

QISOFT

EXPLORE THE POSSIBILITIES.

Discover Your Potential.

QiSOFT, through its comprehensive suite of Manufacturing Execution System (MES) applications, is at the forefront in delivering solutions to many of the world's leading companies, providing up-to-the-second information throughout the whole manufacturing cycle.

In today's highly competitive environment, manufacturing plants are under intense pressure to produce high quality product and deliver exceptional service, all at low costs. Investments in modern process control technologies no longer guarantee survival and the days when product was merely accepted because it conformed to a specification band are numbered. Increasingly, customers are demanding ever-tighter product consistency and process improvement supported by information about key parameters. This requires investment in information systems driven by people who will question the status quo and bring about perpetual improvement. The plants that will thrive in the future will harness the power of information and knowledge throughout the manufacturing chain to increase performance, drive down cost and deliver exceptional service.



QiSOFT's real-time MES and Enterprise Manufacturing Intelligence Suite provides up-to-the-second information throughout the whole manufacturing cycle. QIS is the bedrock of the suite, monitoring key process and product parameters to present a complete real-time "information picture" in graphical and statistical form for use throughout the organization.

With QIS, clients rapidly achieve bottom-line improvements through improved customer service, higher quality and greater yields resulting from less waste, rework and raw material usage. QIS is a client server application, continuously developed since 1986 using the latest methodologies and designed to run on industry standard PC networks. It is fully user configurable requiring no programming knowledge and runs "straight out of the box".

Full project management, product training and on-going 24 x 7 support is provided. This means rapid implementation, low total cost of ownership and swift delivery of business benefits.

Making Data Work

1. Research

Using the latest statistical techniques the data is rapidly transformed into valuable process and product information.

2. Refine

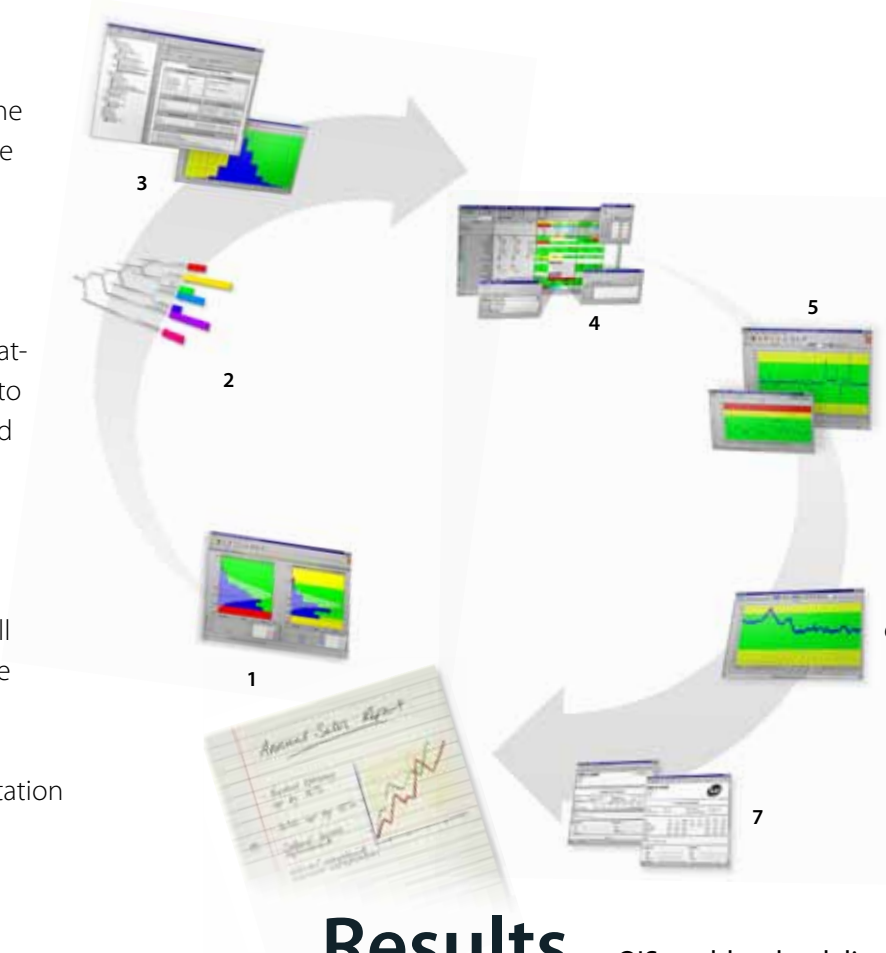
Analysis tools present a holistic view of current and past performance and “what-if” scenarios provide valuable insight into future capabilities. All these can be used to predict and propose further process improvements.

3. Respond

Full document management enables all improvement actions and reasons to be clearly recorded. Ease of access, whilst maintaining strict version control, to all product and process related documentation ensures minimal errors and maximum effectiveness.

4. Record

Variable and attribute data can be automatically collected from process and business systems and from laboratory instrumentation. This frees up valuable operator time, minimizes manual data entry and improves data integrity.



5. Review

A range of easy-to-interpret statistically based tools and charts enables operators and supervisors to closely monitor process performance and quickly highlight any deviation or non-conformance.

6. React

With information at your fingertips, timely informed decisions can be taken and recorded to achieve optimum conditions with immediate site-wide visibility

7. Report

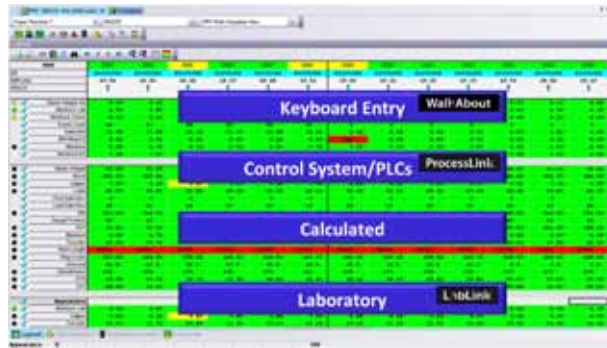
Automatic reports scheduling and sophisticated query tools ensure that the right information is delivered at the right time throughout the organization and to the customer.

QIS enables the delivery of substantial year-upon-year benefits throughout the organization through the provision of clearer information and improved understanding leading to tighter consistency and decision making supported by facts. Users can monitor, measure and report on the scale of improvements in real-time through the software’s analysis and reporting tools.

Accessing data from disparate sources is a common problem facing many process industries. With QIS's ProcessLink™ and LabLink™ interface management modules, these "Data Islands" are easily bridged, providing data in the right place at the right time.

These modules feature extensive facilities to capture data automatically via interfaces to test instrumentation, on-line scanners, distributed control systems and business systems. The applied statistical capabilities within QIS then transform that data into vital, on-line information for operators, supervisors, technicians and managers.

As a true multi-user system, QIS is ideal for concurrent data entry at multiple points, with comprehensive security options to ensure data integrity and multi-level validation to protect against data entry errors. QIS easily handles even the most complex calculations and derived formulae, minimizing manual data entry and maximizing plant information.



QiSOFT has an experienced design and development team that can provide effective solutions, at a fixed cost, to resolve the challenges of connecting dissimilar equipment and systems. This, together with full training and support, means that there is no risk, no penalty and no hidden costs to the customer.

The QIS Logsheet provides a real time "single window" view of the plant operations, including product test results, process readings, SPC alarms and operator text comments.

Users can frequently order the display to match a work pattern, area of responsibility or criticality. In addition, attribute data can be recorded for non-numeric parameters. Attributes are often used to record actions, faults, stoppages and characteristics that may affect the process or product performance.

All data is compared to the current specification and displayed with clear "traffic light" color coding to immediately highlight control and acceptance status.

To assist operators in the control of the process, the logsheet can be readily filtered to display previous production runs and past actions. All documents relating to a specific product or process can be easily viewed from the logsheet to provide detailed information for process set-up, control and optimization.

REVIEW

From Data to Information

Real-time data is more readily interpreted when presented in graphical formats rather than just as numbers or text. QIS employs the latest statistical techniques to present the data to operators in an easy-to-interpret format all at the touch of a button.

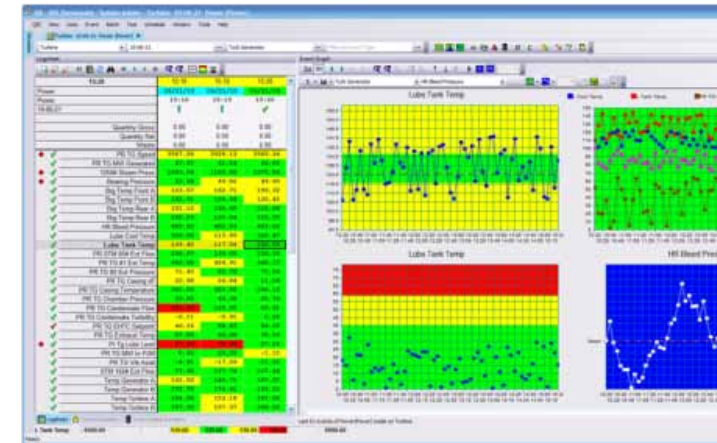
The "Control Summary" provides a simple but effective overview of process control over a period. The same traffic-light color coding as used on the logsheet identifies the control status for all the parameters that are being monitored.

To help view the whole process picture and the interaction between dependant parameters, multiple control and cross-machine profile charts can be quickly displayed.

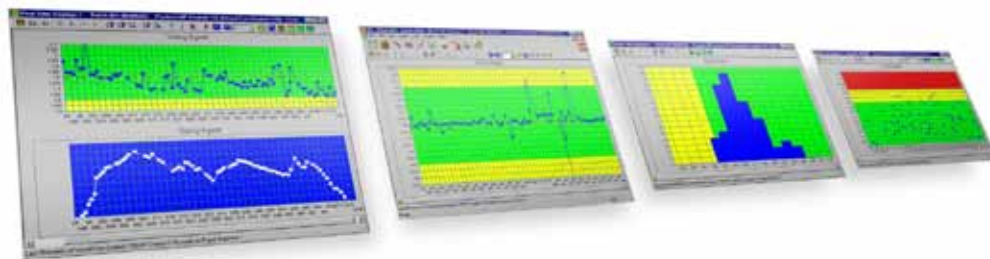
SPC Alarms enable close control of critical parameters with non-conformance, drifts and trend deviations are immediately highlighted. Reasons and comments can be recorded throughout the process to provide vital supporting information to all users.

The Process Operators Log enables significant process changes that may impact performance to be recorded.

The charts help operators to distinguish between random fluctuations and true shifts within the process and take appropriate timely action. The effect of this leads to reduced variation, improved product consistency and quality, greater productivity, less waste and ultimately reduced costs.



The monitoring of process outputs not only provides evidence on process behavior to the operator but also provides Quality Assurance staff better information from which to make acceptance decisions.



REACT

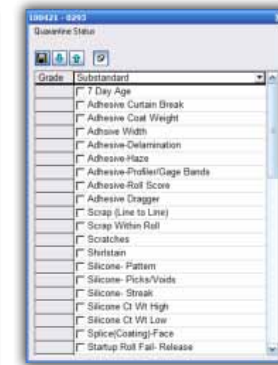
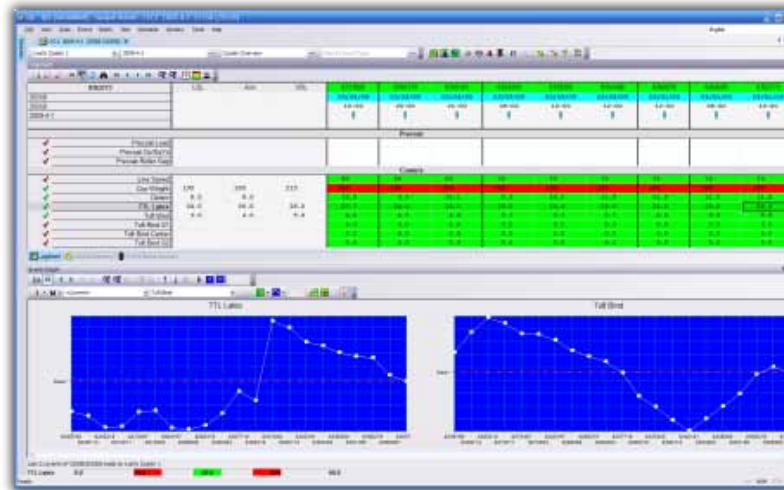
Informed Decision Making

Product testing and process control can identify apparent failure to meet requirements and may be supplemented by observations. Ultimately, however, disposal decisions usually involve assessment of all the evidence and a summary judgment made. With QIS, decision makers can quickly access all this information from any workstation around the plant and make timely fact-based decisions.

When data alone is not enough...

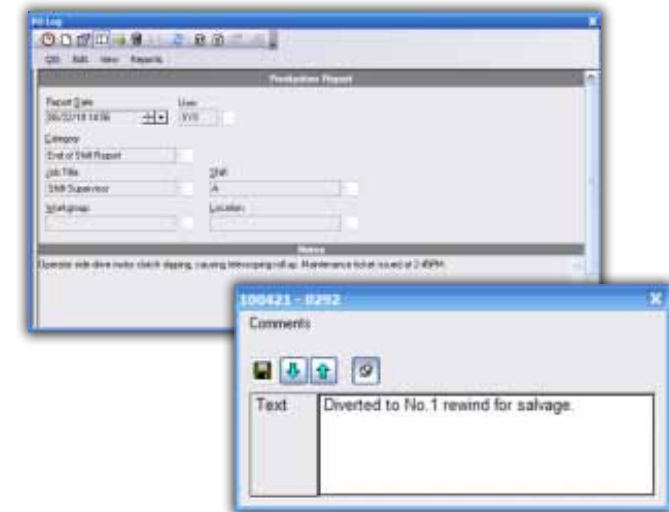
When an SPC alarm is triggered by a parameter changing its control state, an authorized operator can acknowledge it and record the reason and any subsequent corrective actions to be taken. All entries are date and time stamped to enable full decision tracking. Multiple alarms that have the same cause can be answered with a single entry.

Event Status Details display off-control parameters and summarize failure reasons, enabling disposal decisions to be clearly recorded and reviewed.



An integral conformance check routine can assist manufacturing personnel in determining whether product conforms to required specifications using all available evidence.

This information together with the operator log entries can provide valuable information for supervisory management and process engineers when reviewing and analyzing historical process performance.



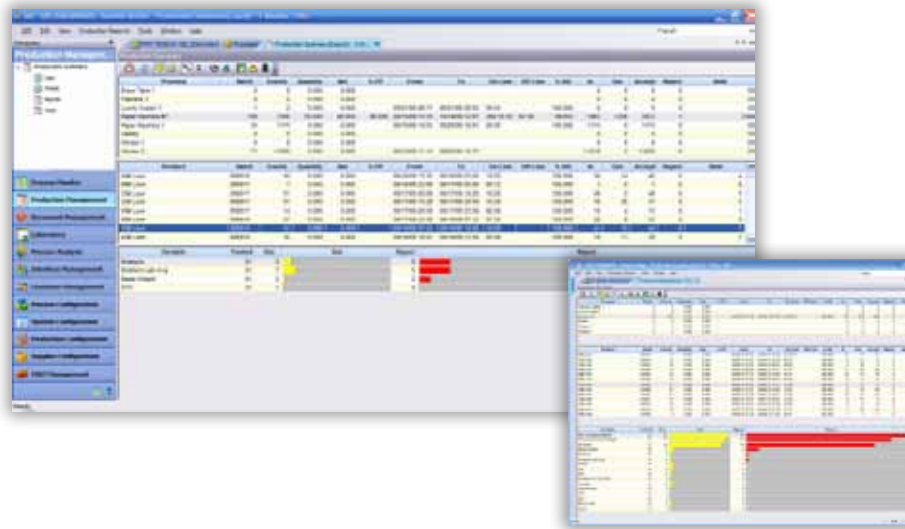
REPORT

Information on Demand

QIS provides a wealth of reporting features that ensure information is delivered at the right time and to the right place. The days of waiting for the daily or shift meeting and shuffling paperwork to find out about recent performance are over. With QIS the data is available in real-time throughout the organization and presented in a clear concise format. For external technical and sales personnel, dial-in access is available meaning that no matter where you are in the world you are only "2-clicks" away from the information.

The Production Summary provides a drill-down active report that allows rapid focus on the problem areas by process area, production run and process variable. By selecting a time period summary you can see everything that has happened by run, shift, day or longer. The failure reasons are clearly highlighted along with any out-of-control issues and are displayed as a ranked Pareto style chart. With easy access to the Real Time Displays, Process Operators Log, SPC Alarms and control charts for the selected period, the review options are complete.

QIS Reports is a dedicated report writer tool that enables customer reports to be easily generated and, if required, automatically emailed to them. The on-line "English language" wizard makes light work of report design with no programming or database knowledge required. Reports can be readily customized with pictures and logos to personalize your customer service. Where required, restricted Internet access to QIS is available from a customer location. This eliminates the need for paper-based reports and the customer can view the data online straight from his PC, if necessary, prior to dispatch.



RESEARCH

Diagnosis Before Treatment

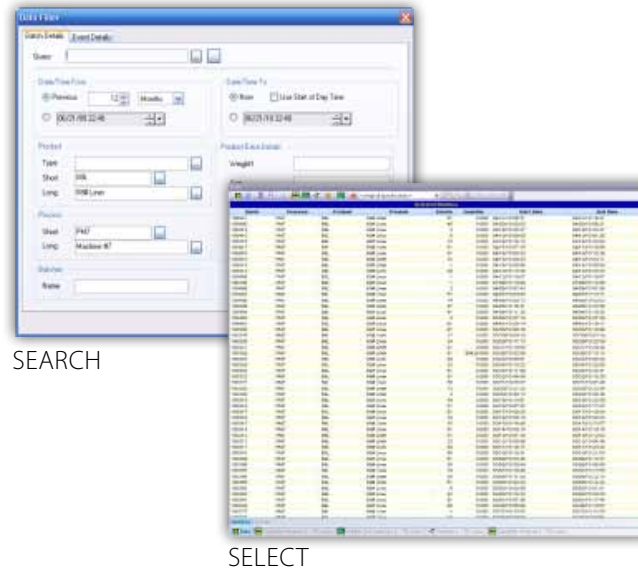
Many systems provide for comprehensive data capture but then provide you with very few ways to get at the valuable information that is locked in their storage vaults. QIS through its Data Library and Technical Analysis modules provides many ways to release this information and provide essential process information quickly in just three easy steps:

Search

The Search dialogs allow you to specify the search criteria using your standard terms. For advanced searches, wildcards and filters can be used to quickly extract the required data. Once defined, a specific criteria set can be saved for repeated use.

Select

The results of a search are presented in a listing of all matching production runs, which can be selected individually or collectively for analysis. The search results can be readily sorted by date and time, quantity, product or batch and with just one click the statistical analysis routines are displayed.



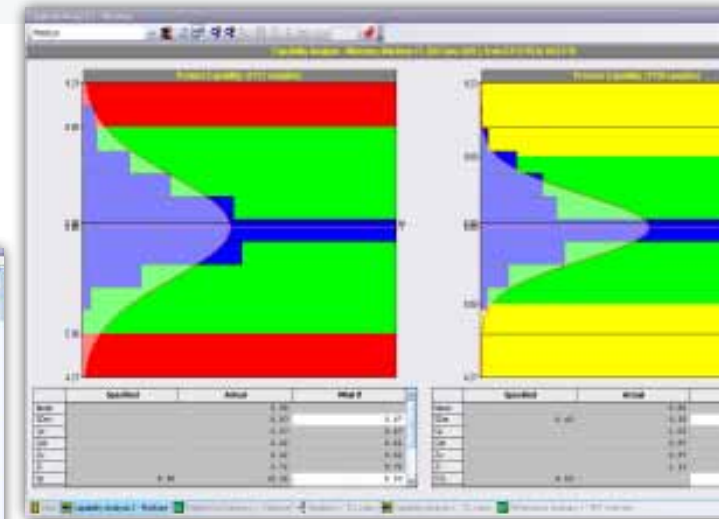
SEARCH

SELECT

Analyse

The presentation of the findings is always in an easy-to-interpret, simple, graphical form providing information that requires little or no statistical training for generating improvement opportunities. The array of displays enables the same data to be viewed from any angle to provide a holistic view for process understanding.

The main feature of these routines is that they can crunch months and years of data in seconds and



ANALYSE

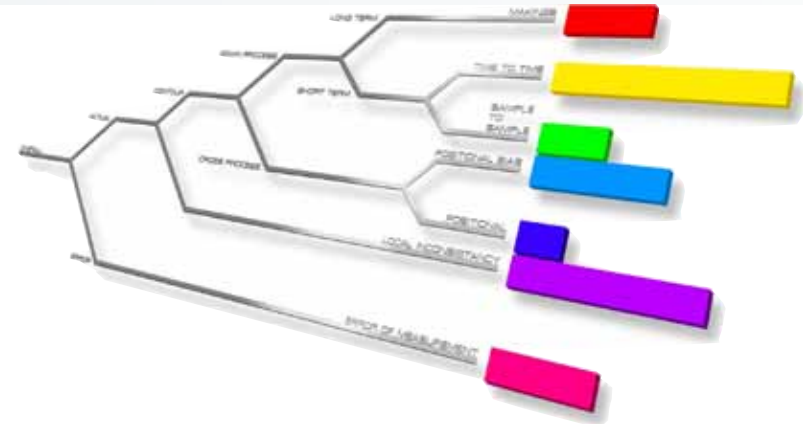
then deliver very sophisticated statistical results in an easy-to-understand graphical presentations. The benefits that can be gained from using these tools are wide ranging and, with their ease of use and access, they can be used for every day decision support for Production, Quality, Environmental and Customer management. They can also provide evidence of consistency and performance to assist Sales and Marketing and to support capital investment projects.

For more detailed investigations - particularly for cause and effect issues - the data analysis modules provide a set of practical analytical tools to aid in problem solving, enhance understanding and support continuous improvement.

Easy and direct access is provided to all QIS data which can be used in its original form or selectively edited, transformed, sorted, matched and manipulated against a user's requirements. Data can also be saved-to and loaded-from external sources. An interface to the MQM module permits data on raw materials to be loaded and analyzed alongside process and product data.

It is essential to know the capability of a machine or a process against market standards or customer specification requirements, especially when undertaking trials or manufacturing new or variant products, comparing what is possible against what is required.

The QIS Capability Analysis allows rapid review of Process and Product capability to support improvement decisions. It helps establish effective control limits for the manufacturing process and also confidence in the ability to meet customer requirements with minimal production losses. The 'What-If?' facility allows the user to alter key parameters and view the corresponding effects. The Conformance Summary provides a capability overview of multiple variables, for comparison against existing Control and Specification settings.



The extent of capability improvements that may be needed can be readily identified or, if capability is better than required, how manufacturing targets may be adjusted to reduce manufacturing costs.

Knowing the capability of a process is helpful but does not guide remedial action. Variation in a property is a fundamental aspect of nature. Understanding of the sources of variation and relative contributions is necessary to be able to direct action for improvement. The Analysis of Variance tree provides this information by breaking out each element of variation so that the true process variation can be determined. The in-built statistical expertise enables the relevant variance and sources to be automatically calculated with the findings presented graphically. Process improvement strategy can then be focused where it matters most. The 'What-if?' option permits the user to selectively reduce any of the variation components to establish the level of improvement that would result and therefore to assess the effectiveness of any proposed action.

RESPOND

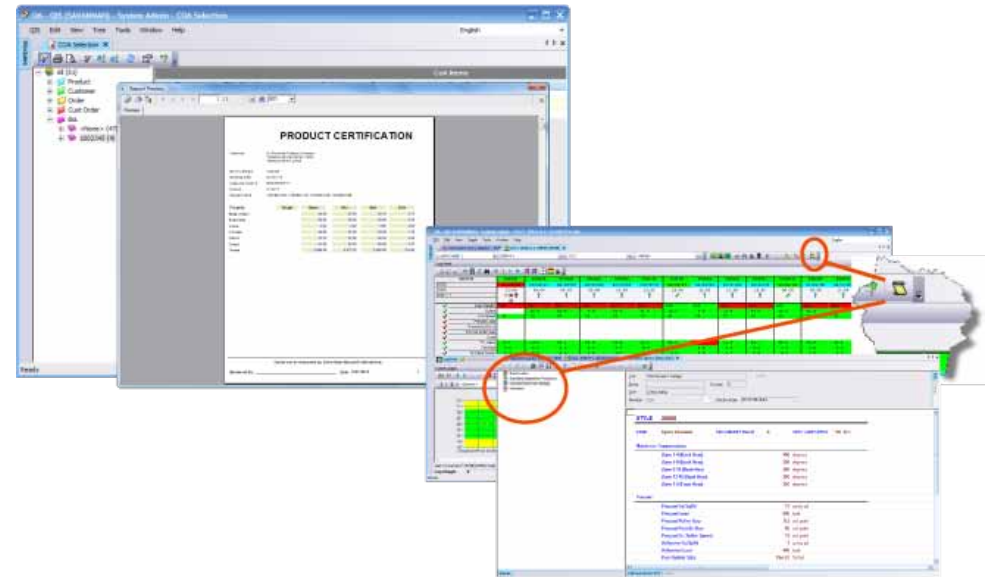
Information Application

Short-term conformance is one thing but your customers are more often concerned with longer-term performance and, with modern manufacturing practices, the primary focus is on consistency. Meeting specification is no longer enough. To maintain a competitive advantage close adherence to target with minimal variation is a necessity.

The simple-to-use yet sophisticated statistical tools within QIS make it easy to assess long-term consistency and capabilities and to clearly distinguish between normal and exceptional running. When you are able to get it right every time, you will win and keep customers. Demonstrating and displaying consistent performance can become powerful and vital sales aids.

Following detailed data analysis, informed decisions can be taken to improve performance and reduce cost. All decisions and actions can be stored within the Document Management module ensuring full version control and clear communication throughout the organization. The QIS Documents module manages all forms of reference documentation related to production including;

- **Bill of Materials/Recipes**
- **Standard Operating Procedures**
- **Standard Process Settings**
- **Manufacturing Specifications**
- **Finished Product Specifications**
- **Links to 3rd Party Documentation**



For the operator this means that all product and process related information is accessible from just one place...QIS. Armed with the right information, improvement decisions can then be executed with confidence.

With QIS you are able to both record data efficiently and also use it to transform understanding to optimize operations. This applies at all levels of the organization ensuring that there is a collective approach to continuous improvement.

RESULTS

Delivering Continual Benefits

Through the effective use of QIS, dramatic, on-going improvements can be made to plant performance, from monitoring raw materials through to finished product quality and customer service.

QIS improves quality by increasing product uniformity and reducing quality related losses. It also gives operators real-time information to be able to correct problems quickly and to learn the cause and effect of actions taken. The results mean improved production performance and customer service through better access to and understanding of process and product information.

With QIS, rapid results are achieved from system implementation and information availability through to process understanding and key decision-making. This all leads to rapid ROI and the laying of a strategic foundation for world-class performance success.

INCREASE PRODUCTION EFFICIENCY

- Automatic data collection frees time and improves data integrity.
- Setting “meaningful” QA schedules that monitor performance.
- Operator empowerment with process knowledge to support actions and predict performance.
- Increased throughput through a reduction in lost time and scrap.
- Increased grade-change efficiency.
- Early problem detection means quicker corrective action.
- Improved understanding of process and product capability to set standard operating methods.
- Establishment of best practice methods across all shifts.
- Reduced variable costs (materials, energy, waste).
- Running to operating capability
- Improved monitoring of raw material quality and supplier data for consistency and performance.
- Improved communication of product and process information throughout the mill.

IMPROVE CUSTOMER SERVICE

- Reduced complaints through improved consistency and early problem detection to win and retain profitable customers.
- Improved understanding about the product prior to dispatch.
- Improved product certification and technical data analysis to support product processing & performance.
- Holistic view of the whole process from raw material through to product delivery for easy tracking.
- Supports ISO 9000 compliance.
- Availability of QIS to support sales and technical teams.



DOCUMENT MANAGEMENT

The gateway to all documentation...

The QIS Documents module manages all forms of reference documentation related to operations including but not limited to:

Bill of Materials/Recipes

Standard Operating Settings & Procedures

Manufacturing & Finished Product Specifications

Health and Safety Procedures

Standard Test Methods

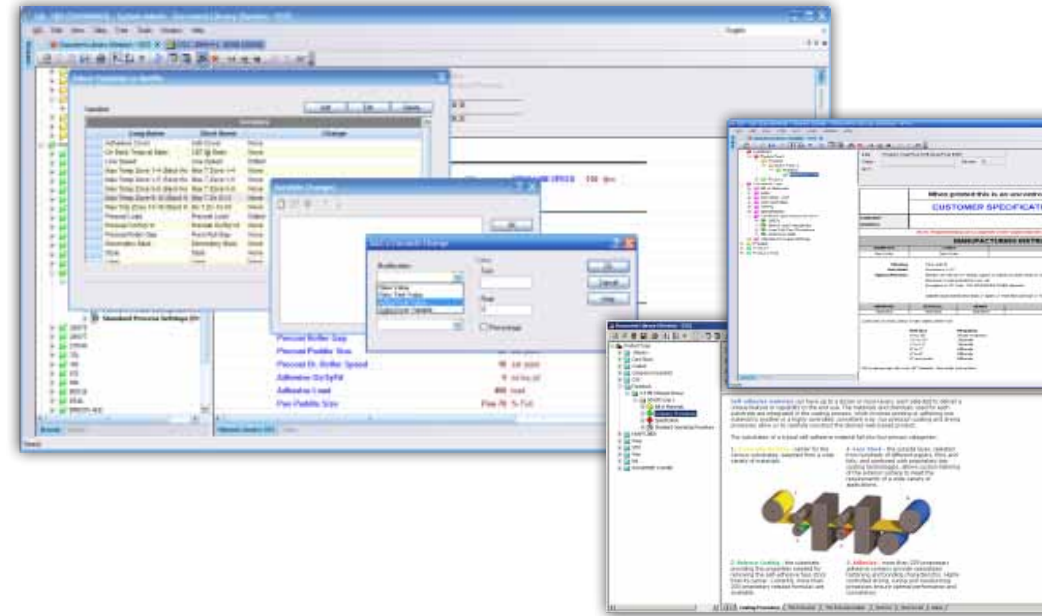
Customer Order Instructions

Full revision and comprehensive archive management means that you always access the right document version. The innovative design for editing, grouping and sharing documents ensures that a full, closely controlled library can be quickly built up yet requires minimal maintenance.

...for optimal process setup and running

Documents can be set to link or embed 3rd party data from, for example, Microsoft Office and most ODBC compliant systems. Alternatively, document details can be published through the use of QIS ProcessLink and the QIS Mailbox. When document changes are made in QIS the relevant changes are passed on to the QIS Mailbox that can be read by any ODBC compliant software.

Thus an external package that, for example controls PLC settings, can monitor the Mailbox alone to receive automatic updates.



Global change wizards guide users through the choices and selections to make common changes across multiple documents. Routines are provided that allow the changes to be easily defined, reviewed and applied. Where required modified documents may be set with a future release date for action.

For completion all documents must pass through an approval process that involves one or more authorized users. Any user that is required to approve a document will be automatically notified when logging in to QIS.

Technical Specification

The following is designed as a guide towards sizing hardware, software and networking requirements for the successful implementation of a QIS project. For advise on any specific IT requirements please contact the QiSOFT Support Team.

Minimum Hardware Requirements

4 GB of RAM
2 GHZ Pentium-compatible CPU
70 GB Hard Disk with minimum of 20 GB free (RAID 1+ recommended)

Supported Server Operating Systems

Windows™* Server 2008 (recommended)
Windows Server 2003 R2
Windows 2000, Service Pack 4 or later

Supported Database Versions

Microsoft SQL Server 2008 (recommended)
Microsoft SQL Server 2005 Service pack 3 or better
Microsoft SQL Server 2000 Service Pack 4

All QIS components and services are fully supported in all variants of a Windows/ SQL Server clustered environment. QIS runs under both 32 and 64 bit version of Windows and MS SQL Server.

Client Requirements

Minimum Hardware Requirements

512 MB of RAM
2 GHz Pentium-compatible CPU
60 GB Hard drive with minimum of 5 GB free
Display device with 1024/768 resolution – widescreen

Supported Workstation Operating Systems

Windows 7 (recommended)
Windows Vista Business

Windows XP Professional, Service Pack 2 or later
QIS client software and services are fully supported in all Citrix and Windows Remote environments, 32 bit and 64 bit Windows.

Support

QIS 24x7 support is usually conducted through remote dial-in. Typically, a password protected RAS or PcAnywhere™ connection is configured for QiSOFT support.

**Windows is a registered trademark of Microsoft Corporation in the United States and other countries.*

ProcessLink is the QIS interface management system that controls the device drivers that link QIS to a variety of external data sources. With ProcessLink, large volumes of data can be recorded on an event or time basis straight into QIS providing high data integrity for comprehensive process understanding. Alternatively, QIS data can be passed to other process or business systems ensuring efficient data management and site-wide access. As ProcessLink supports an unlimited number of device drivers only one module is required per site.

Data can be easily transferred between QIS and other systems such as process databases, control systems, online measuring systems, automated laboratory-testing systems and many other individually customized links.

Existing installations include links to systems from

- Honeywell-MeasureX
- ABB – Accuray
- Ivensys – Foxboro, WonderWare
- Eurotherm

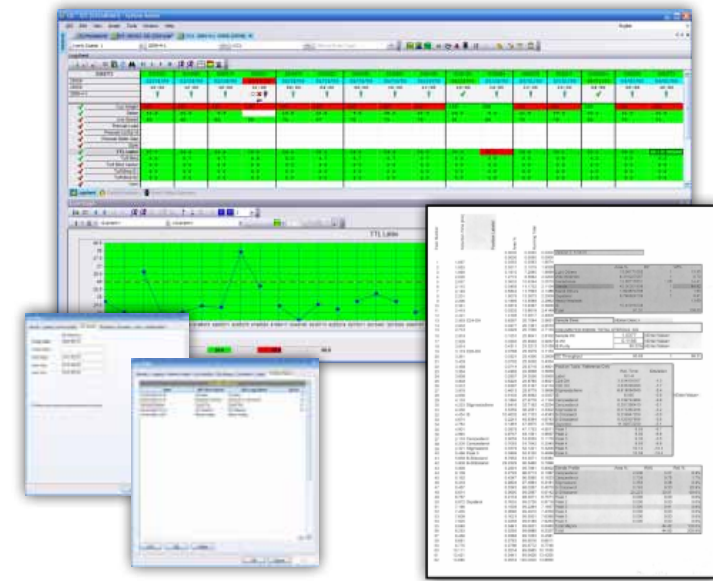
- MFG/Pro
- OSIsoft-PI
- Lorentzen & Wettre AutoLine
- Oracle
- SAP

ProcessLink is designed to run unattended on any network workstation or server as an NT Service and typically connects to the source systems via network or serial connections. All ProcessLink drivers are self-contained modules whose management and configuration is carried out remotely through the main QIS program.

For companies that have programming capability a generic SQL Mailbox driver is available that can be configured to connect to external data sources. The mailbox, which comprises a single table of a defined structure and associated rules, can exist, providing it is ODBC compliant, in the source DBMS, the QIS DBMS or any intermediate DBMS.

Because of the nature and flexibility of QIS ProcessLink, custom drivers can be easily written by QiSOFT to link directly to most systems that have interface capabilities (read, write or both). These may be direct database writes, DDE links, Sockets connections, OPC connections, serial communications, API calls and so on.

QIS ProcessLink provides full connectivity to systems throughout the organization, collecting and sending data to provide critical process information for making control and improvement decisions.



LabLink is the QIS bench instrument interface solution for laboratories. LabLink comprises Operator Interface Units that connect the instrument with a bar code reader or simple terminal that the operator uses to identify the source of sample being tested. A multi-drop RS485 network is then used to connect all the OIUs to the PC that is hosting the LabLink software. One OIU is required per instrument and one master unit is required per network.

This solution means that an Operator or Laboratory Technician can conduct sample testing in any sequence or utilize multiple instruments at the same time without referring to the central PC. The LabLink software takes care of all the communications and recording of the resultant test data in the correct place in the QIS database. All data captured can be immediately reviewed and, if required, modified through the main QIS.

The LabLink software runs as a background task on the PC so that it can be used for QIS or any other application software at the same time.

For the user, LabLink delivers efficient data collection and improved data integrity freeing up valuable extra time for laboratory management, process monitoring and customer service.

Existing installations include links to instrumentation supplied by:

- **L&W (Lorentzen & Wettre)**
- **Messmer**
- **Testometrics**
- **Mettler**
- **TMI**
- **Emveco**



Why QIS?

Project Management

Every QIS project is different, however, we can still use effective project management principles to ensure quick deployment and rapid delivery of business benefits every time. From the outset of the project we will work closely with your team to advise on all aspects of the project from capital justification through to benefit delivery. Where required our project team can assume responsibility for a complete turnkey project.

No hidden costs

Prior to dispatch of any applications or any work being undertaken a full price quotation and specification will be issued along with expected delivery date. Where additional products/services are required, for example IT hardware, budgetary estimates and sourcing guidance can be given.

Rapid Deployment

QIS is designed to run straight out of the box and requires no specialist customization or programming knowledge. Typically, QIS can be fully operational 4 weeks from order. The flexibility of

QIS makes data conversion from other applications simple so you can get off to a flying start.

Comprehensive Training

A full range of courses is available that cover all aspects of QIS from installation and set-up through to statistical analysis and process understanding. Where required courses can be customized to specific customer requirements.

Rapid ROI

Many customers will testify to the swift realization of business benefits and process improvements. With QIS, ROI is measured in months not years. Benefits are manifold and range from reduced paperwork, complaints and downtime to improved consistency, quality and understanding.

Continuous Product Development

QIS has been in customer use for 25 years. Continuous product development ensures the latest process-investigation tools are available to meet the challenges of a dynamic market place. Product development is driven by our customers

and supported by industry professionals, academics and application partners.

Workshop Trial

For companies considering a move towards improved process control and product quality a QIS workshop trial is available. The low cost workshop enables QIS to be fully tested and assessed against requirements prior to committing to a full capital project. During the trial full training and technical support is available.

For further information about QiSOFT products and services or to arrange a workshop evaluation please contact your local QIS agent today.

Why QiSOFT?

INDUSTRY EXPERTISE

We have many years of practical experience – listening to; understanding and managing customer requirements - to ensure delivery of cost-effective applications that exceed expectations. Particular specialization can be found in Pulp & Paper, Food & Drink, Packaging, Plastics and Textiles. Post implementation, we seek to actively work with customers to generate year-upon-year improvements and establish best-practice methods.

AROUND THE CLOCK TECHNICAL SUPPORT

Many of our customers work year round and rely on QIS for vital process and product information. Our dedicated support specialists are on-hand 24hours a day, 365 days a year to rapidly resolve any QIS issue that may occur, minimizing lost time and disruption. All Installations are supported through secure remote dial-in access.

INTERNATIONAL CUSTOMER BASE

QiSOFT installations, which range from specialist manufacturers through to global corporations, have been successfully implemented in process companies throughout the world. They include:

- **Avery Dennison**
- **Weyerhaeuser Industries**
- **James Cropper**
- **Tullis Russell**
- **Arjo Wiggins**
- **Smurfit Kappa**
- **DS Smith**
- **Unilever**
- **SCA**
- **J R Crompton**
- **Temple Inland**
- **De La Rue**
- **Douwe Egberts**

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