

# Predisys Analytical Suite 4.7

## Advanced SPC and Quality Data Analytics

### Quality Portal

- Advanced SPC
- Quality Data Analytics
- Online, real time SPC
- Statistical Engineering Analysis
- Manufacturing/Process Intelligence
- Quality Dashboards
- Quality Reporting
- Automatic Monitoring & Alerting

### Control Charts

#### VARIABLE CONTROL CHARTS

- Xbar and Sigma chart
- Xbar and Range chart
- X/MR, I/MR charts
- MX/MR (Moving Average) chart
- Three Way Control chart
- Run chart
- Individuals chart
- Cusum chart
- Short Run chart
- EWMA chart
- Z chart
- W chart
- Capability Histogram chart
- Normal Probability Plot chart
- Autocorrelation chart
- Measurement Pareto chart
- Annotation Pareto
- SPC Box-Whisker chart
- Histogram Box-Whisker chart
- CV
- Levy-Jennings

#### ATTRIBUTE CONTROL CHARTS

- P, nP, U and C charts
- Yield, FPY, PPM charts
- Rolled throughput yield chart
- Pareto chart
- Histogram chart
- Production volume & throughput

#### OTHER CHART TYPES

- Scatter plot
- Lines chart - standard
- Lines chart - normalized
- Box-Whisker chart
- Hi-low chart
- Bar chart
- Stacked bar chart
- Pie chart
- Meter chart



### CHART CUSTOMIZATION

- Configurable charts (including scales, titles, font sizes, labels)
- Multiple charts (types) per page
- Chart Selector for alternate charts
- Subgroup Selector
- Drill-downs & tooltips

### Statistical Analysis

#### CAPABILITY ANALYSIS

- Cp (R, S, mR)
- Cpk (R, S, mR)
- Pp
- Ppk
- Cpl (R, S, mR)
- Cpu (R, S, mR)
- Ppu
- Ppl
- Cpm
- Actual measurements above USL
- Actual measurements below LSL
- Measurements inside specs
- Measurements outside specs
- Estimated above USL
- Estimated below LSL
- Estimated PPM above USL
- Estimated PPM below LSL
- Average number of defects
- Defects percentages
- Defectives percentages
- Proportion of defects

#### OTHER STATISTICS

- $3S_{\bar{X}}$ ,  $4S$ ,  $5S$ ,  $+6(R, S)$ ,  $\pm$  values
- Anderson Darling Statistics
- Average
- Coefficient of variation
- Critical value
- Degrees of freedom
- DPMO
- Grand Average
- K value
- Kurtosis
- Long term sigma level
- Short term sigma level
- Maximum and Minimum
- Median
- Nominal
- Normality Test (Anderson Darling)
- Number of subgroups
- Number of outliers
- Offset
- Range
- Short run statistics
- Skewness
- Stability Index
- Subgroup size
- Z

### TRANSFORM & DISTRIBUTION

- Box-Cox, Johnson transformation
- Normalization
- Normal, Binary & Weibull, Johnson, distributions
- Fourier transformation
- Advanced Distribution Test Tool

### Quality Data Analytics

#### DATA BROWSING AND FILTERING

- Predisys QueryExplorer, an intuitive self organizing data browser
- Filter data on time, lot, device etc.
- Automatically generated meta-data for advanced filtering
- Outlier identification based on severity levels

#### AD HOC QUERIES

- Intuitive data exploration using the Predisys QueryExplorer and QuickStat tools.

#### CONTROL LIMIT CALCULATIONS

- Static limits
- Dynamically calculated limits
- Partially locked limits around nominal
- Short run limits

#### CORRELATION

- Correlation of process parameters with Scatter and Histogram Box-Whisker tools
- Can be used with genealogy database for correlations between consecutive process steps
- Correlation Table

#### MULTIVARIABLE CHARTING

- Compare data across features, time, machines or process steps
- Lines chart and normalized lines charts
- SPC Charting for multiple parameters in parallel

#### ON-THE-FLY DRILL-DOWN

- Configurable drill-down.

#### SIMULATION

- "What-if" analysis
- Root cause analysis
- High Light feature

#### SPC RULES

- WECO and custom rules

## Measurement System Analysis (optional)

- Supports 100's of parameters with multiple operators and testers within one analysis run.
- Supports 1- and 2 way ANOVA
- Automated report generation with drill down capability
- Attribute Gage R&R study

## Multivariate SPC (opt.)

- PCA Scree, Score, Loadings and Lines charts
- Q Chart
- Hotelling T Squared Chart
- Fourier Transformations
- Binominal Logistical Regression
- Yield Analysis
- Correlation table

## Digital Forms (optional)

- Intuitive Graphical User Interface for manual data collection
- Flexible and configurable
- Supports virtually any serial and USB device
- Integrated audit trail
- Digital signatures supported
- FDA 21 CFR Part 11 compliant

## Common Functionality

### ANNOTATIONS AND CORRECTIVE ACTIONS

- Annotations supported via SPC charts and digital forms
- Supports automatic traceability information logging with annotation comments
- Annotations (web parts) for listing events and corrective actions together with SPC charts
- Process log books for unstructured comments and events reporting

### AUTOMATION

- Task Scheduler
- Monitoring and alerting service

- Customizable SPC alarm rules
- Process event handling and notification
- Automatic and timed data acquisition

### CONFIGURATION

- Intuitive Graphical User Interface for system configuration

### CUSTOMIZATION

- Flexible customization without coding
- 10+ Predisys Web Parts are available for mix-n-match reports and web pages.

### ENTERPRISE DASH-BOARDS

- Visual presentation of multiple products, processes and key KPI's

### EXCEPTION REPORTING AND ALARMS GENERATION

- Server-based monitoring and analysis service
- Alerting via e.g. e-mail, visual and/or audio measures
- Workflow integration

### PERSONALIZATION

- User and role based site content profiling and filtering

### REPORTING

- Standard SPC reports for charts and statistics
- Customized reports
- Scheduled and ad hoc reports
- Automatic distribution of reports via workflow and e-mail.

### USER INTERFACE

- Graphical User Interface
- Web browser based
- MS Excel UI (optional)
- Multi-language support
- Supports PDA and Mobile phone browsers

### WORK FLOW ENABLED

- Work flow enabled alerts and warnings; e-mail supported
- API for custom workflows

### FDA 21 CFR PART 11

- Fully supported including password aging, digital signatures, and audit trails

## Platform

### SERVER

- Microsoft Windows Server
- Microsoft SharePoint Microsoft
- SQL Server

### CLIENT

- Web Browser
- Smart Clients (optional)
- Microsoft Excel (optional)

### INTEGRATION CAPABILITIES

Easy to extend and integrate with e.g.:

- ERP, LIMS, ATE & MES systems
- Microsoft SQL Analysis Services
- Microsoft Reporting Services

### DATA IMPORT / EXPORT

Interfaces with virtually any data source and device, including

- ASCII text files
- XML files
- Microsoft Excel
- Microsoft SharePoint lists
- Predisys Plugin for MS Excel.
- Manual data entry with intuitive Predisys Forms technology
- Data capture from serial ports

### DATABASE CONNECTIVITY

Automatic scheduled data loading and transformation (ETL) environment. Interfaces to databases such as Oracle, MySQL, MS SQL Server, MS Access and other databases.

### SYSTEM LIMITS

- Size limited by available database storage size and processor speed

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## ABOUT PREDISYS

Predisys specializes in developing Quality Control (incl. statistical process control), Quality Data Management and Manufacturing Business Intelligence software applications enabling manufacturers to make informed decisions that will improve quality, increase productivity, and positively impact the bottom line. Predisys is the technology leader in turning massive plant floor databases into actionable information, and in bridging Product Development & Engineering with Manufacturing. Predisys helps manufacturing enterprises to cut their time to market, improve yields and quality, shorten lead times and improve supplier quality insight.

For more information, please visit: [www.predisys.com](http://www.predisys.com)