waterMV

Overview

WaterMV is designed to meet the challenges facing the water and wastewater industries – increasing energy costs, tighter legislation on quality, higher demands for greater efficiency from existing capital plant.

Monitoring, Detection, Analysis, Control

Efficient operation of a water or wastewater treatment plant relies not on the amount of data being gathered, but on the quality, reliability, relevance and **understanding** of that data. With a huge amount of plant measurements acquired, it can be difficult for an operator to gain a true picture of plant performance, and impossible to consistently exploit the plant's full potential.
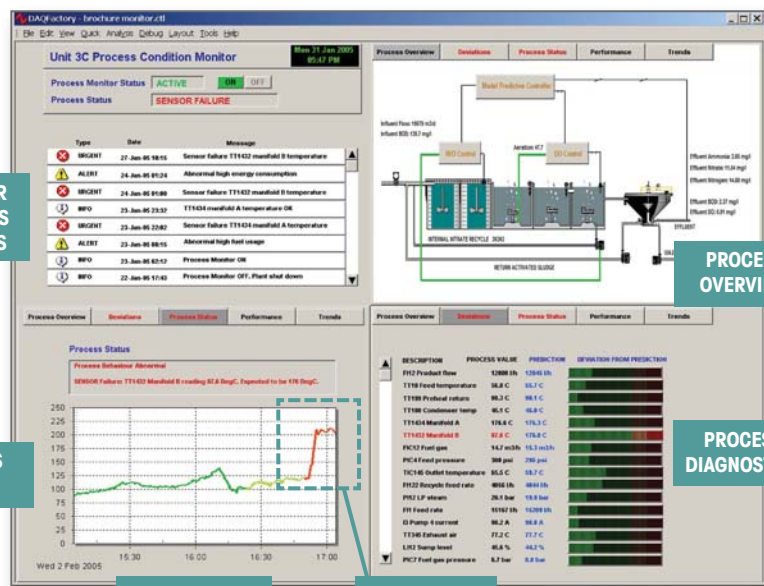
Manual diagnosis of plant performance and manual response can lead to ad hoc operator actions: managing plant variability this way can, itself, introduce additional variability into the process.

WaterMV provides detailed model-based performance monitoring of your critical plant assets, highlighting areas for operator focus and displaying advisory guides to improve overall plant efficiency. The software provides a robust supervisory layer, sitting over your existing SCADA system, and complementing the wide variety of ICA systems in operation. Multiple data sources, from PLCs, LIMS, DCS or others, are integrated into one intuitive interface.

- Continuously determines and advises optimal plant operation
- Early warning of process or signal abnormalities
- Identifies instrument drift, reduces alarm 'floods'
- Enables pro-active Maintenance
- Copes with bad or missing data
- Provides 'soft' sensors

OPERATOR WARNINGS & ALARMS

PROCESS OVERVIEW

PROCESS STATUS

PROCESS DIAGNOSTICS

INDEX OF GOOD PERFORMANCE

ABNORMAL BEHAVIOUR

Asset Performance Monitoring and Plant Capability

WaterMV is built using the latest generation of advanced Multivariate Statistical Process Monitoring and Modelling software; developed, tested and successfully installed by Perceptive Engineering.

The key elements within *WaterMV* are purpose-designed to assess and validate incoming critical data, model the operation using historical metrics, and predict plant behaviour under all conditions. Alongside this powerful toolset, *WaterMV* will guide the operator towards a complete understanding of the causes of process abnormalities, and how best to manage them.
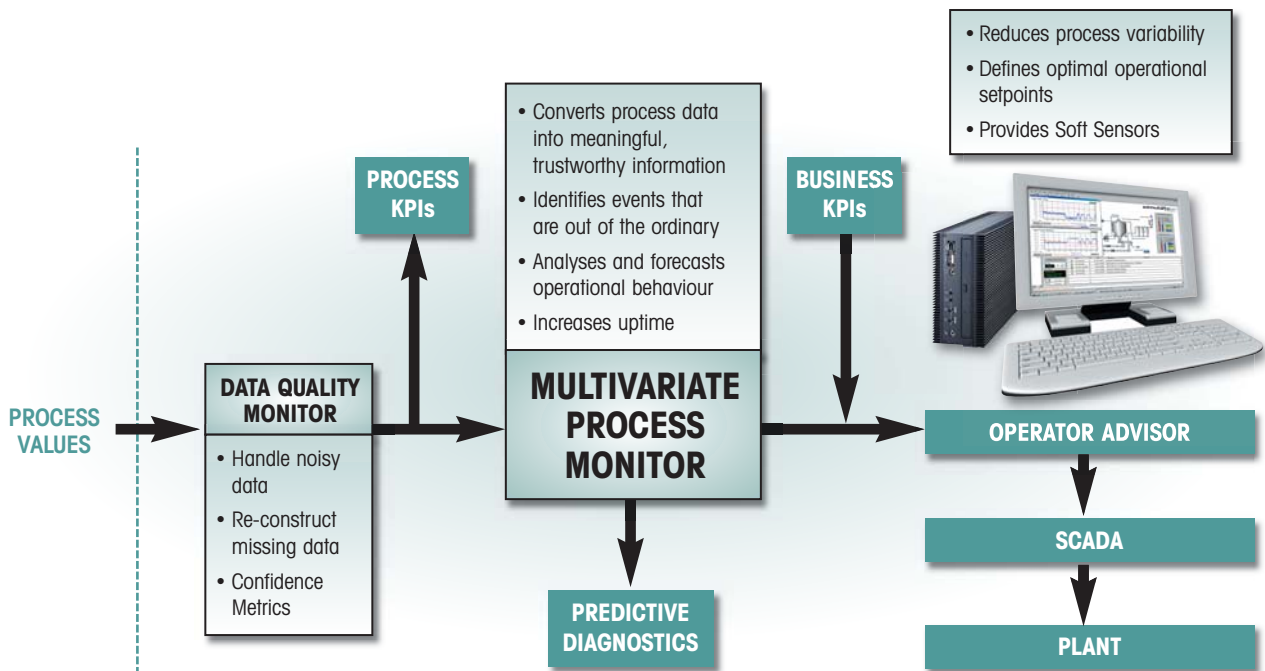
Plant-wide asset management becomes far more sophisticated and meaningful and can be performed in real-time. *WaterMV* is able to determine the practical capability of the as-built plant, then identify the measures needed to achieve AND MAINTAIN that capability.

Asset life can be extended, capital expansion deferred. Plant operation can be optimised on-the-fly, to improve yield, efficiency or energy savings, depending on process availability and load.

Understand, Manage, Optimise

WaterMV monitors all critical process interactions to continuously ensure system health. It also provides comprehensive fault-detection capabilities: system or sensor faults left unchecked – or worse, faults that go unnoticed – have the potential to propagate throughout the process, with disastrous results. The longer the delay between development and detection, the more expensive the fault becomes: control loop performance degrades, process reliability suffers.

Powerful multivariate analytical tools are an integral part of **WaterMV**. Real-time monitoring, screening and analysis of plant data provides reliable early warning of faults and process abnormalities, by detecting the differences in the relationships between critical variables, rather than the just their absolute values.

The toolset also rejects system 'noise', screening the data to avoid false conclusions, and identifies signal drift – **predictive, targeted maintenance** of remote sensors and key plant components becomes a reality.

Improve Quality, Reduce Energy, Improve Profitability

Reducing the variability in the operation and properly managing abnormalities, allows the user to concentrate on optimising the plant – meeting tougher discharge regulations, or reducing energy use and lowering carbon emissions, or increasing capacity without capital expansion.

The rewards of adopting computer-based fault detection, diagnosis and advisory systems are huge:
- Reduced variability of plant operations, by rapid detection and correction of disturbances
- Reduced cost of operation by predictive monitoring of plant performance
- Consistent, trustworthy monitoring of water quality
- Intelligent operation of one or multiple plants

A Vital Part of your Control Room

WaterMV was born from the industry's most advanced Process Control suite – PerceptiveAPC. Uniquely combining cutting edge multivariate statistical process monitoring with class-leading model predictive control, **WaterMV** is proven to deliver bottom line savings and ease of use. Each installation is built around your Key Performance Indicators and business goals. Comprehensive training, platform-independence and rigorous site acceptance testing will minimise any risk of transition and maximise operator acceptance, while delivering the improvements you need, as fast as you need them.

For more information and a free system survey, please contact Perceptive Engineering:

PERCEPTIVE ENGINEERING LTD