Tech Note
Process Historians

Background

Process historians have been used for decades in automated industries to keep a historical record of process conditions. They collect, organise and store time-series data, providing an archive of plant status through time. Then make this available either through a variety of visualisation tools such as dashboards, reports and interactive displays, or by allowing third party software access to the data they hold.

Originally used by operational personal to optimise production, and maintenance teams to analyse then predict equipment failures. Increasingly process historians are integrated into business systems giving data analysts operational and commercial information. This makes process historians a core component of digital transformation as companies more towards data-driven decision making and automation of business processes.

Key Technologies

Most process historians make use of proprietary database technology. Performance, security and resilience are typically the reasons given. In practice this is fine as they provide connectivity via commonly used open protocols, for communicating to both plant-level operational equipment and business systems.

To collect data from plant-level Operational Technology (OT) process historians make use of open industrialised protocols like OPC and MQTT, as well as being compatible with proprietary communications utilised by specialised or legacy systems.

Process information is made available to Information Technology (IT) via application programming interfaces, accessed using methods such as SQL, OData and ODBC.

Benefits

Electronic records for regulatory compliance – Digital records reduce stationary, storage and retrival costs, increase staff efficiency and speed up responsiveness to information requests and audits.

Gateway between OT and IT networks – Located between operational and information networks process historians ensure the business has constant access to plant information without exposing more vulnerable industrial equipment to the security risks associated with systems connected to the internet.

Enterprise-wide data architecture – Local process historians can report data to a central system giving HQ the information needed to make decisions while reducing the reporting overhead across the organisation.

Enable proactive and predictive maintenance – Knowledge of the conditions which led to an undesirable process event mean these can be predicted, even avoided, in future. Monitor for similar situations then alert personnel or take automatic preventative action.

Discovery and replication of best practice – Conversely, desirable conditions can be discovered then replicated.

More Information

For more information follow the link below to the **Services** section of our website where you can learn more about the help we can offer on this topic and many others relating to industrial process and manufacturing automation.

https://op-tec.co.uk/services