



# INFORMATION SYSTEM

## ALTO 4.0 ERP

**ALTO 4.0**

ALTO 4.0 / 2018

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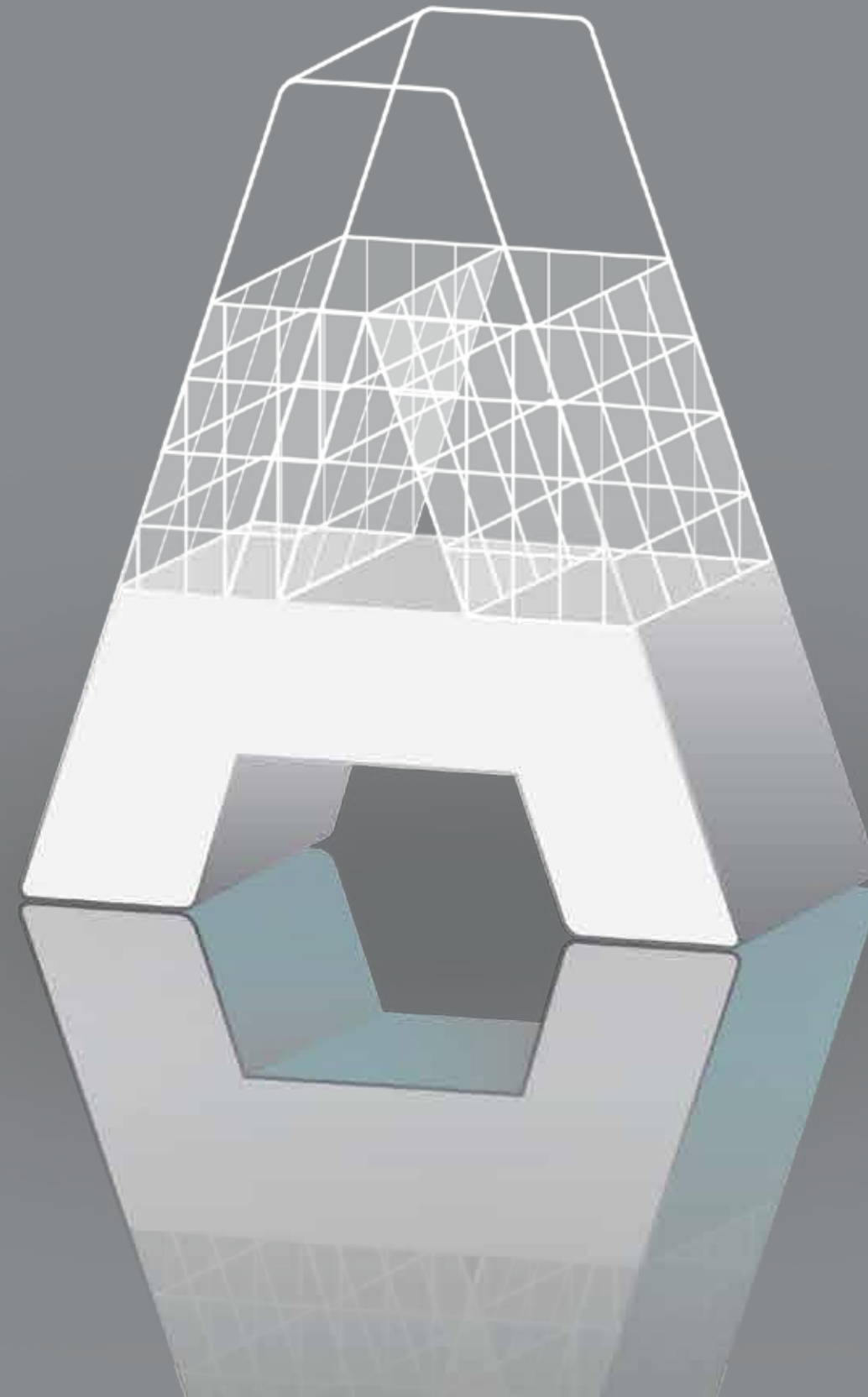
# ABOUT ALTO 4.0

## DIGITAL EXPERTISE AND SOLUTIONS

ALTO 4.0 is a digital expertise and solutions spin-off of a major industrial group.

We add value to industrial businesses through process digitalization and have a strong track record of developing and implementing solutions that bring economic benefit.

We provide a unique set of skills and experience - a combination of digital capabilities and deep industry knowledge.

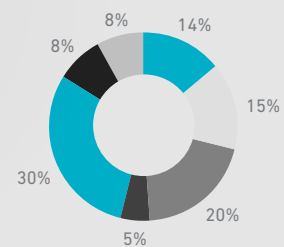
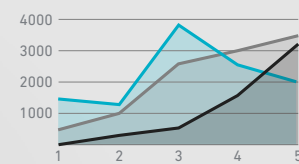
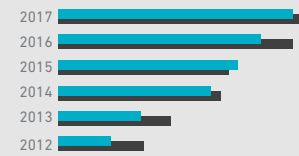


# ALTO 4.0 ERP KEY INFORMATION

ALTO 4.0 ERP is a custom web-based software.

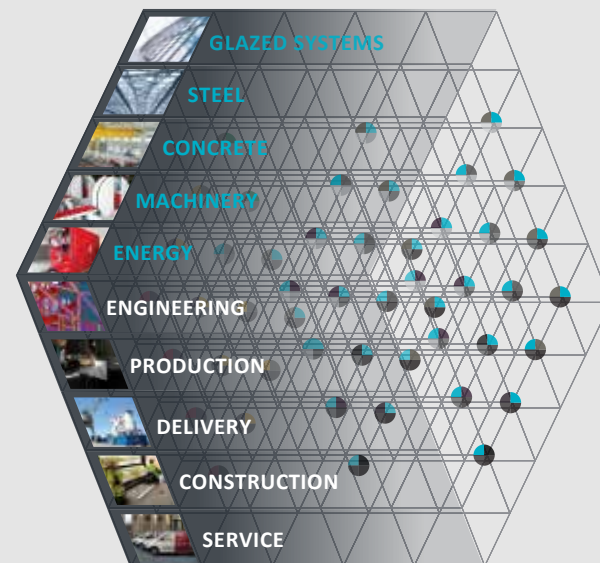
- Complete business unit integration
- Process automation
- Real time progress information
- External partner integration

## REAL TIME ANALYTICS



## EXTERNAL PARTNER ECOSYSTEM

### ALTO 4.0 ERP

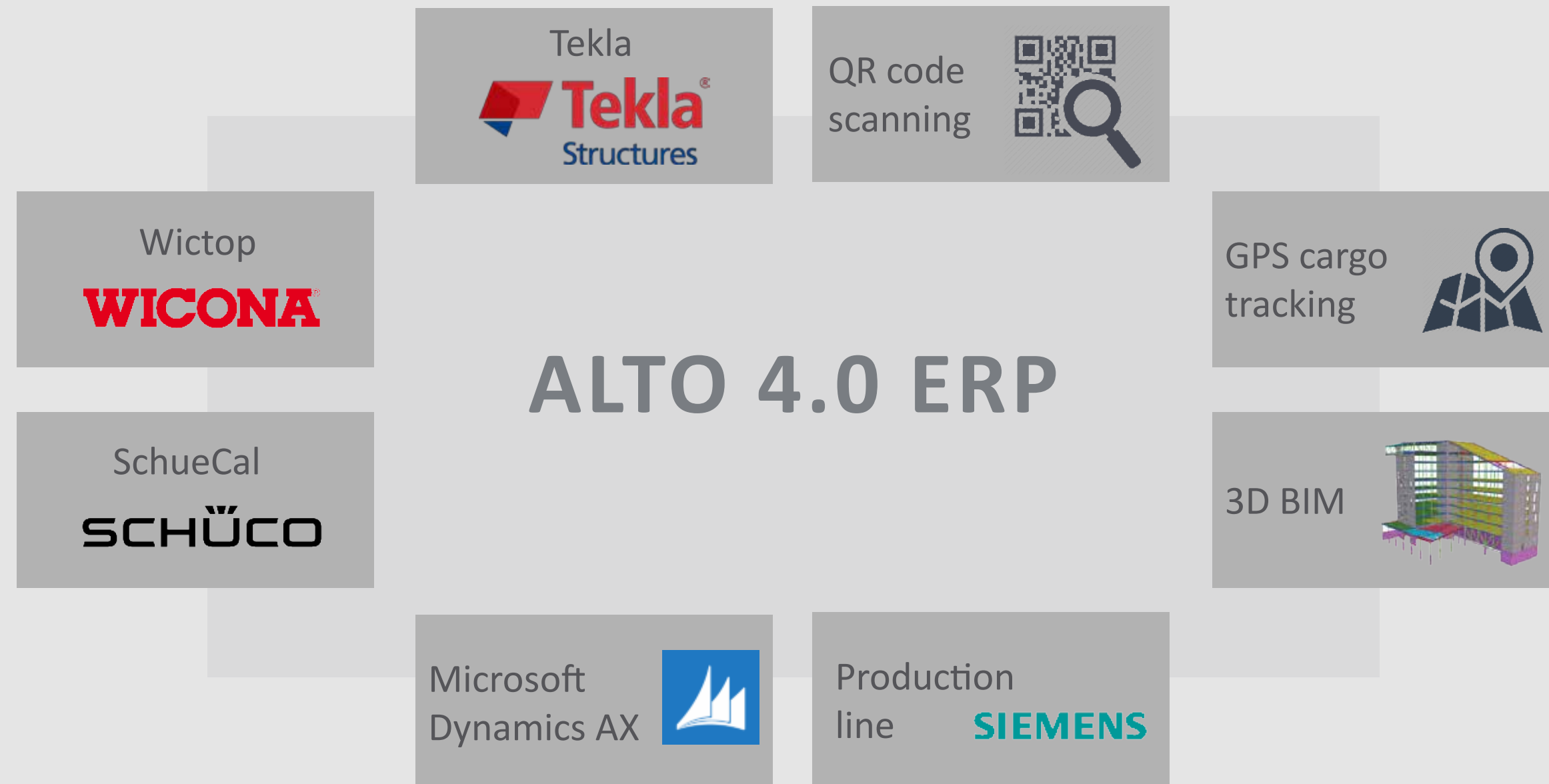


External producers

Engineering partners

- **Over 10k industry specialist man hours** invested in analysis, development and testing;
- **Full cycle business process support:** precast, steel, glazed structures, CHP station production;
- **Continuous investment in system fine-tuning** based on end-user needs;

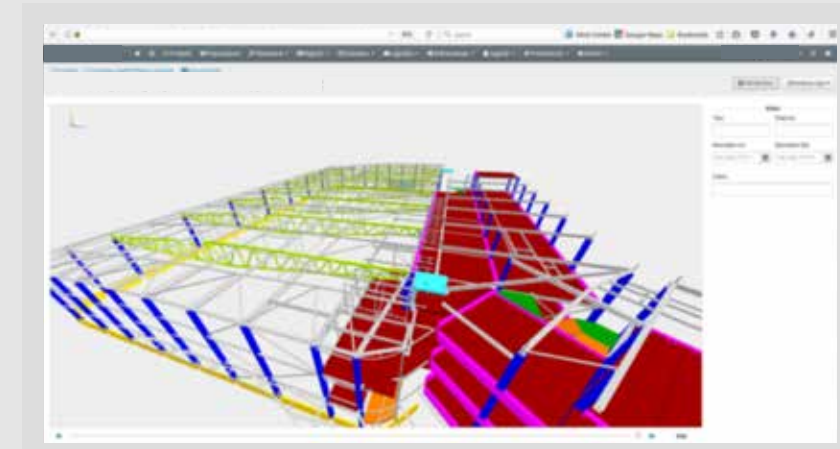
# TECHNICAL INFRASTRUCTURE



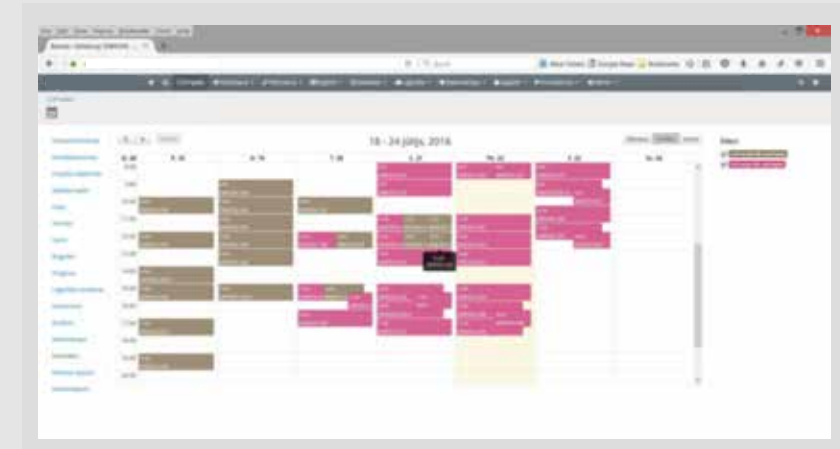
- Ruby on Rails (RoR) for convenient and rapid development
- PostgreSQL as a RDBMS and MongoDB as a document-oriented database DBMS
- Hosting on private cloud infrastructure for scaling and data security
- HTTPS for secure communication

- Oracle BI advanced data analytics
- Real-time data synchronization with Microsoft Dynamics AX
- Real-time data synchronization with engineering and production software
- Integrated laser template projection system
- Built-in barcode/QR code scanner support

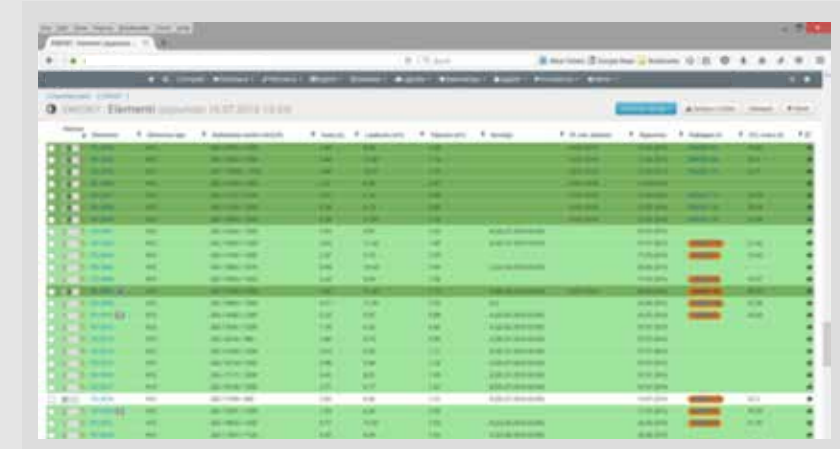
# COMPLETE MULTI-STRUCTURE PROJECT EXECUTION THROUGH ALTO 4.0 ERP



3D status manager

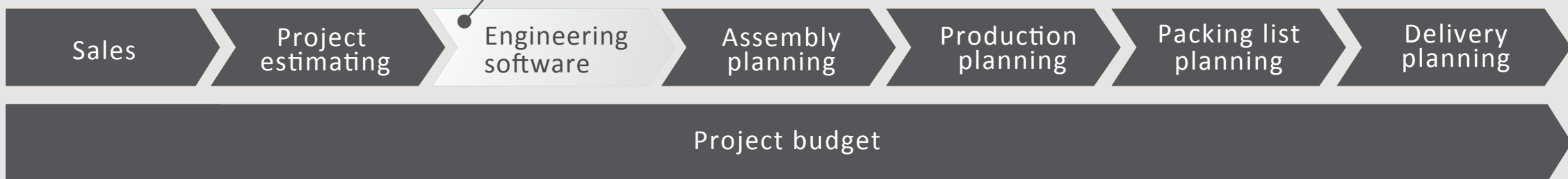


Project events calendar



Element status table

TEKLA Structures WICONA SCHÜCO



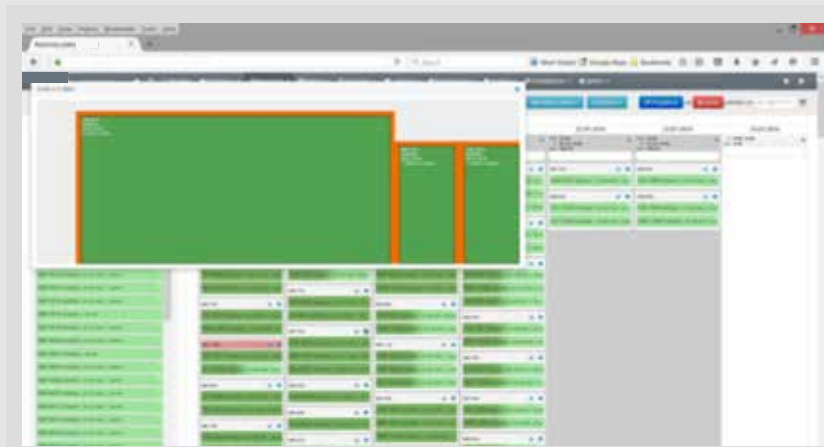
# ALTO 4.0 ERP - THE MAIN TOOL FOR AN EFFECTIVE BUSINESS PROCESS EXECUTION

## System performance capacity

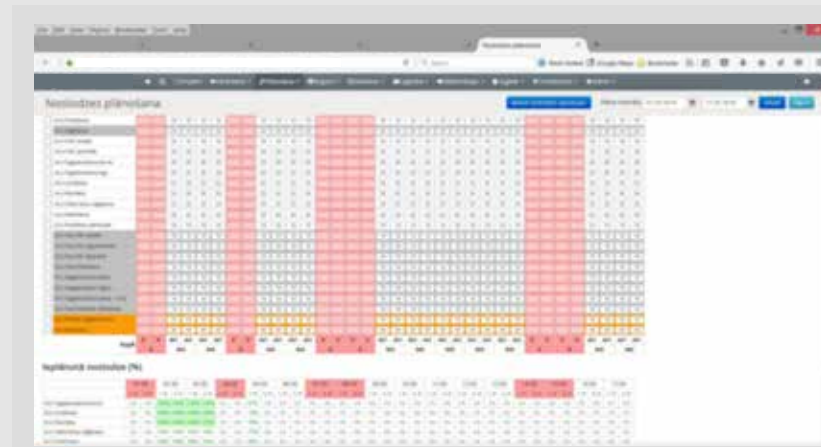
- 500+ active users
- 100+ simultaneous construction projects
- 20,000+ elements processed monthly - uploaded, planned for production, shipping and assembly
- Real-time automatic generation of optimal production schedule from more than 5,000 active elements in the system
- 2,000+ deliveries planned and executed monthly
- 100+ construction site orders processed daily
- 2,000+ issues reported and processed annually

## Structural element life-cycle support functionality

- Element and part list info upload
- Engineering status monitoring
- Engineering revision administration and notifications
- Quality issue identification and notifications
- Status updates and notifications
- Assembly schedule generation and change administration
- Part list orders and status monitoring
- Production planning based on optimal pallet layout and production date
- Warehouse zone optimization
- Pack-list planning, delivery time coordination
- Assembly planning and status reporting



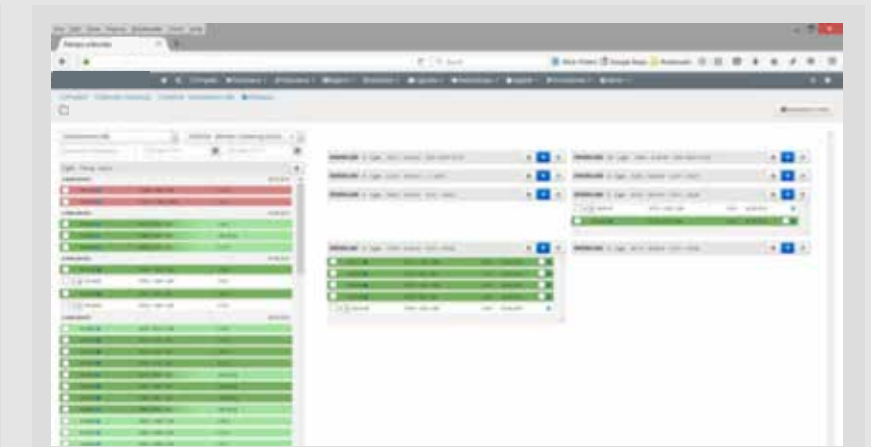
Automatic precast production planning algorithm



Glazed structures production planning module



Issue reporting and analysis module



Packing list planning

# ALTO 4.0 ERP FUNCTIONAL SUMMARY

## PRECAST STRUCTURES MODULE

- Element full info upload from engineering software
- Element life-cycle statuses
- Assembly planning
- Packing list planning
- Automatic element production time estimation
- Automatic production planner/pallet optimizer
- Element parts orders/statuses from external partners
- Configurable automatic worker pay generator
- Multiple production plant support
- Sync with Tekla Structures, MS Dynamics AX, Oracle BI

## STEEL STRUCTURES MODULE

- Element full info upload from engineering software
- Element life-cycle statuses
- Assembly planning
- Packing list planning
- Real-time production process status reporting using tablets
- Element parts orders/statuses from external partners
- Configurable automatic worker pay generator
- Sync with Tekla Structures, MS Dynamics AX, Oracle BI

## GLAZED STRUCTURES MODULE

- Element full info upload from engineering and production software
- Element life-cycle statuses
- Assembly planning
- Packing list planning
- Automatic element production time estimation
- Element production planning by operations
- Configurable production process resource capacities
- Element parts orders/statuses from external partners
- Configurable automatic worker pay generator
- Sync with Tekla Structures, Schuco SchuCad, Wicono Wictop, MS Dynamics AX, Oracle BI

## LOGISTICS PLANNING MODULE

- Automatic delivery order aggregation from other ALTO 4.0 modules
- Freight combination
- Multiple shipping option support
- Multiple delivery phase support
- Automatic transport order form generation
- Automatic report generation
- Sync with MS Dynamics AX, Oracle BI

## SALES MODULE

- Tender register with statuses
- Configurable offer generation forms for different business units
- Configurable product/service/pricing options

## PROJECT BUDGET MODULE

- Automatic budget template generation from successful tenders
- Budget planning for various product types
- Assembly resource planning – workers and equipment – utilization, vacations, travel
- Automatic monthly budgeted implementation reports generated from production, logistics, assembly, worker utilization statuses
- Sync with MS Dynamics AX, Oracle BI

## ISSUE REPORTING MODULE

- Issue register with statuses
- Image and other file format attachments
- Linking issue with project, product, worker, business unit
- Configurable issue analysis template based on business unit process specifics
- Shared responsibility process flow
- Mobile/tablet support
- Sync with MS Dynamics AX, Oracle BI

## PROJECT MANAGEMENT MODULE

- Project documentation uploads
- Automatic project progress reporting
- Project schedule/phase planning
- Project team
- To-do workflow
- Project events calendar – deliveries, orders, etc.
- Sync with Oracle BI

## SUPPLY CHAIN MODULE

- Incoming orders register form other ALTO 4.0 modules
- Order progress statuses
- Automatic warehouse sync
- Packing list planning
- Sync with Tekla Structures, MS Dynamics AX

## TIME REPORTING MODULE

- Periodical employee time reporting
- Fully configurable job categories and sub-categories
- Links with projects, issues, etc. in the system
- Automatic report generation
- Sync with Oracle BI

## DOCUMENT MANAGEMENT MODULE

- Multiple format document uploads
- Configurable document statuses
- Fully configurable workflow – multi-level consecutive/parallel checks, edits, accepts/rejects
- Sync with Oracle BI

## OTHER

- Fully configurable notification (e-mail, sms, ALTO 4.0 dashboard) support, based on business unit, project team membership, system event type, etc.



# SYSTEM PREVIEW

Quality control interface showing a list of items with columns for name, date, and status.

Item Name	Date	Status
Item 1	2018-01-01	OK
Item 2	2018-01-02	OK
Item 3	2018-01-03	OK
Item 4	2018-01-04	OK
Item 5	2018-01-05	OK
Item 6	2018-01-06	OK
Item 7	2018-01-07	OK
Item 8	2018-01-08	OK
Item 9	2018-01-09	OK
Item 10	2018-01-10	OK

Quality control



Logistics planning

Supply chain interface showing a table of material supply chain data.

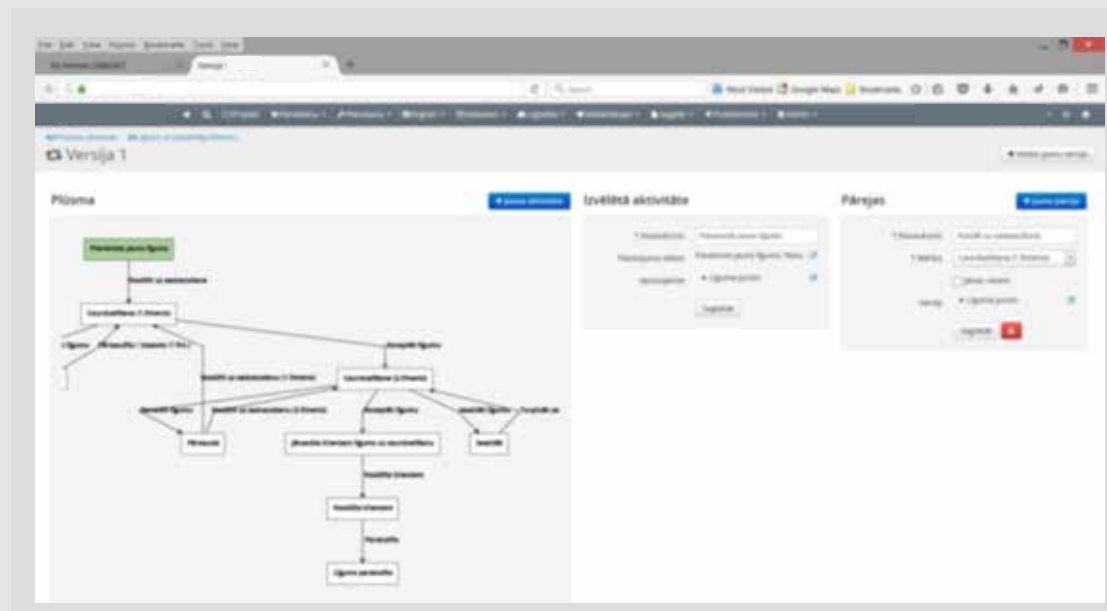
Material	Quantity	Supplier	Status
Material 1	1000	Supplier A	OK
Material 2	2000	Supplier B	OK
Material 3	3000	Supplier C	OK
Material 4	4000	Supplier D	OK
Material 5	5000	Supplier E	OK

Supply chain

Time reporting interface showing a table of time reporting data.

Item	Time	Status
Item 1	10:00	OK
Item 2	11:00	OK
Item 3	12:00	OK
Item 4	13:00	OK
Item 5	14:00	OK
Item 6	15:00	OK
Item 7	16:00	OK
Item 8	17:00	OK
Item 9	18:00	OK
Item 10	19:00	OK

Time reporting



Document management

Glazed structure production planning interface showing a detailed production planning table.

Item	Quantity	Time	Status
Item 1	100	10:00	OK
Item 2	200	11:00	OK
Item 3	300	12:00	OK
Item 4	400	13:00	OK
Item 5	500	14:00	OK
Item 6	600	15:00	OK
Item 7	700	16:00	OK
Item 8	800	17:00	OK
Item 9	900	18:00	OK
Item 10	1000	19:00	OK

Glazed structure production planning

# MULTIPLE MODULARIZATION POSSIBILITIES

- **Project management platform** for status/progress review and communication between involved parties – producers, engineers, assembly teams.
- **Management software for production units** (precast, steel and glazed structures)
- **An integrator** of engineering software, production software, barcode/RFID scanner systems, projection lasers, etc.

PRECAST STRUCTURE	Sales	Project estimating	Project budget	Assembly planning	Production planning	Packing list planning	Delivery planning
STEEL STRUCTURE	Sales	Project estimating	Project budget	Assembly planning	Production planning	Packing list planning	Delivery planning
GLAZED STRUCTURE	Sales	Project estimating	Project budget	Assembly planning	Production planning	Packing list planning	Delivery planning
CENTRALIZED FUNCTIONS	Logistics planning	Document management	Quality control	Time reporting	Supply chain		

# BUSINESS GAINS

- Seamless business unit connectivity:  
**Complete process progress status**  
info for all business units

- Real time analytics:  
Full info for operational and strategic decision making

- Production/Engineering/ERP system integration:  
Up to **20% reduction of manual work** on data transfers

- Process automation:  
Production planning algorithms  
– up to **25% capacity increase** achieved

- Supplier and client integration for effective communication and progress monitoring and **quick capacity scaling capabilities**

# Thank You!

## CONTACTS

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