

# POLCID<sup>®</sup> NT process control system. Control, regulation and monitoring.



A company of  
ThyssenKrupp  
Technologies

**Polysius**



ThyssenKrupp

## POLCID® NT: the Windows-based automation system for the cement industry.



Modern process control system POLCID® NT in cement plants all around the world.

A lot of »all-round« process control systems are available nowadays. However, experience shows that many of these do not fully satisfy the sophisticated automation requirements of the cement industry, mainly due to its increasingly complex production processes.

In fact, to adequately satisfy industrial requirements, a process control system not only needs modern hardware and software components, but also has to incorporate comprehensive process-technological know-how. And only if the automation system is perfectly tailored to the needs of the cement industry can it assure product quality, flexibility, operating economy and long-term production stability on a high level.

Polysius therefore evaluated many years of automation know-how, the profound in-house knowledge of processes and plants and the current demands of the market in order to develop an automation product which is perfectly tailored to the specific needs of the cement industry.

POLCID® NT is an open automation solution which implements both well-tried and new functions with the most up-to-date technology.

The process control system uses hardware and software components from internationally renowned automation providers. The system offers

a logically structured, Windows-based application software which is optimally configured for the cement industry.

The unhindered and transparent exchange of data between the automation programs, the administration and office programs and all other Windows applications clears the way for a change-over from hybrid control and EDP systems to a consistent factory automation system.

The entire POLCID® NT system has a modular structure and is thus predestined for customised configurations ranging in scope from an individual plant section right up to the complete cement production process.

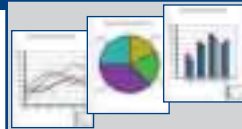
The modular structure and open platform provide unlimited opportunities for adaptation, so that the system is also totally prepared for tomorrow's requirements. Upgrading of existing POLCID® control systems to the NT version presents absolutely no problems.



Commercial computer system



IMS  
Information  
Management System



POLAB®, POLEXPERT®  
Quality assurance and  
expert systems



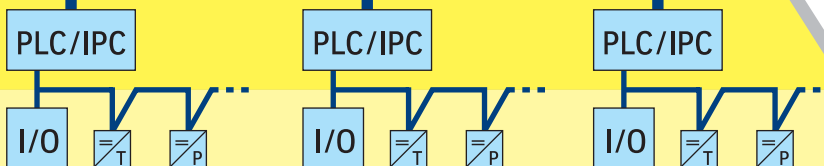
POLCID® NT  
Process  
control system



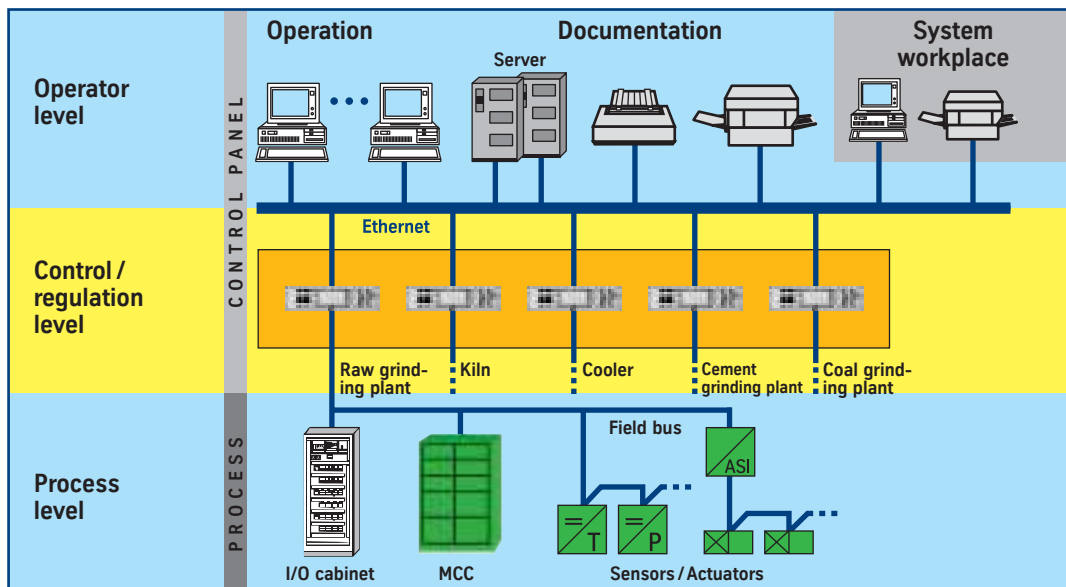
Integration of  
POLCID® NT in  
the automation  
function  
scheme.



Control and  
regulation level

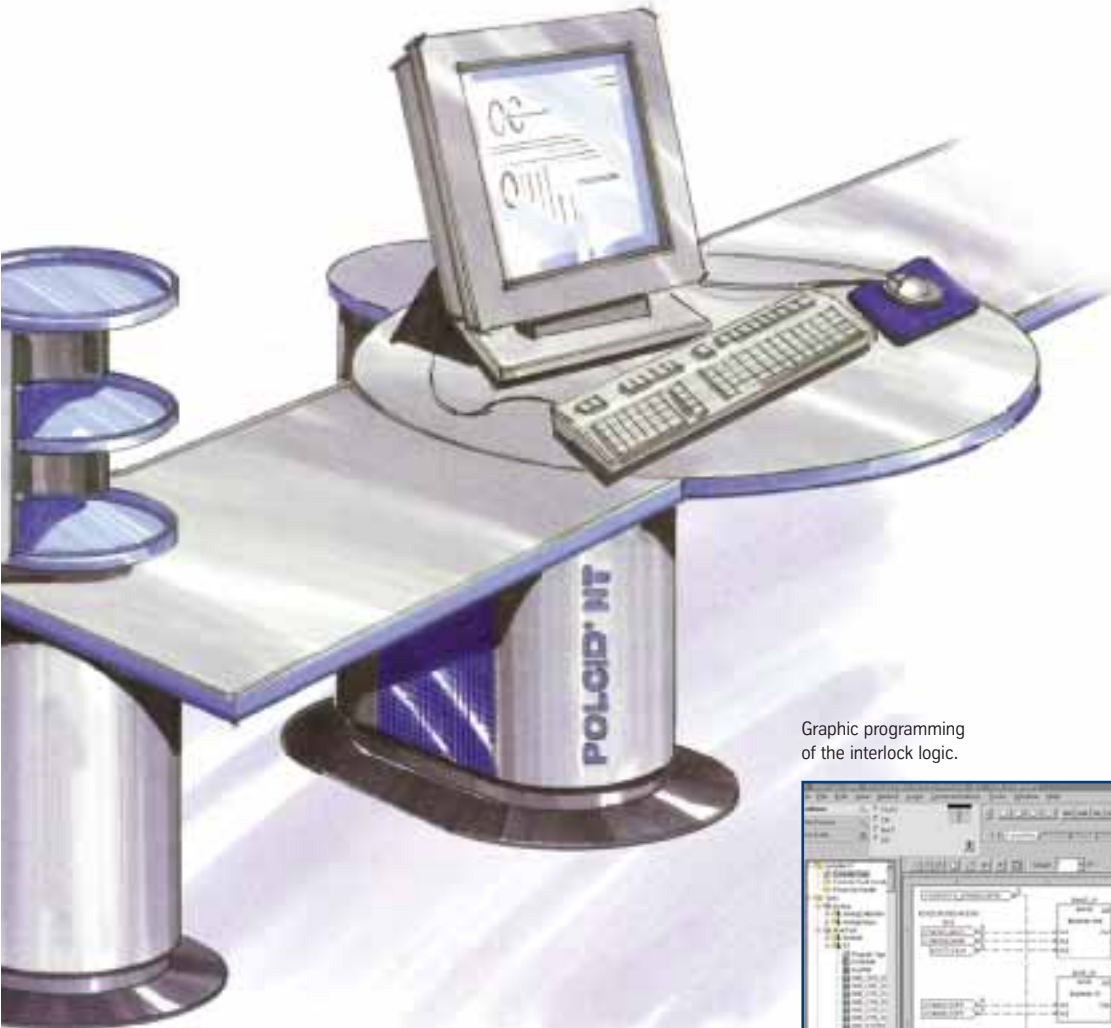


Process level



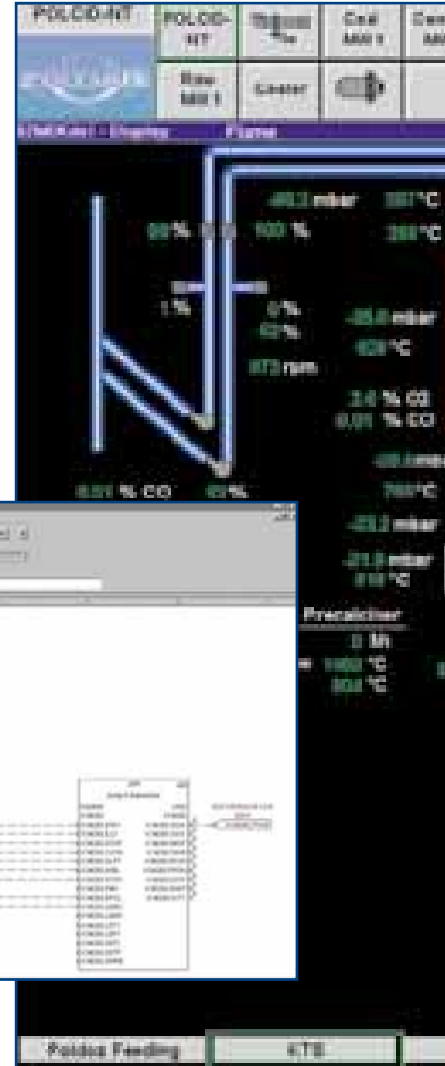
Specimen  
system  
configuration...

# Unlimited communication throughout the plant.



Multimedia: plant operator receives additional information via kiln camera and acoustic notebook.

Graphic programming of the interlock logic.



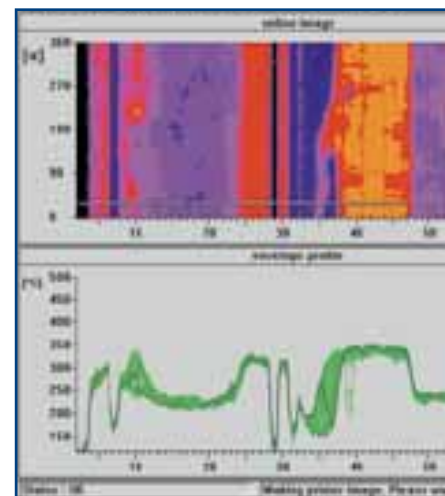
Any required number of workplaces for operating the production equipment, providing information to the management and for system-engineering purposes can be installed centrally or decentrally. Users at every workplace can access the common data base and start process control, programming or maintenance programs and other typical Windows applications.

plant, by control room personnel, system programmers or management.

A combination of the most up-to-date software and proven PLC or IPC hardware monitor, control and regulate the process. System and application software use a common data bank with the control level and are created and maintained via the engineer's central workplace. Graphic programming facilities simplify the tasks of the system supervisor and ensure transparent diagnosis of conditions and faults. Naturally, POLCID® NT displays the current control actions and provides graphic documentation of the control programs.

Easily understandable plant, trend, log and message displays are shown on high-resolution colour screens and provide the users with optimum process supervision facilities. The typical Windows operating features with online help, easy-to-use pop-up menus, face plates and tool boxes assure rapid and error-free dialogue with the process.

Multimedia technologies enable all the data stored in POLCID® NT to be used for a wide range of purposes anywhere in the

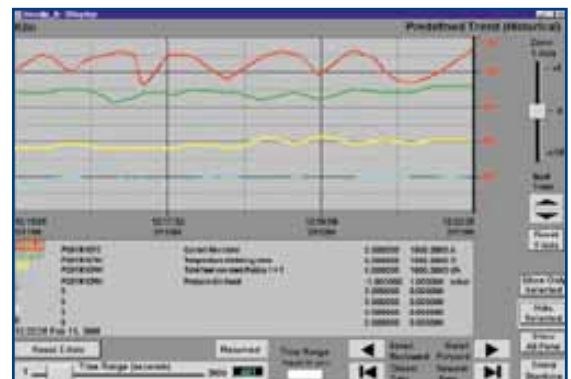
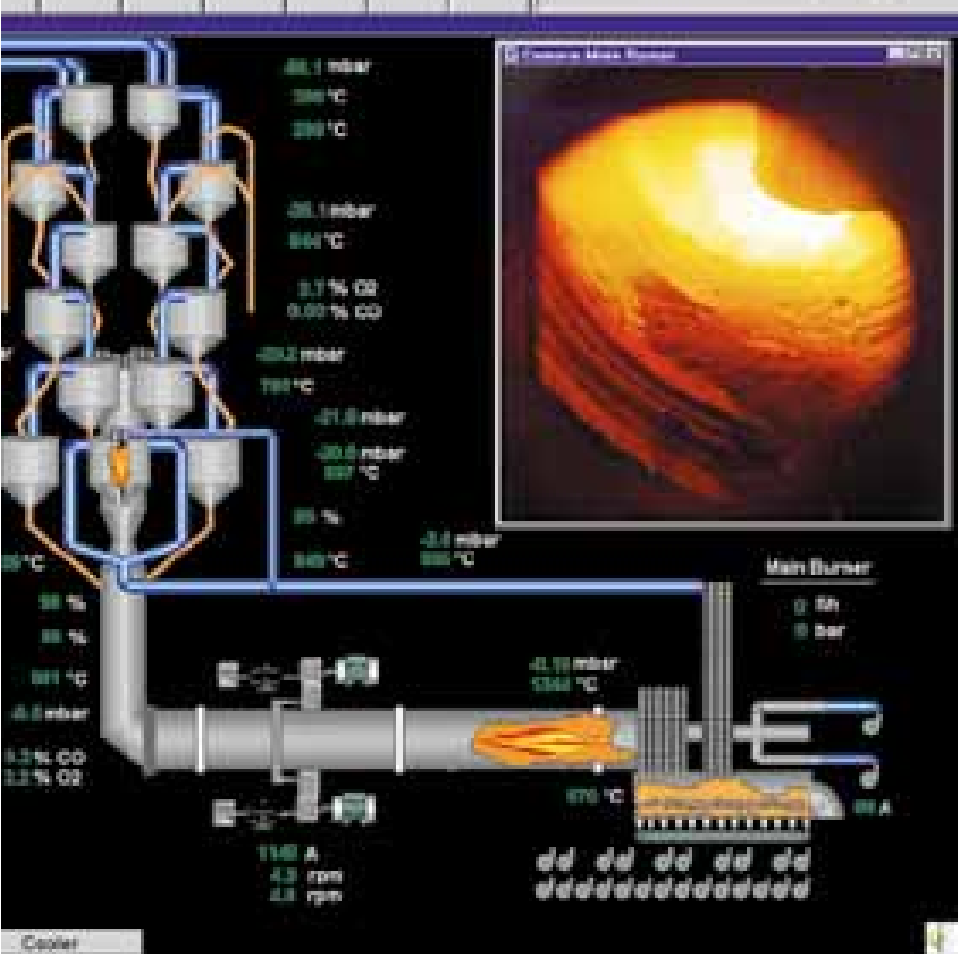


System integration example: direct connection to kiln shell temperature scanner KTS.

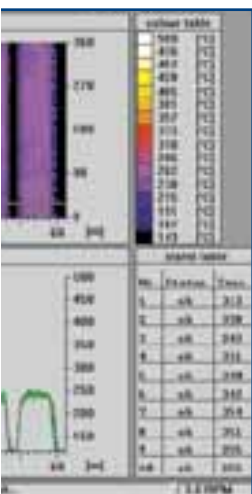


Zooming from main display to detail graphic.

Online documentation: a source of knowledge which can be called up at any time.

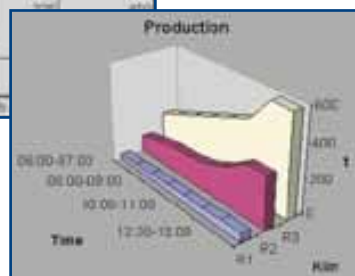


The trend curve display allows a wide variety of adaptations.



Time	Kiln 1 Raw Meal Feeding [t/h]	Kiln 2 Raw Meal Feeding [t/h]	Kiln 3 Raw Meal Feeding [t/h]
09:00-09:00	26	100	200
09:00-10:00	27	120	250
10:00-11:00	35	150	300
11:00-12:00	45	170	400
12:00-13:00	60	200	500
13:00-14:00	70	220	600

Simple data accessing via standard interface.



# Modernisation of existing control systems: the step from POLCID® C/DC to POLCID® NT.

So that users of POLCID® C/DC systems can also profit from the advantages of the POLCID® NT version, Polysius offers an economical modernisation solution. The upgrading package retains the plant-specific software contents, keeps the entire field and signal cabling and ensures conversion of the control and instrumentation technology with the minimum expenditure. If required, the work can be carried out on a step by step basis.

The high-performance conversion software brings the existing system up to POLCID® NT standard. No manual creation of new control programs is necessary and no time-consuming interlocking tests are required when the production line is recommissioned. Moreover, conversion of the interlocking software ensures that the entire plant know-how is taken over.

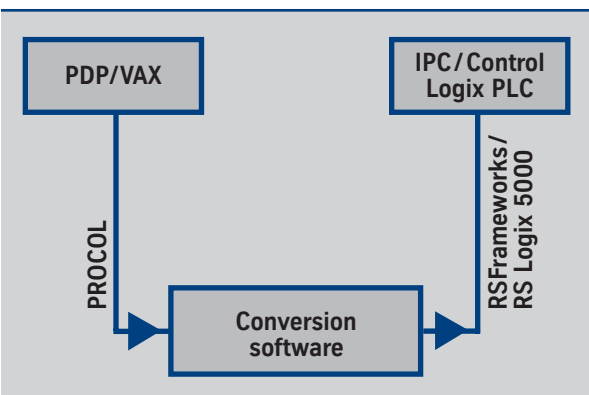
As the connection system of the field and signal cabling is retained, no alteration of the wiring is needed at the I/O connection board. The use of prepared and dedicated system elements assures perfect transfer of the signals to the new modules installed in the switch cabinet.



Prepared and dedicated system elements assure perfect transfer of the signals to the...

High-performance tools perform the program conversion.

... modules installed in the switch cabinet.



# POLCID® NT: at a glance.



## Arguments for the process operator

- Windows-typical operation with mouse, pop-up menus, face plates and toolboxes
- User-friendly display screen and menu organisation using Windows system resources
- Clear plant, trend, controller, alarm, message and log displays
- Starting and stopping actions; setpoints and object-related status information in plant display
- Ergonomic control and printer desks
- Brilliant 21" to 29" diagonal display screens, also available as TFT as from 17"
- Workplaces with unlimited and security-code-protected access throughout the plant (configurable)
- Clear and classifiable process alarms

## Arguments for the plant management

- Ready access to current and historical process information
- Logs and records can be structured as required
- Data export to office programs
- Decentralised management workplaces
- Process optimisation modules
- Complete plant automation from a single source

## Arguments for the system engineer

- Software on Windows NT platform
- Client-server structure on the control level
- Programmable logic control system
- Field bus technology
- Redundancy options
- Universal data bank
- Standard interfaces (DDE, OPC, OLE, ODBC etc.)
- Central engineer's workplace
- Graphic control programming
- Preassembled program modules
- System library for plant displays
- Security access control and recording of all activities

## POLCID® NT basis

- Windows operating system
- Consistency and openness, due to strict use of the latest Microsoft technology
- Operator interface specifically designed for the cement industry and software modules tailored to the production process
- Client-server architecture with Ethernet network
- Control level with PLC or IPC
- Compact I/O modules with standard field buses
- Central processing of all software functions
- Effective safety and diagnosis mechanisms
- Modular system configuration
- Appropriate redundancy options

