PARCview is a real-time data analysis & visualization tool developed to provide operations intelligence for the industrial plant. PARCview enables users to quickly transform critical data into useful information for timely decision making and root cause analysis.

PARCview leverages existing data systems with configurable drivers to historians (PI, IP.21, PHD, DeltaV CH, etc.), Lab Information Management Systems (LIMS), MES, Field Data Capture, Roll Tracking, Alarm, SQL, Oracle, ODBC, SAP and many more. Data from virtually any data system can be viewed in PARCview transparently, enabling users to display and correlate data from independent systems across your enterprise.

The ease of availability and powerful display format will improve decision making by:

- Removing barriers to accessing information for all users
- Empowering users with information-rich displays
- Enabling quick resolution of difficult, multi-variable problems

PARCview empowers end users with its modern, intuitive, user-friendly and feature rich analytical and troubleshooting capabilities.

**Features**

- **Tag Browser** – Easily search for tags using multiple search criteria for tag name, tag description, process area and data source; searches may span all data sources such as PI, IP.21, PARCserver, PHD, SQL, Oracle, etc.

- **Trending** – Widely considered the best trending application available, PARCview provides a combination of powerful features and ease of use. Features such as drag & drop, right-click menu, dragging time-axis, multi-trend templates, time syncing of multi-trends, and unlimited traces on each trend provide a potent tool for troubleshooting and analysis.
**Batch Trending** – Arrange multiple batches by product into a comparison or consecutive view. X-axis of trend can either be based on time or batch maturity. Batch can be further analyzed using batch phases.

**SPC/SQC** – An added feature of the trending functionality, PARCview enables limits to be placed on trends or multi-trends for control charting. SPC analysis includes alarm generation and cause/comment entry. PARCview supports the 7 Western electric rules, grade-based limits and multiple limit types.

**Process Graphics** – Provides a process schematic with live values, animation, alarming, links to other displays and playback mode. Users can drag & drop tags from a process graphic onto a PARCview trend.

**Centerlines** – set key operating ranges for tags by grade, product or SKU. Track current values versus historical grade runs and target ranges, alerting operators when process has drifted. Analyze historical grade runs to determine long-term process drift and correlations to dependent variables. Enforce conformance to centerline with reporting of % of time in range by variable.

**Operation Envelopes** – an application of the centerline display, operation envelopes uses a series of ranges centered around an optimum point. This optimum point is dependent on the production rate and/or product.

**Dashboards** – Provides operations management displays with real-time visibility to key performance indicators (KPIs) on live gauges and embedded charting tools. Display various types of key operations data such as downtime, production, cost, quality, safety and pareto analysis.
• **Calculation Engine** – develop calculated tags based on one or more tags from any data source. Building calculations is easily accessible from right-click menu, enabling all users to quickly build mathematical or logic based tags. Calculation script development is built in VB.Net enabling simple math functions or complex applications. All resulting calculated tags are available in PARCview tag browser.

• **Profiles** – Provides a way to scan a large volume of data in a concise, viewable format. Traditionally used for data coming from a scanner that traverse the width of a product, the profile shows machine direction, cross direction data as a color map. Profile display enables users to quickly identify patterns and defects in the process.

• **X-Y Plot** – Plot values of one tag versus values of another tag over the same or time-shifted timespan. The X-Y plot also calculates the correlation coefficient (R^2) to determine the numeric relationship of variables.

• **Histogram** – display the distribution plot of tags values versus limits to determine process capability, percentiles, StdDev and other statistics. Histograms can be grade-based and allow filtering of min and max values.

• **Tabular** – display raw or aggregated tag data in tabular report. Tabular allows for min and max filtering, unlimited tags in report, easy export to Excel, and statistical information for each tag.

• **Pareto** – summarize root cause information for downtime, off-quality, environmental excursions, slow back conditions and more. Filter information by process area, categories, grade/campaign, and time range. Pareto charts can be standalone displays, ad-hoc or embedded in dashboards.
• **Reporting** – Design & view reports from all data sources available to PARCview. Schedule reports to be automatically run and distributed. Reports can be exported to various formats such as html, pdf and excel.

• **Root Cause Assignment** – Assign root causes to events using PARCview’s hierarchical & configurable cause tree. Optional fields including comments, equipment ID and evidence can also be associated to events. Events and their associated cause information can be automatically replicated to operations logbook.

• **Manual Data Entry** – Enter data numeric and alpha numeric data manually into PARCview database. Exceptionally flexible, PARCview manual data entry display can record data associate to events (i.e. reel, batch, day, shift, etc.), a scheduled frequency and time. Field can be calculated, seeded from external data sources or manually entered. Supports full auditing tracking and integration with PARCview’s limit management structure.

• **Limit Management** – Manage all limits such as control, specification, operator, safe, and more. Limit types are configurable and can be grade-based, rate-based or fixed. Includes full limit versioning, and the ability to access limits from 3rd party data systems. Limits integrated with all other displays and features in PARCview.

• **Limit Calculator** – Calculate control limits based on historical data. Easily filter out ranges of data used in limit calculation by time periods and/or min/max values. Grade-based limit calculation support and conveniently save calculated limits to PARCview limit management tables.

• **Grade Management** – Manage grades and grade groups. Grade definition can be for master grades, or defined under specific process area. Grade definition includes variables tracked with grade including process, lab or manually entered; their associated control, spec or other limits; and grade version tracking.

• **Logbooks** – Designed to replace operator logbooks in control rooms, PARCview’s logbook tool enable operators, engineers and supervision to communicate effectively. Logbooks are organized hierarchically, thus plant manager can see all logbooks together, while process area supervisors can view information in their specific area. Logbook entries have selectable status field (for instance request, response, alarm, notification, closed, etc.), support rich-text and pictures, track login and PC, shift and other information. Search historical entries by keyword.

• **Supervisory Alarm Configuration** – configure alarms for key information such as downtime, environmental permits, quality and process drift. Alarms can be based on grade or non-grade based limits, SQC/SPC rules, and many flexible rules such as rate of change, time outside of range, multiple tags value and many more. Configured alarms have priority, category, process area, email distribution list, links to other files or displays and much more. Alarms integrated into all applicable PARCview displays.

• **Alarm Display** – show all active alarms by priority for entire plant. Drill into alarms by process area and/or category. Associate causes to alarms and action taken. View duration of alarm and right-click to trend alarm or access SOP’s or troubleshooting displays. Search historical alarms and summarize alarms by occurrence and accumulated duration.