CONTROL WALL

is available at three levels

PLANT CONTROL

for Double Wall

SEMI

The SEMI level package includes all key modules: production planning, quality control, printable documents and mobile for use on the go.

PRO

The PRO package offers APIs with BIM solutions, production planning, production KPIs management, printable production documents including element labels, production drawings and and quality control documents.

EDGE

Complete solution to digitalize precast production processes and control automatic production flow. Includes PRO package plus material flow management: storage management, truck load planning, dispatch and capacity management.

In highly-automated double wall production, Plant Control also offers excellent visualization of the production status. The system shows where each mold is located, when it is moving, the curing times all the way until storage. Plant Control also offers visual production planning and queue management until the table is locked for production.



The system covers design to production interface, production preparation and production documents, shuttering station and plotter control with table starting point, side form positions, optimal side forms per storage availability, and smart data management for plotting.

Furthermore, the solution offers automatic printing of work instructions including the production plan, drawings, and material collection lists. It provides quality control for side forms, reinforcements and materials with digital mobile-optimized checklists. Plant Control for Double Wall includes table position on production line and in curing chamber, elapsed time per table and unloading sequence based on shipment plan. It also provides end product quality control by geometry, surfaces and materials, as well as storage locations and dispatch control.

PLANT CONTROL FLOOR



Plant Control Floor:
Contiga

High productivity for your floor plant

The Elematic manufacturing execution system for floor production – Plant Control Floor – optimizes hollow-core slab production and offers a variety of tools for planning and monitoring. The system optimizes the use of production lines and work schedules and monitors work progress. It helps you achieve a smooth process with zero interruptions and low operational costs.

Plant Control Floor includes three modules: Production for automatic production planning, Machine Control for controlling the factory automation system and steering the automatic machines, and Monitoring for real-time production monitoring.

Your production planning will become more efficient as you use Plant Control Floor's automatic planning functions. You can also make manual adjustments if needed. You can compare up-to-date production statuses to the plans, as planning and production monitoring are done in the same system. Production history is automatically stored, so it's easy to use the data for developing your production process further.

The Plant Control Floor system provides a single point of access to production planning and monitoring, with an easy-to-use visual user interface. All data required for production optimization is possible to have in user-friendly dashboards that can be customized to suit your factory's needs.

Optimized plan for production

- Saves materials and labor costs
- Maximizes capacity utilization
- Publishes a production plan for production
- Optimizes production plan for each bed
- Automation control for each machine
- Real-time monitoring of production progress, including deviations



AVAILABLE AT THREE LEVELS

MACHINE

Supports automatic production machines, managing data communication through a WLAN network. Optimizes element data and control to meet the operational needs of each individual machine type and machine, and supports cross-machine communication. The Plant Control Machine package offers an interface for Tekla Structures, Unitechnik 6.x and the possibility to customize other interfaces. It's also possible to integrate your workflow with third-party systems.

PRO

Efficient production planning. Bed optimization based on truck loads and erection sections, and further optimization per bed filling rate, angle cuts and split slabs.

EDGE

PRO plus project management, capacity management, truck load planning, storage management with mobile QR code system, and dispatch.

KEY FEATURES

for production lines

KEY FEATURES FOR WALL PRODUCTION LINES

Plant Control Wall

PRODUCTION

- Visual production planning
- Automatic planning
- Direct input of panel data from BIM systems (Tekla structures)
- Real-time KPIs
- Factory-specific definition of tables and shuttering system
- Machine control
- Quality control

MONITORING

- Production visualization
- Production data collection
- Table-specific monitoring of production progress
- Collection of estimated versus used working hours, waiting times, working times, and delays

How does digitalized quality control work?

1. Plant Control notifies you which mold or product needs to be checked, in either the pre- or post-casting phases
2. Identify the product with a QR or barcode
3. Check the product using a customized checklist
4. Add information to Plant Control with your mobile device
5. Plant Control calculates key tolerances based on the reference value
6. If you need to check the drawings, they are only a click away
7. Save the checklist with comments and pictures
8. All data is saved in one easily searchable database

KEY FEATURES FOR FLOOR PRODUCTION LINES

Plant Control Floor

PRODUCTION

- Visual production planning
- Automatic planning
- Real-time KPIs
- Machine control

SCHEDULING

- Automatic schedule calculation for work phases

MONITORING

- Production visualization
- Real-time production status
- Production data collection



DASHBOARD

Transform data into meaningful information

The Elematic Plant Control dashboard takes the data available in the system and shows it in a visual format. It turns data into meaningful factory KPIs.

Reporting includes 10 basic ready-made templates. Automatic reporting provides up-to-date information of factory operations and decreases the need for manual data collection.

Dashboards and reports can be customized according to your factory's specific needs.



PLANT CONTROL

Key features for the factory



OFFERS

- Offers
- Price calculations
- Offer calculation
- Version management
- Create project from the approved offer



PROJECTS

- Projects
- Project summary
- Project documents
- Delivery analysis
- Price and cost analysis



CAPACITY

- Capacity
- Capacity utilization
- Production line-specific load categories
- Reports overloads and gaps



ELEMENTS

- Import element data from BIM (e.g. Tekla Structures)
- Manage element data and bill of materials (BOM)
- Add comments for production and transportation
- View element drawings



MATERIALS

- Materials
- Material upkeep
- Material consumption
- Material forecasts
- Material prices



TRUCKLOADS

- Truckloads according to erection section and sequence
- Plan element positions and order in the load
- Optimize weight for the truck and both of its sides



QUALITY

- Digital quality inspection sheet
- Inspection frequency
- Recording of deviations, with pictures
- Tracking of quality process
- Quality analyses



STORAGE

- Visual storage planning
- Real-time storage KPIs
- Mobile bar code system for easy operations in the storage.



DISPATCH

- Create waybills and dispatch
- Add stack plans and individual elements to waybill



MAINTENANCE

- Inventory of equipment
- Regular preventive maintenance and unscheduled repairs
- Support for spare parts
- Tracking of maintenance history



REPORTS

- Customizable reporting
- Factory-specific dashboard for KPIs
- Support for PDF and MS Excel

HOW TO START with Plant Control?

Plant Control is a software suite that consists of independent modules, so you can start small and expand the system to cover more functions later. Whatever your starting point is, we can help you make the right decisions!

We designed Plant Control to be integrated into the IT systems of precast factories, so that data transfers automatically between the different functions. In addition to the most typical integrations with production planning and finance, you can connect logistics, for example, to the same system – just add another module.

Before we suggest the best Plant Control modules to suit your needs, we'll discuss your production goals and the challenges standing in the way of reaching them. If there are some obvious bottlenecks, we will recommend you focus on these areas in order to achieve a fast return on investment.

We'll also help you form an overall picture of how Plant Control can be connected with your current IT architecture.

Go live with experts

An experienced team will support you during implementation. We have implemented the different modules of Plant Control in precast factories around the world for years. We recognize the differences and similarities in factories' processes and needs, so we'll help complete the project in a way that suits you. The deployment of Plant Control in your factory will be carried out in phases that suit your production process and at a schedule that suits you best. You'll get a designated team that will work alongside you throughout the project.

Training helps you get the most out of the software. We organize training as we go live with Plant Control at your factory, and if necessary, you can order additional trainings from us later – remote or on site. We want you to get the most out of the software immediately after implementation and also in the future.

Continuous support

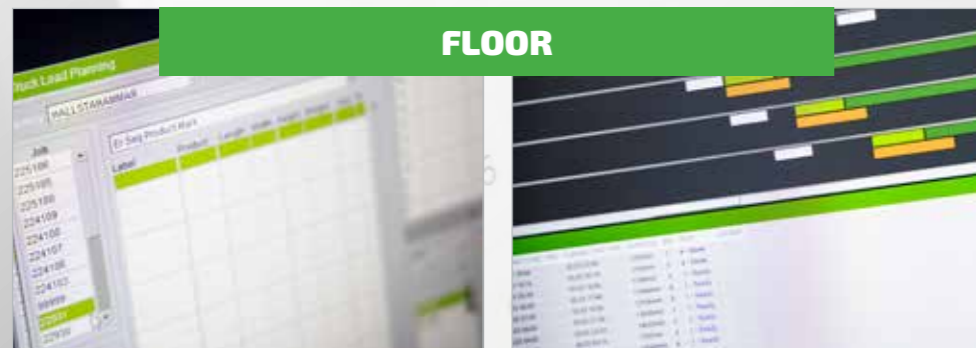
You can count on getting help quickly when you call our Helpdesk or send an email. Over the years, we have accumulated an excellent database of customer questions and needs, and our answers to these questions. If the helpdesk can't find an answer in the database quickly, they will ask for help from our experts. We constantly use our customers' questions as valuable feedback for our product development.

Digitalization is moving at a rapid pace, and factory operations are developing every year. This is why we are constantly improving the software and developing new features and modules. Basic updates are part of your Plant Control maintenance contract.

We also understand your IT architecture develops. If you have implemented new software in your factory and want to integrate it with Elematic's software, our experts can help.

Develop together with forerunners

When you have Plant Control, you can stay at the forefront of digitalization development in the future. We continuously develop new modules in cooperation with precast concrete factories. Many factories also constantly share data about process flow, equipment use and software around the world, and we use this data to guide our software development.



FLOOR



DOUBLE WALL



WALL

PLANT CONTROL

Optimized production



THE FUTURE RUNS GREEN

Elematic precast technology has enabled hundreds of thousands of building projects in over 100 countries.

Precast manufactures — our customers — make it possible to build modern buildings resource-efficiently. To meet customer needs and exceed expectations, we've developed pioneering precast equipment, offered lifecycle services and refined manufacturing processes for more than 60 years.

www.elematic.com

Elematic Oyj • Aiolantie 2, 37800 Akaa, Finland
Tel. +358 3 549 511 • E-mail marketing@elematic.com



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