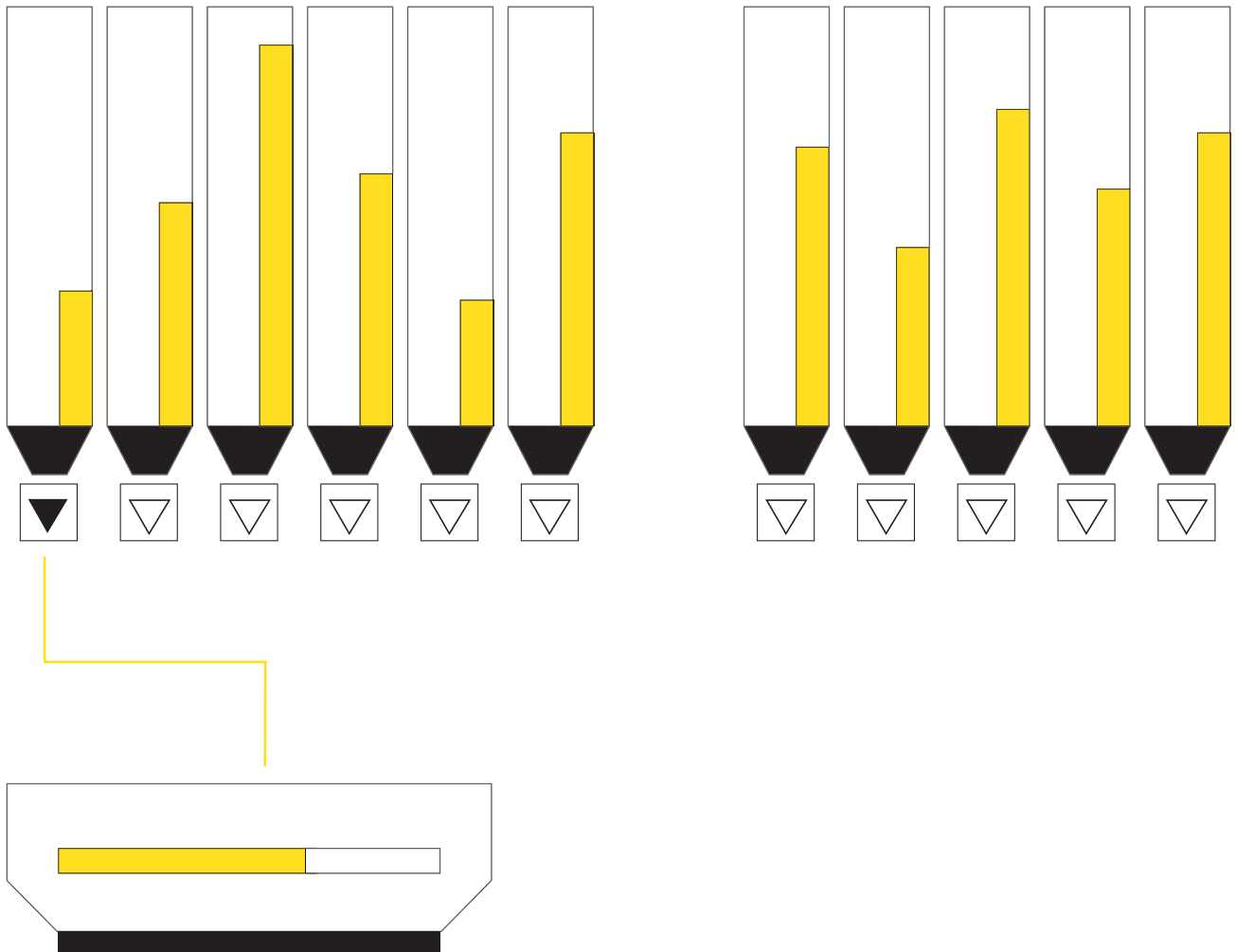


DornerControl I



CONTROL



ORDERS



LABORATORY



INVOICING



NETWORK



SUPPORT



TRAINING

DornerControl I

Different products translate into various requirements for a control system. The DornerControl I was developed for clearly defined strategic target groups: Ready-mix concrete processors, finished parts manufacturers, and construction materials processing facilities in the drywall and ready-mix mortar segments. This is due to the fact that knowledge of the industry-specific requirements and processes is needed to make our solutions and control modules the industry standard.

- The system controls the entire production process for the mixing facility, and also administers orders, formulas, and master data.
- The visualization images are adapted to the facility. Distributed over several monitors or switchable, they provide an overview at a single glance during automatic operation and make it possible to operate the facility manually.
- Production processes, weights, and other data are recorded and continuously displayed. Interfaces connect the mixing facility control system to other systems.

We count on proven standard components:

- Windows XP
- MS SQL Server as the database
- Controls and database on standard industrial PCs (dust-protected, climate-controlled case)
- Profibus as the interface to facility peripherals

Ready-Mix Concrete

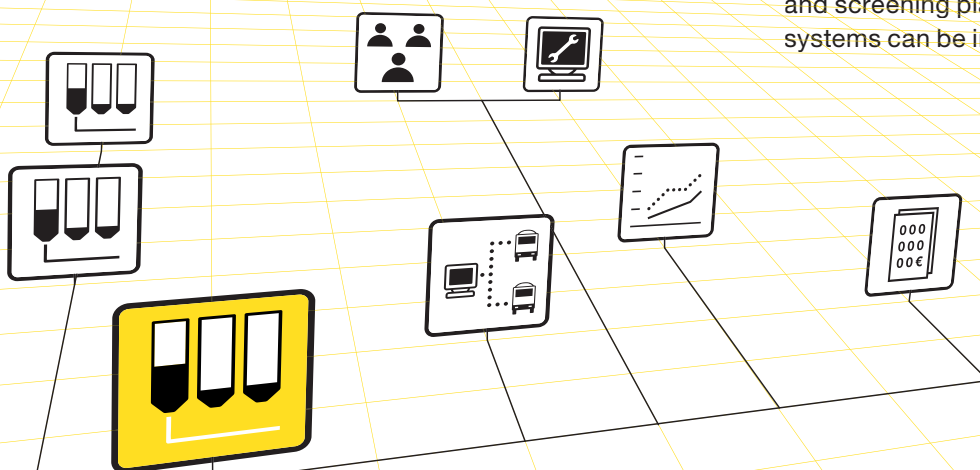
- Aggregate moisture, concrete consistency, and temperatures are recorded, visualized on the monitor, and evaluated by the system
- Order scheduling with fleet tracking
- Delivery notes according to EN 206, the driver receives the delivery notes on paper as before or in electronic form to pass on to the construction site
- A web portal makes the delivery notes accessible to the customer via internet, password protected.
- Protocols and statistics record concrete production
- Interfaces connect the ready-mix concrete facility to scheduling, invoicing, and the laboratory

Precast Production

- Consistency control via mixer drive power or microwave probe in the mixer - adapted to the concrete requirements
- Interface to existing concrete distribution systems, or integration of concrete distribution control into the DornerControl I
- Operator terminal for concrete release directly next to the concrete processing workstations
- Order administration adapted to finished parts manufacturing
- Interfaces to the host computer and ERP systems

Dry Mortar Production

- Continuously adjustable control of dosing units to improve dosage accuracy
- Volumetric dosage for lightweight substances
- Programs to control total mixer discharge
- Sampler controls
- Finished goods transport control up to the bagger, truck, or finished goods silo
- Integration of vehicle scales for loading materials, with address administration and delivery note printing.
- Sand preparation controls with drying drum regulation and screening plants as well as material injection systems can be integrated into the DornerControl I



Operating monitor shows order and production list, display is fully customizable, drag & drop functions simplify operation.

Production													Tuesday, 27.3.2007 13:35	
		c-no.	Customer	s-no.	Site	Site	m-no.	Mix design	Quantity	RB	Truck	Licence	Ad.w.	Information
Truck	⊖	5234	Roadstone	34	Tunnel	Kingstreet 3	5483	C 12/15 X0 ...	3,00/9,00	1,00	10	B-171LZ	+10	
Mixer	⊖	5234	Roadstone	34	Tunnel	Kingstreet 3	5483	C 12/15 X0 ...	1,50	1,00	10	B-171LZ	+10	
Dos.	⊕	5234	Roadstone	34	Tunnel	Kingstreet 3	5483	C 12/15 X0 ...	1,50	1,00	10			
		c-no.	Customer	s-no.	Site	m-no.	Mix design	Quantity	RB	f-no.	Ad.w.	Extra cement	Extra additive	
1	⊕	5234	Roadstone	34	Tunnel	5483	C 12/15 X0 ...	2,00/7,00	1,00	10	+10	CEM II 42,5 R: + 10	VZ: + 1,3 FM: + 0.6	
2	⊕	5234	Aggregate Industry	7	Shopping mall	2317	C 30/45 X0 ...	2,00/7,00	1,00	10	+10		FM: + 1.0	
3	⊕	5234	John A. Wood	18	Bridge west	4220	C 25/30 XC2 ...	2,00/7,00	1,00	10	+10			
4	⊖	5234	Roadstone	34	Tunnel	5483	C 12/15 X0 ...	2,00/7,00	1,00	10	+10	CEM 35,5 R: + 20	VZ: + 1,3 FM: + 0.6	
5	⊖	5234	Cemex	12	Bridge south	3493	C 30/37 XF2 ...	2,00/7,00	1,00	10		Addition water [litre]	+7L	
6												-20 -15 -10 -5 0 +5 +10 +15 +20		
7														

Order	MO, 26.3.	TU, 27.3.	WE, 28.3.	TH, 29.3.	FR, 30.3.	SA, 31.3.	SU, 1.4.	Quantity (total) 532m³	Quantity (delivered) 73m³	Quantity (rest) 459 m³
Current orders										
Order	Customer	Site	Mix design	Prod.time	Quantity (total)	Quantity (delivered)	Quantity (rest)	Note	Cars on tour	
201	Roadstone	Tunnel	C 12/15 X0 ...	13:40	200,00	9,00	191,00		13	
222	John A. Wood	Bridge west	C 25/30 XC2 ...	13:46	35,00	0,00	35,00			
243	Cemex	Bridge south	C 30/37 XF2 ...	14:00	120,00	28,00	92,00		27 37 18	
204	Burton Steel	Highschool	C 12/15 X0 ...	14:08	42,00	21,00	21,00		25 30	
215	Bison Concrete	Highway	C 25/30 XF 4 ...	14:32	58,00	0,00	58,00			
206	Aggregate Industry	Shopping mall	C 30/45 X0 ...	14:45	77,00	15,00	62,00		12	
									18	

Orders ready	
12	16 18 22 27 30 37 39
13	19 20 25 29 34 38

External Workstations

External workstations can be connected to the mixing facility control system via network connections (business management, order administration, laboratory, ...). Order processing, master data management, logging, and other functions of the control database including the process visualization can be accessed from these workstations, either fully or in defined segments.

Communication Module

An integrated communication module makes it possible to transmit information and problem reports visually to the monitor, acoustically using various sounds, per SMS, or via e-mail. The desired form can be freely selected for each piece of information and problem report.

Caller ID

A caller ID system identifies the callers and immediately assigns them to a customer, construction site, or order. The time-consuming search for the correct agent is eliminated. If a call cannot be accepted (the agent is busy), the caller is added to a list and called back by clicking on the entry.

Call Tracking

Conversations with the customer are recorded and stored directly with the order. The order process and agreements reached over the phone are traceable at any time.

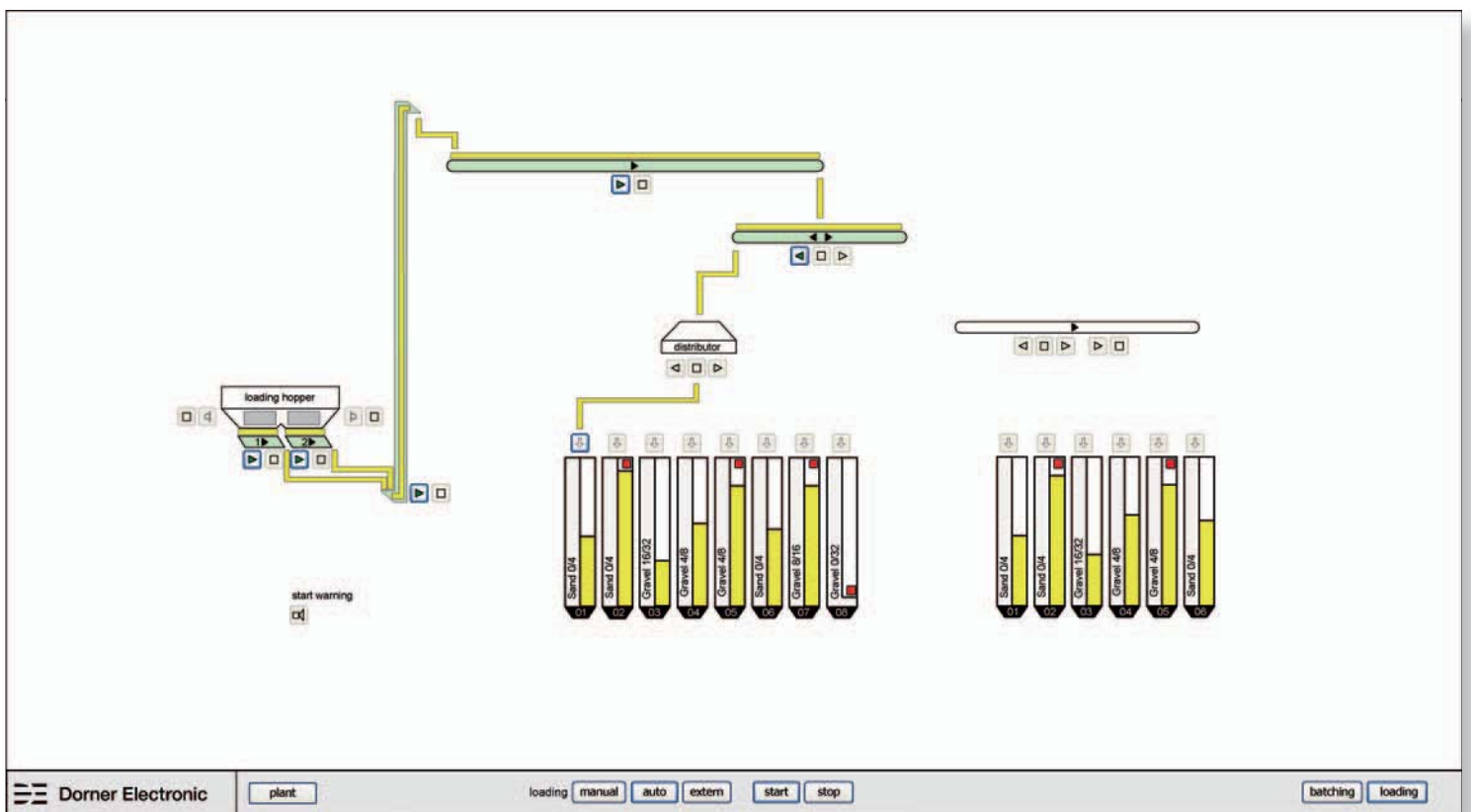
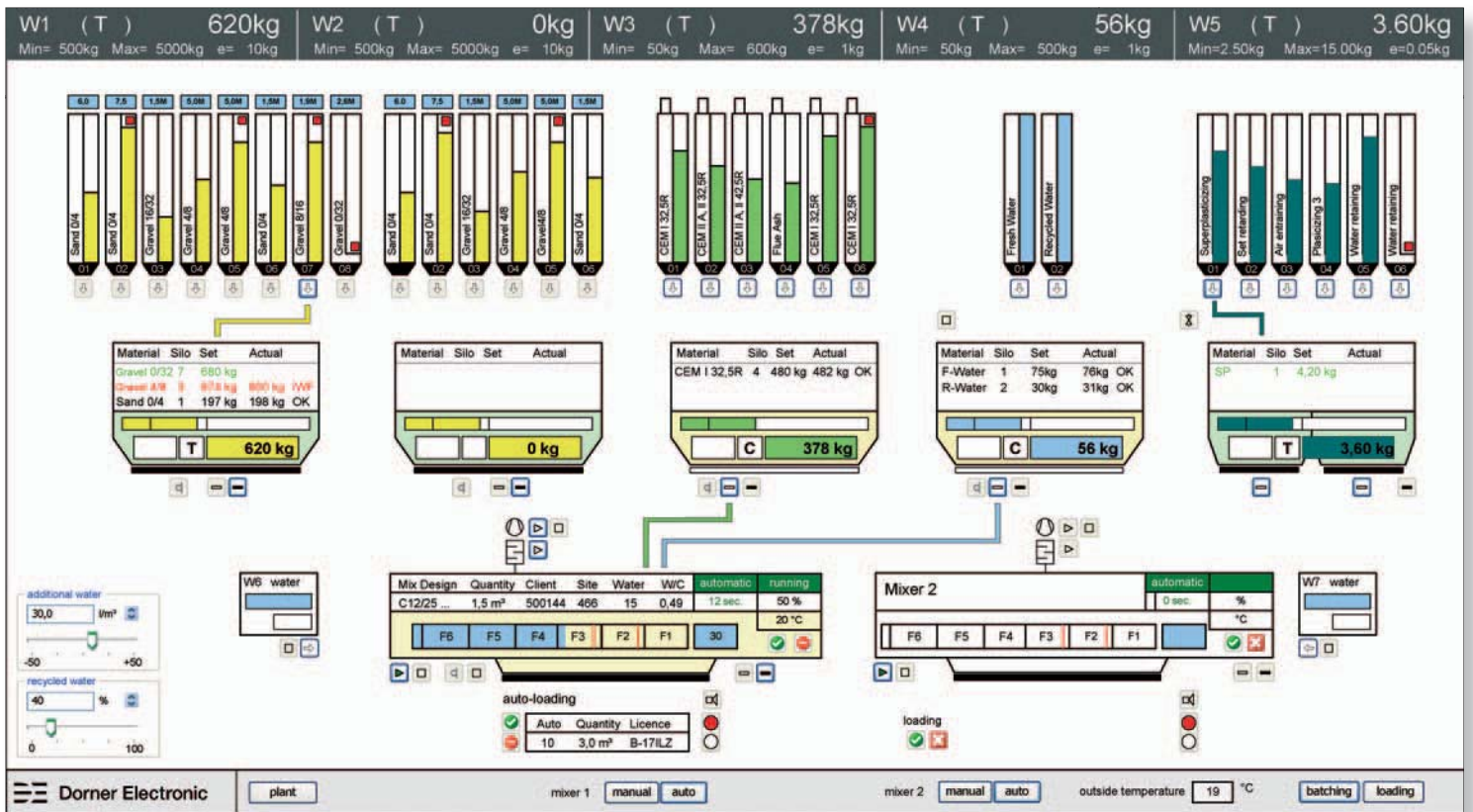
External Operation

Operating devices (cell phone, PDA, Tablet PC, ...) connected via the mobile telephone network make the facility operator mobile. Important information can be accessed, facility components can be operated remotely, system messages are transmitted directly to the operating devices. Identification systems enable driver-self service. Stored orders can be accessed via ID systems. Operator terminals make it possible for the drivers to independently process orders; delivery notes are printed "on location" for driver self-service. Administrative and personnel costs are reduced significantly.

Manual Intervention

The extensive process visualization functionality makes it possible to comfortably control the facility during manual operation. Even during automatic operation of the mixing facility, manual intervention that requires a quick reaction is required (open / close mixer, dosage stop, ...). For this function, Dornier Electronic offers a control unit that makes quick intervention via keyboard functions possible without requiring the facility operator to concentrate on the monitor.





Process visualization graphically displays the mixing facility with all information pertinent to the user; includes all functionality required for manual operation of the facility.

DornerFocus

Analyses – Simple and Informative

Thinking business process through and optimizing them is increasingly recognized as a central topic: Record processes, define key performance indicators for processes (KPIs), evaluate and improve processes (continuous improvement process). With DornerFocus, you can create intuitive, visual analyses quickly and in a flexible manner. Data are compiled from various systems and transformed into usable information (ad-hoc analysis, drill-down).

Queries can be customized at any time, so that true interaction with actual data from operating processes is made possible. Data can even be analyzed offline, on a laptop while on the road, in order to create informative results. The results can be printed as reports, stored as PDF files, or exported to Microsoft Excel or other Office applications.

DornerFocus Creates Strategic Business Advantages

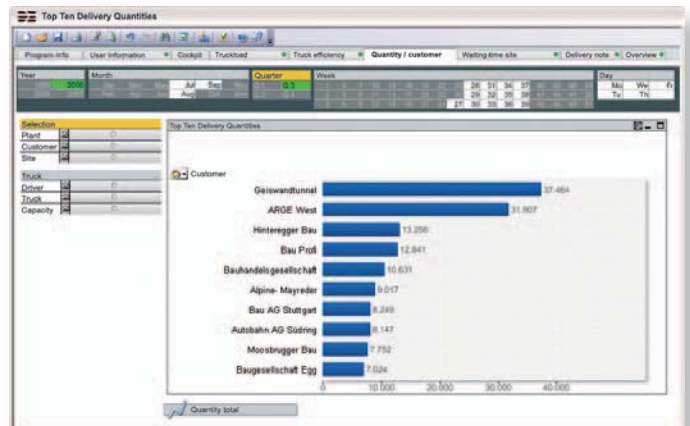
- Make better decisions, more quickly
- Improve planning quality (monthly, quarterly, annually, and beyond)
- Reduce costs – increase confidence in reports
- Improve business processes (continuous improvement process)
- Share knowledge – raise awareness

Concrete Evaluation of Master and Production Data

- Quantity analyses filtered by customer, construction sites, product type, vehicles
- ABC analyses (customers, suppliers, product types, ...)
- Material usage from batch protocols – comparison with deliveries
- Material requirements prognosis based on orders
- Analysis of dosage accuracy of all dosing units
- Efficiency analysis (fill rates, dwell times, ...)
- Time periods for all analyses and evaluations are fully user-defined
- Trend analyses over extended time periods
- Numbers and various graphics
- Import of all data – followed by in-memory analysis (unrivalled performance)
- Analyses and evaluations using standard templates or fully user-defined



Budget / Actual Deviation (Box Plot)



Top Ten Delivery Quantities

We are also happy to advise you regarding the specific situation in your environment. We conduct expert workshops on a regular basis in order to continuously develop the best approaches.

Dorner Electronic invests a great deal in order to serve all our customers individually and quickly.

DornerControl I

DornerSupport

You can contact our specialist team in the Customer Service Centre at Dorner Electronic. Rapid and secure access to your system, irrespective of the location, enables high user productivity and significantly reduced support costs.

Thanks to state-of-the-art service tools our support team can help immediately: remote control, administration, remote training, data synchronisation and program updates. If required, our extensive network of external offices ensures that we can also provide fast on-site support for deployment, spare parts and service.

DornerTraining

The Dorner Electronic Training Centre in Egg offers customers training on using your new systems and implementing new systems. This is a valuable contribution to our customers and offers the best and quickest introduction to the new systems. With our refresher training, we offer experienced users the option of checking, optimising, and developing familiar processes

System users from different companies take part in the training together and discuss experiences in an open and communicative atmosphere. Personal contact between users and trainers guarantees the success of the training.

Requirements and demands of our system are communicated to the development team; a valuable contribution to user-centric product design.

Further information to products and services

→ www.dorner.at

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