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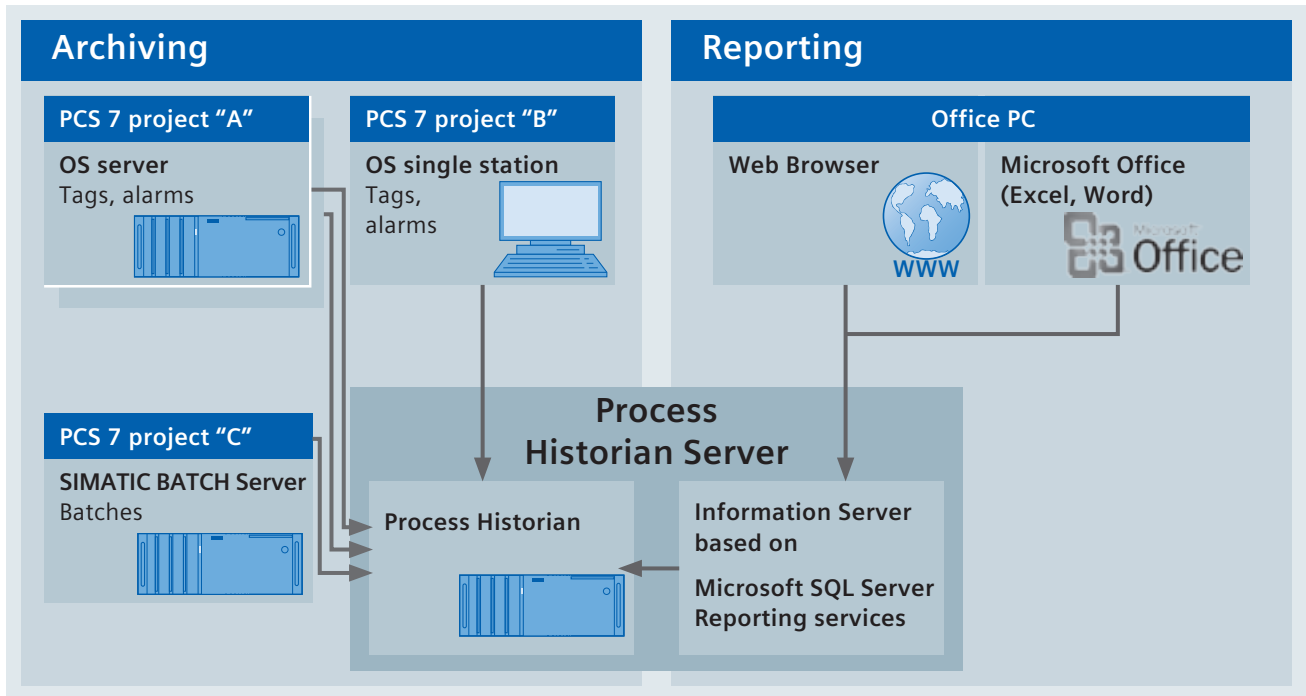
SIMATIC Process Historian and Reporting

Answers for industry.

From data flood to an edge in information



Modern process plants produce an enormous volume of data. Countless process values, messages, batch data and status information from intelligent field devices surge through bus lines, are processed by automation systems and output on screens every single millisecond. Valuable information can easily be lost in this flood of data. SIMATIC PCS 7 Process Historian enables you to secure and use such information in the long term – to increase your plant productivity, optimize your processes and improve the quality of your products.



Users access archived data with the new Information Server.

Process Historian is a high-performance long-term archive server solution, which is perfect for integration into the SIMATIC PCS 7 control system, true to the TIA philosophy. Process values, messages and batch data from SIMATIC BATCH can be centrally archived in real time. The system offers full scalability for performance and scope. It collects and saves data from one or from multiple PCS 7 projects; there is no limit to the number of single stations connected, servers or redundant server pairs.

SIMATIC PCS 7 Process Historian is designed for use throughout your plant, below the company management level (ERP, MES).

Process Historian is also the basis for the Information Server (IS) reporting system, which accesses the central Process Historian database and ensures clear, user-friendly data visualization on OS clients, OS single stations and office PCs. With this company-wide production reporting system, you can obtain valuable information from seemingly unrelated data: Detailed energy balances, precise material requirement reports and shift-based alarm analyses can all be generated. The central Process Historian database provides access to real-time data throughout the plant.

This data is the key to sustainable plant optimization. Since the archive system can be fully integrated, no additional engineering is required – the system is ready for use in no time.

Fast, secure archiving

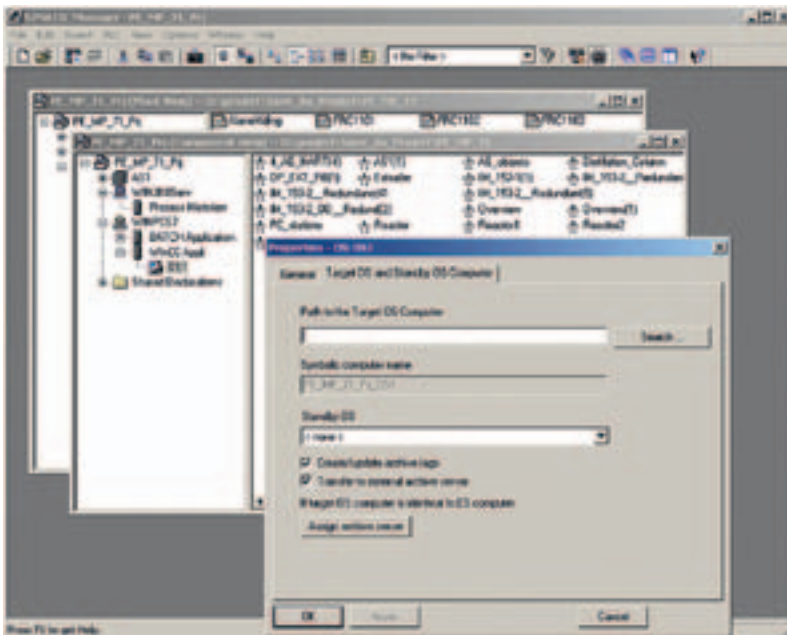
A robust, productive, intelligent data platform is essential for your plant data. SIMATIC PCS 7 Process Historian ensures reliable data archiving, giving you a detailed insight into your company processes.

The storage of real-time data in process plants places significant demands on database systems, as it involves saving large volumes of data in chronological order. SIMATIC PCS 7 Process Historian uses the SQL Server 2008 R2 from Microsoft® for this task. The integrated relational database operates reliably and efficiently. With milli-second resolution and correspondingly rapid write and read access, it is the perfect basis for the plant-wide history system.

Real-time archiving with Process Historian is activated with a single check box in central SIMATIC PCS 7 engineering. No complex reconfiguration is needed because the archive system is integrated in the control system. Selected process values, messages and configuration data from the operator station circular archives and OS servers are stored on a time- or event-triggered basis.

Process Historian provides an open environment in which data can be read and written via standard database interfaces, such as ODBC, OLE DB and ADO.NET. Process Historian is accessed directly from the SQL database; the managed data can be exported and imported from conventional storage media (backup/restore). In other words, Process Historian can be easily integrated into your specific plant data storage strategy.

For plants with regulated processes, process and batch data, events and alarms can be fully and accurately documented and archived. Process Historian provides valuable functions with excellent availability and security in data storage. It highlights data that is added and modified, and stores all audit trail information, such as time stamps, users, comments, original values and corrected values.



Real-time archiving with Process Historian

- Fully integrated archiving solution for large volumes of data
- Archiving of process values, messages and batch data
- No additional engineering required
- Uninterrupted operation during plant extension
- Scalable data acquisition
- Open reporting based on the MS Reporting Service standard

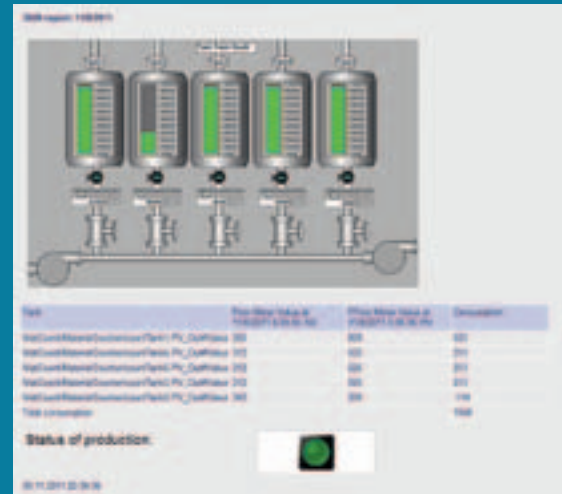


There are diverse ways of improving efficiency of the production plant, but they can be found and successfully implemented based on a broad and reliable information base.

The long-term archiving system Process Historian from SIMATIC PCS 7 transforms apparently unrelated data into valuable information. Archiving and company-wide access in real time help in making fast decisions on the basis of secure data – for more productivity and lower costs.

Material	Unit	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption	Consumption
Raw Materials										
Hydrogen	kg	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00
Water	kg	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00	1000.00
Electricity	kWh	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Steam	kg	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
Product										
Product A	kg	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Product B	kg	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
Energy										
Electricity	kWh	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Steam	kg	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00

"Material consumption in the reactor" shift report with MS Excel add-in



"Material consumption in the reactor" shift report with Web front end

Always up to the minute



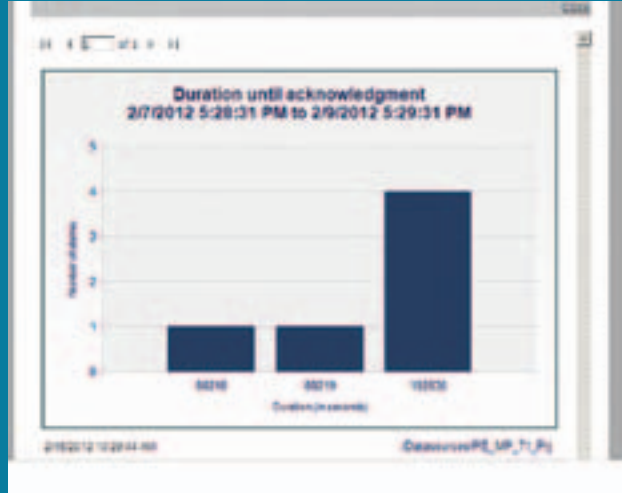
SIMATIC PCS 7 Process Historian creates the data framework for optimizing plant management and reducing production costs – in the right place, at the right time, and customized to the needs of the target users.

The Information Server is used to visualize information from the database. The reporting system, which operates with Microsoft Reporting Services, supplies the data via Web-based thin client access. Add-ins for Microsoft Office applications such as Word und Excel offer additional ways to access the Process Historian database.

User-friendly features are provided by the server-based reporting platform, Reporting Services. A range of tools is available to help you generate, manage and publish reports. Relevant information can be compiled, prepared and provided on a customized basis – for example for production managers, shift managers, quality assurance officers, etc.



Daily report on temperature changes in the reactor



Alarm analysis report

A Web-based application provides access for management and publishing of reports, which can be generated cyclically, as required. All data is accessible throughout the company, and accessed either via Internet Explorer or Microsoft Office applications.

You can create your own reports in no time thanks to the wide range of report templates – from conventional PDFs with tables or graphics to dynamic data presentation in HTML and XML format. Up-to-the-minute information for all competent roles:

- Maintenance engineers receive detailed downtime reports and lists of alarms.
- Production managers are kept up-to-date on production line productivity, and material use reports help them optimize production management strategies.
- Quality assurance officers obtain key information on material properties, ambient conditions, etc. from comparisons of planned raw material use and actual consumption.
- A clear presentation of consumption data such as electricity, steam or cooling power helps you improve plant energy efficiency.

The target groups can be adapted in line with your individual plant and personnel structure. Efficiency improvement options are many and varied, and – thanks to the sound data framework – also entirely feasible. Process Historian converts data into information, offering key productivity and cost reduction benefits.

Reporting with the Information Server

- Rapid access to historic plant data from the Office environment
- Simple, customized report generation and storage
- Reports issued automatically by e-mail
- User management and access protection

Further information on SIMATIC PCS 7:
siemens.com/simatic-pcs7

Siemens AG
Industry Sector
Industrial Automation
P.O. Box 48 48
90026 NÜRNBERG
GERMANY

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