InformDB
ENVIRONMENTAL

V1.2

Environmental Case Study

Why InformDB?

This assignment was completed on a remote power station servicing one of the largest iron ore producers in Australia. When power generation involves the release of emissions, regulatory authorities require operators to monitor, control and report on critical component streams. This involves large datasets that need to be transformed into meaningful reports, metrics and operator watch points.

Managing this data can be a cumbersome exercise that requires significant data transformation and analysis. InformDB captures, stores, transforms and organises emissions data automatically. It does this according to site license, regulatory and operational reporting needs.

The powerful time series, metrics and analytics database is paired with InformHMI, an intuitive browser based interface. This allows facility operators and managers to easily monitor, retrieve, sort and view information that is specific and relevant to their needs.

Environmental Data Acquisition and Handling System (DAHS)

Elimination of cumbersome manual reporting and data analysis

Assignment Detail

Power station emissions reporting:

- Compliant with regulatory reporting standards.
- Easy for operations and management to track station emissions.
- Integration to field instruments, plant-wide control and business networks.
- Commencing with one stack the solution scales to any number of stacks.

Challenges

Specific challenges overcome:

- Brownfields upgrade.
- Remote location demanding high reliability and uptime.
- Reliably scan a number of analyzers and field devices.
- Store all data for at least 10 years.
- Transform data into auditable reports.
- Powerful HMI via browser access with no external dependencies.

Benefits

- Real-time insights.
- Traceable and auditable records.
- Elimination of cumbersome manual analysis of data.
- Automatic data transforms eliminate manual errors
- Increased management confidence in emission compliance.
- Environmental staff spend less time on manually creating reporting.
- Scalable to over 10,000 points.

Data Sources

Instrumentation and sensor data sources present an array of different and often complicated formats.

For example the stack emissions data is automatically collected from vendor field analysers to obtain CO, CO2, SO2, NO, NO2, NOx and O2 readings.

Other real time data sources include stack pressure, temperature and flow variables.

As well as field sensor data a range of data quality and transformed data sets are created and stored in InformDB for reporting and operational requirements.

The system collects and transforms these disparate datasets automatically.

It also integrates to the real time plant control system and associated plant wide business networks.

Valuable Operational Insights

In this application compliance with Western Australian Continuous Emissions Monitoring System (CEMS) regulations was critical.

The site also required operators and managers to monitor the system in real time with the ability to identify faults, operational excursions and to easily retrieve hourly and daily reports for further analysis.

InformHMI provided Dashboard monitoring via desktop browser access for simple and easy surveillance without the need for third party dependencies.

Time Taken to Analyse Data Slashed

Emissions monitoring requires facilities to work with a range of real time and historical data sources to calculate such things as:

- Out of control status
- Data validity
- Instrumentation drift
- Calibration analysis

These calculations can be performed manually for reporting purposes but this becomes a cumbersome and time consuming exercise.

Using InformDB's time series and analytics database this task is automated allowing environmental officers to work on other tasks.

Powerful Data Visualisation

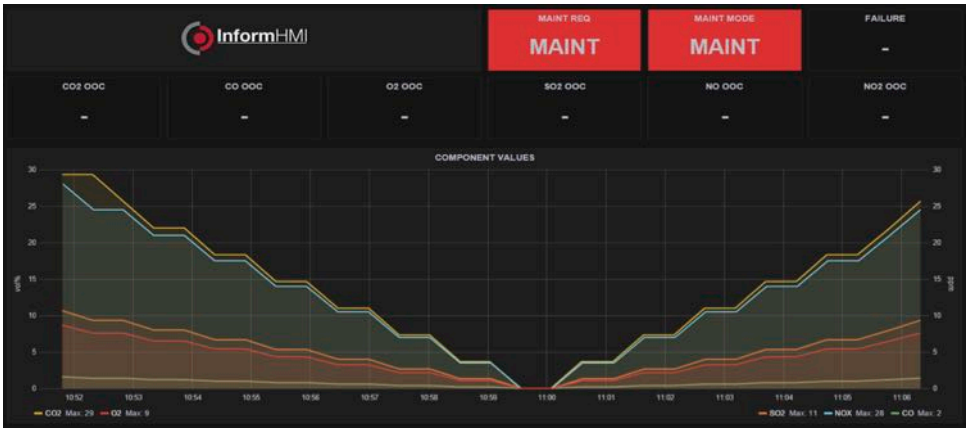
Simple web browser access with drag and drop display trends enables users the ability to quickly create data views.

The viewing area can be tiled for multiple trends or scaled to full screen with setable grid thresholds to more easily monitor and manage excursions.

A hover function allows meta data to be displayed and annotations to highlight significant operational events. As well as trends, messaging and alerts are available to highlight critical event data.

For external analysis in Excel data within the display trend can be selected, zoomed in or out and exported to CSV format.

Emissions Data Monitoring



Data Server Management

Contact:
2 / 88 Merrindale Drive
Croydon South
3136, Victoria
Australia

14A Melbourne Court
North Adelaide
5006, South Australia
Australia

+61 3 9024 6223
support@informdb.com