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SIPAPER Process Performance Analytics (PPA)

Realize the performance and the potential of the production with Process Performance Analytics

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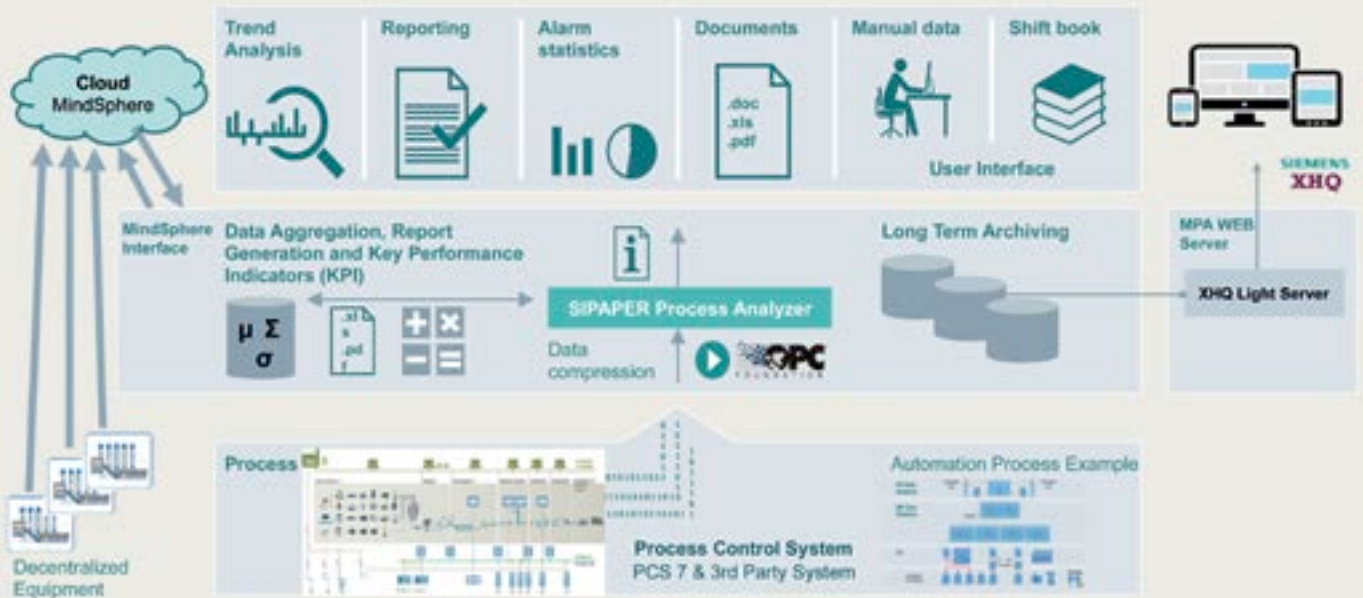
As an open Process Analytics system, it can be integrated into all existing data, automation or general enterprise systems, recorded in real time and linked to Historian data. SIPAPER Process Performance Analytics assembles and analyzes a wide range of production steps in real time. By combining standard modules for your specific processes, SIPAPER Process Performance Analytics is the highly flexible, scalable information management and analysis system required for efficient production.

- + Transparent overview of the entire production process in real time for well-founded decisions.
- + Universal connection to all systems, penetrated across the entire automation hierarchy and decoupled systems.
- + Quick access to historical and current data allows display and evaluation to be quickly analyzed from a single system. This makes documentation uniform and standardized.

Customer Requirements:

Permanent improvements on the plant efficiency and high environmental protective procedures call for a stronger connectivity and transparency of all available data and information of the entire production.

SIPAPER Process Performance Analytics: overview



SIPAPER PPA could be integrated for centralized collection, processing and archiving of process data from all DCS systems and local subsystems (controllers). SIPAPER PPA ensures the process data collection, storing, transfer and submittal both for new and existing equipment. Process data are accessible for the mill users and systems. The system enables data analytics, processing and display in the form of symbolic circuits, trends, reports, message/events logbook, profile/defect charts, process data archiving and provides all relevant KPIs and key figures as required. SIPAPER PPA is based on standard software and is easy configurable by system administrator on site. The mill-wide information system based on analytics, it is a platform on top of the classical Siemens and non-Siemens process, quality and lab control automation and is closing the gap to the front office business applications. The SIPAPER PPA is one of the key modules of the SIPAPER Family for data handling solutions, distribution and presentation for the Fiber Industry.

The SIPAPER PPA has its focus on transforming process and i.e. quality related data from the process control systems to use information which is available to everybody in the paper mill in a uniform manor. Apart from being an information tool, SIPAPER PAA is also a common channel for communication between process level and business/logistic applications and last but not least a platform for continuous optimization of the complete paper mill in order to meet increasing strategic business demands.

SIPAPER PPA delivers business information on manufacturing throughout the organization for effective decision-making and plant optimization.

Our system is closely integrated with all our automation system to ensure a maximum of information and analytics on top of our solutions.

SIPAPER PPA archives the data and alarms received from the process control systems and provides these for analyses and evaluations. With the historical data display the user decides himself for desired curve charts. He can look at current data and at data from the past. He also has the possibility to compare plant behaviors with each other using trend charts at different times. Reports can be created in MS Office.

SIPAPER PPA focuses on:

- Transformation of data into information
- Interfacing top-down and bottom-up
- Optimization of the related paper-making and handling process

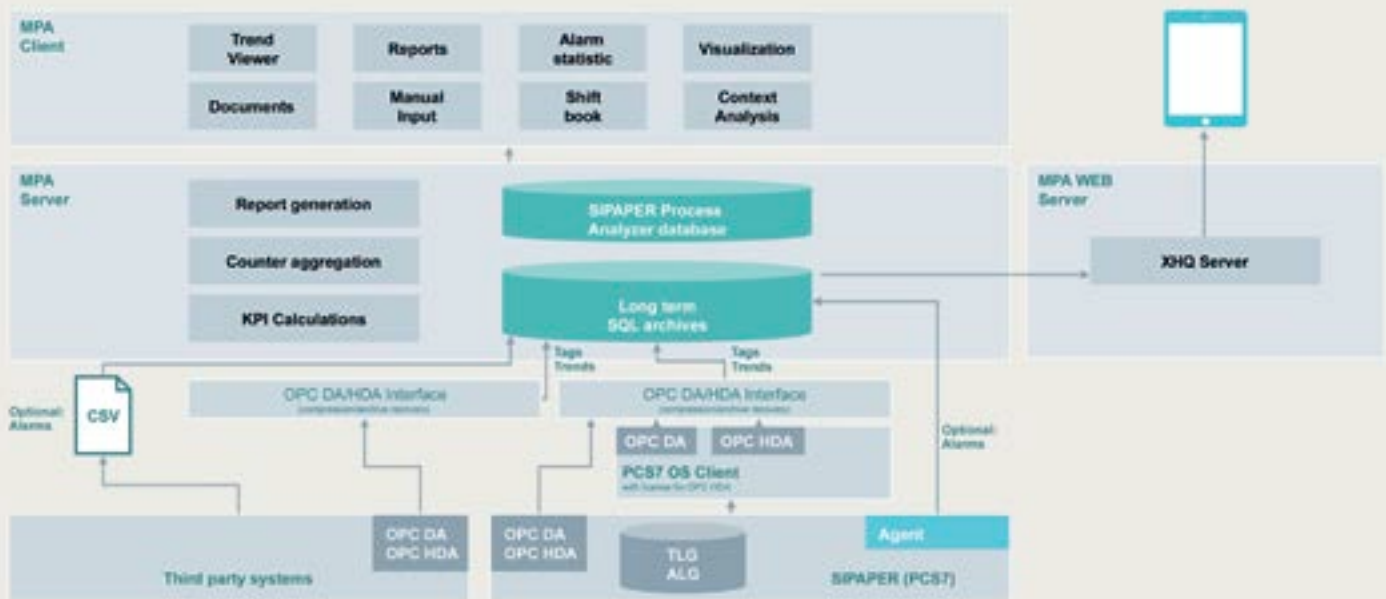
From its basic concept of archiving and reporting all critical data the past and real-time data SIPAPER PPA can be extended with special features like analysis reports, extending information domain applications and optimizing tools.

Due to the open architecture SIPAPER PPA can be easily integrated within your existing or future SCADA and/or MES applications. In such a configuration SIPAPER PPA is providing you with all necessary product information captured from the different control and business systems.

Property Hardware:

- SIPAPER PPA offers an online, real-time treatment of your data through two different database servers
- A long-term SQL Archive
- SIPAPER PPA database based on PM Analyzer
- All SIPAPER PPA applications transform the available data from both database servers into valuable information towards management and production.

SIPAPER Process Performance Analytics: software architecture (standard)



After integration of SIPAPER PPA concept your information becomes independent of the system where it was created. Synergy of two different worlds, business and automation as well as quality for instance becomes reality and it combines the past with real-time data.

Some of the key benefits of this system are:

- Long-term archiving and retrieval of different types of information: product, process and event data
- Data coherence: everybody works with the same data
- Real-time reporting: reports can be retrieved on the fly due to the fast response times of the data archive
- Product quality: due to the fast response times and ease of use operators can compare product quality on the fly and tune their process online without waiting for long-time report
- SIPAPER PPA has full client/server architecture
- SIPAPER PPA is integrated in the MS-Windows environment; the system is component-oriented and can be gradually enlarged with additional components like performance module and event logger

All kinds of real-time data can be treated:

Plant process values as flows, weights, MD/CD profiles, energy consumption, speed, motor and value statistics

SIPAPER PPA SQL

All kinds of relational data can be treated:

- Automatic input (product, grade, ...) from external systems (MES, DCS, SCADA, ERP, ...);
- Manual/automatic inputs for i.e. laboratory systems
- Manual/automatic inputs for i.e. wood handling, chopping, pulp mill, ...
- Manual/automatic inputs for i.e. energy dept., environment dept.

SIPAPER PPA is linked to the XHQ dashboard library. Lots of graphical and process-related data could be focused on one or two dashboards. The process owner gets the right picture for his process in real time.

SIPAPER PPA is MindSphere ready!

Based on the environment SIPAPER PPA has the connectivity to the MindSphere. Data from and to the cloud (on premise solution or independent solution) could be used, analyzed and transferred into the cloud as required.

- MIS PPA collects all data from entire automation, process control and quality management, stores them to generate reports, analysis, trends, performance control and makes it visible. MIS PPA provides its own infrastructure (server, client, etc). More applicable for "smaller" mill or enterprises with data analytics gaps which fits into their data infrastructure
- With XHQ all real-time and historian data could be collected and visualized on one dashboard in order to make decisions fast

SIPAPER PPA gives answers to:

- How much paper of this grade did the paper line produce?
- How much waste did the line generate in order to produce this paper grade?
- What was the reason for this large amount of waste? (Quality of raw materials, additives or machine settings)
- Why did the production of this paper grade take so much time?
- How much energy did the paper line consume?
- How many interruptions did you observe?
- Which factors contribute towards increasing the performance of paper grade production (KPIs)?
- How did you manage to increase the annual production output?
- Why did this alarm sequence occur?



Benefits:

- Optimization of the plant by trend analysis
- Improvement in the production by data comparison
- Cost saving and quality improvement by alarm analysis
- Improvement on the quality by an integrated report system (report for shift, day, week, month, year)
- Improvement in the position in the market by compliance with legal requirements
- Improved transparency by trading of the production and fast access to the relevant information (product liability)
- KPI performance consideration
- MindSphere Ready (Cloud Data Analytics)
- Overall access and mobility
- Broad dashboard library with SIPAPER XHQ

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Article No.: VRFF-B10023-00-7600
Printed in Germany
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