

PlantAnalyst provides unparalleled capabilities for the on-line measurement and analysis of your plant's data.



Screen shot of a typical trend display and floating read out

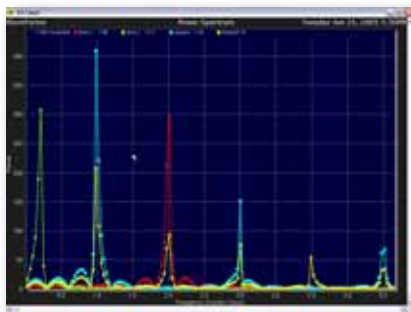
### Introduction

Overwhelmed with process data? Most plants are! Process historians collect massive amounts of data and the problem is no longer how to get more data, but how to beneficially use the information available.

### PlantAnalyst

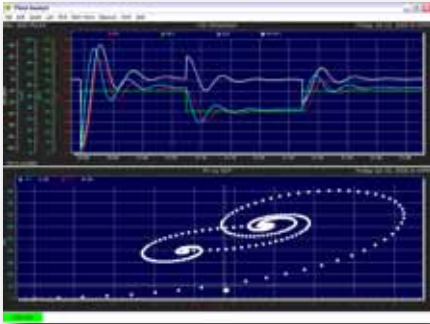
PlantAnalyst is loaded with features for process monitoring, analysis and report generation. Intuitive graphics allow measurements such as totalizations, standard deviation, and other calculations to be taken directly from the charts. Advanced tools for the reduction of process variability including power spectrum, auto and cross correlation, histograms, X-Y charts and statistical analysis are available with a button click. The math engine provides advanced users with a highly flexible development environment to implement and deploy customized graphics, predictive calculations and logic. These features coupled with extreme ease of use ensures fast and effective information delivery to all personnel dealing with plant optimization and productivity.

PlantAnalyst is built for use in a plant environment and features multiple data markers and floating readouts for instant on-line process measurement. Manual reports and listings are generated with a few button clicks. The math engine focuses information by providing the logic to apply advanced calculations and intelligence to any information displayed. Capabilities extend further with complete object level integration of business applications like Excel, Word and Outlook and interface to standard data sources via ADO, ODBC and SQL. And the result? A powerful and highly flexible platform for plant monitoring and analysis.



Power Spectrum is a key component for variability reduction, determining cause and effect relationships and for analyzing control loop performance. A single button click puts this information into the hands of users.

## Architecture



PID control simulation in pure code

PlantAnalyst is built around a sophisticated math engine. Capabilities of this key component span from implementation of calculations, logic and reports to predictive trending and process models. The programming environment is optimized for time series math and supports user scripting in industry standard languages. Fig. 1 shows the data flow for a single pen.

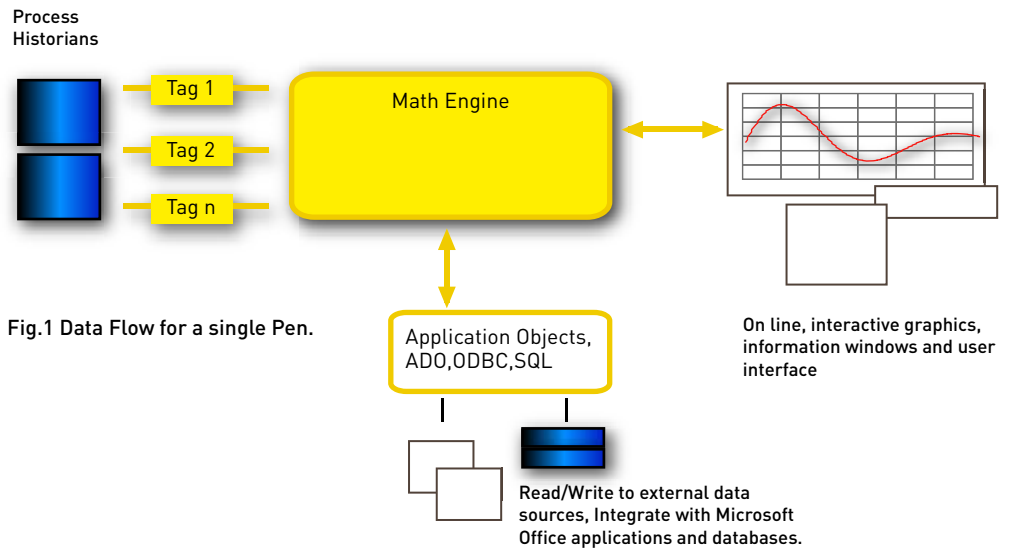


Fig.1 Data Flow for a single Pen.



Easily define pen setups and create customized calculations and reports in the development environment.

## Integration

PlantAnalyst uses high performance plug-in drivers to access multiple plant historians such as OSI-PI and has complete programmatic control over standard Microsoft Office applications. PlantAnalyst reads, writes, and bridges content in any Office format, including Excel, Word and Access, and interface to other data sources can be incorporated via ODBC, DAO, and SQL. These unique features allow the integration of both business and plant information, all of which can be of significant value to senior management.

## Production Reporting

Production reports can be automatically generated in a wide variety of standard office formats, published to websites or e-mailed based on particular process conditions. Manual reports are easily created by listing data and inserting any number of charts into the listing.

## Features

- Displays include Time Series, Statistical Process Control, Histograms, Spectral Analysis (Power Spectrum), Auto and Cross Correlation, X-Y Charts.
- Connection to industry standard plant historians such as OSI-PI and business data sources
- User programming - Each pen can implement sophisticated calculations and logic
- Interactive measurements include Rate Totalization, Max, Min, Average, Difference and Standard Deviation
- High performance graphics include hover over call-outs, pan, zoom, trend line nudging, cursor display, multiple data markers, sliders and user definable floating readouts for interactive process measurement
- Ability to load, save and format external data via application objects (i.e. Excel, Access, Word, Outlook etc.) and industry standard interfaces such as ADO, ODBC, SQL
- Password protected operator environments
- Graphical export in high resolution vector format
- Plant views allow instant recall of all charts and programs
- Pen configuration includes auto, manual and system defined scaling, colors, descriptions engineering units and definition of user defined programs and logic
- Full programmatic access to all raw and calculated data
- Text listing displays with insertable charts
- Report scheduling and generation - any calculations can be formatted and saved as reports, published to web servers or e-mailed to individuals based on particular process conditions or calculations



The tag selection window allows you to quickly select tags from process historians.

## Applications

- Advanced process monitoring including modeling and predictive analysis
- Implementation of Statistical Process Control standards and reports
- Creation of maintenance / engineering tools
- Implementation of production rate summaries and quality statistics
- Generation of production logs published to web servers, by e-mail or stored to databases or files
- Process modeling and on-line predictive analysis

## Benefits

- **Provides key tools and capabilities for the reduction of plant variability**
- **Provides safe information access.** ie Administrator level access into high security control systems or servers is NOT required
- **Increases plant knowledge** and value of collected process data by providing focused information plant wide
- **Simplifies** what if analysis, on-line monitoring and reporting of production variables, rates and statistics
- **Time savings** -The high level of interactivity and ease of use ensures efficient information delivery and removes the requirement to deal with messy spread sheets.
- **Non-proprietary development platform** allows re-use of developed calculations and algorithms

To learn more about how PlantAnalyst can benefit your facility please contact:

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