LABVANTAGE®
Laboratory Knowledge. Delivered.

LABORATORY KNOWLEDGE. DELIVERED.™

LABVANTAGE® REPORTING & ANALYTICS

LABVANTAGE® REPORTING & ANALYTICS

Today, enterprises are striving to significantly accelerate the decision-making process and reduce time-to-market by leveraging robust reporting and analytics tools. In information-rich industries, laboratories are under increasing pressure to deliver meaningful data with critical scientific and business insights. Real-time reporting and analytics provide scientific researchers, analysts, informaticians, project and business-line managers, and executive decision-makers the means to visualize data and more readily identify the critical issues and trends, ultimately enabling them to turn information into knowledge and make earlier, more informed critical decisions.

However, many traditional laboratory information management systems supporting laboratory operations do not offer direct, easy access to all the reporting and analytics functionality needed by both researchers and analysts. Lack of adequate access tends to hinder rather than promote information sharing and decision making in the organization. Without readily accessible reporting and analytics options, those infrastructures rigidly restrict a users' ability to flexibly retrieve, distribute and manage valuable knowledge derived from laboratory data. Users have to deal with a multitude of disparate applications and analyze data with considerable manual effort, significantly impeding their ability to make real-time, informed decisions.

To optimize data accessibility and improve knowledge sharing, laboratories need a variety of integrated business intelligence tools. Users should be able to easily access, compile and analyze information via any number of reporting and analytics tools, as preferred, depending on the actual needs of the various management, operation, and research users and their requirements. With direct and easily accessible functionality, users can rapidly retrieve and combine data, enabling them to develop and share key insights.

LABVANTAGE is a thin-client laboratory information management suite (LIMS) that is tailored to manage an organization's critical laboratory information across its worldwide R&D pipeline and manufacturing supply chain to optimize productivity and more effectively share knowledge. LABVANTAGE is redefining the "S" in LIMS, as the LABVANTAGE Suite encompasses functionality typically found in multiple laboratory systems across the global enterprise.

LABVANTAGE PROCEDURES REPORTING & ANALYTICS

LABVANTAGE

LABVANTAGE PROCEDURES REPORTING & ANALYTICS

Comprehensive Reporting and Analytics-Driven Decision Support

LABVANTAGE offers a number of embedded and integrated reporting and analytics options that can be deployed and securely accessed as needed by the appropriate user. The variety of options ensures that LABVANTAGE provides the most versatile and flexible options that deliver reporting and analytics out-of-the-box, while also providing integrative options for reporting and analytics applications you've already invested in.

Combined or deployed as needed, the extensive array of reporting and analytics options offered with LABVANTAGE provide comprehensive, real-time data access, visibility, and report capabilities that ultimately arm the organization with the knowledge needed to make more informed critical decisions.

- LABVANTAGE Dashboards – powerful business management tool provides an "at a glance" view of definable LABVANTAGE pages as well as definable key performance indicators (KPI) using graphical presentation formats including: pie charts, spark lines, and gauges.
- LABVANTAGE Analytics – built-in visual charting for control charts and trend charts powered by JFreeChart.
- LABVANTAGE Reporting – seamlessly embedded, on-demand reporting and data visualization tools powered by JasperReports.
- LABVANTAGE Ad-hoc Query Tool – powerful real-time "in-application" data mining and analysis without the need for SQL programming.
- LABVANTAGE Advanced Reporting – robust information and performance management tools powered by BusinessObjects.
- LABVANTAGE Advanced Analytics – full-featured SPC charting and statistics powered by Northwest Analytical.
- LABVANTAGE Operational Intelligence – real-time, workflow-driven, multi-source data integration, visualization, and analytics powered by InforSense™.

REPORTING & ANALYTICS

LABVANTAGE PROCEDURES

LABVANTAGE DASHBOARDS

LABVANTAGE Dashboards provide powerful business management tools that provide visual "at a glance" views of definable LABVANTAGE pages as well as definable Key Performance indicators (KPI) using a number of different graphical presentation formats including: trend charts, pie charts, spark lines and gauges. LABVANTAGE Dashboards help you visually ascertain the status and health of your laboratory enterprise by enabling you to:

- Monitor key LABVANTAGE listing pages
- Visually present critical performance measures
- Easily measure efficiencies and inefficiencies across your laboratory enterprise
- Seamlessly monitor your laboratory personnel, equipment and supplies
- Quickly identify negative trends for corrective action
- Highlight new trends online and through detailed reports
- Make more informed decisions based on collected business intelligence
- Drill down directly from the dashboard to the LABVANTAGE data for real time data analysis

LABVANTAGE Dashboards are completely zero-footprint and use no plugs-ins, downloads or applets on the end-user client. Moreover, as an integrated part of LABVANTAGE, it can be tailored to your organization's end-user requirements via the Evergreen Studio Web Page Designer, the easy to use property-driven configuration tool for LABVANTAGE. Additionally, each user has the ability to personalize their dashboards by picking and choosing which dashboard components to display and use.

Examples of the different dashboard visual indicators such as bar graphs, gauges, trend lines, and pie charts

LABVANTAGE REPORTING
Integrated Reporting Solutions – Powered by JasperReports™

Seamlessly embedded in LABVANTAGE, LABVANTAGE Reports provides on-demand reporting and data visualization. It enables fast design and deployment of both operational and management reports. A number of report templates are included with LABVANTAGE such as: Certificate of Analysis, Stability Study Report, Sample Pick Lists, Work Lists, and more.
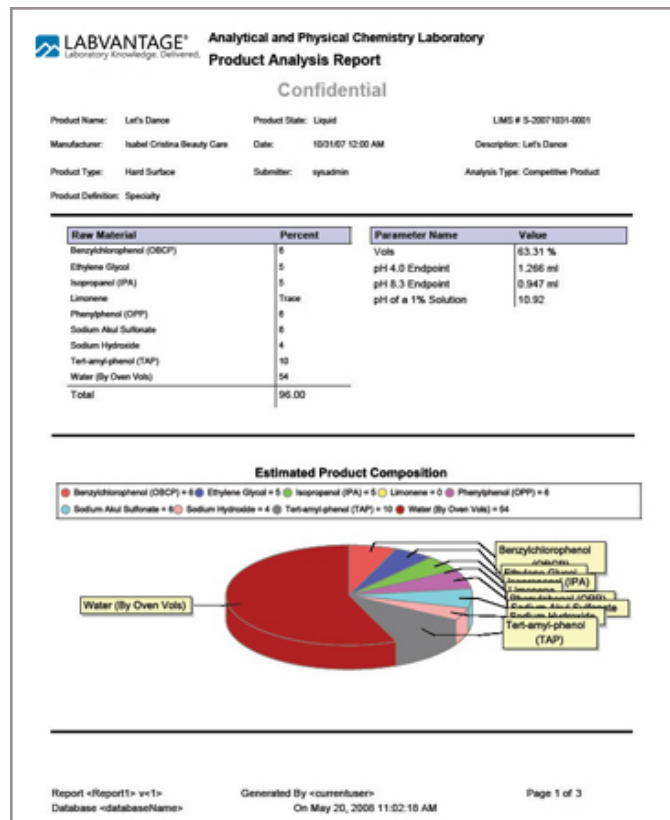
LABVANTAGE Reports is powered by JasperReports, a 100% Java solution that includes the iReport Designer™ tool. This built-in reporting application creates a standardized, universal reporting environment, bridging the gap between users in different operational areas. LABVANTAGE significantly simplifies the process of report construction and distribution, helping companies efficiently consolidate and distribute on-demand reports with sample, experiment, and user-specific laboratory data.

Key features & benefits of JasperReports with LABVANTAGE include:

- Leverage's LABVANTAGE's role-based security ensuring proper authentication and access
- Supports LABVANTAGE's M18N features, including locale formatting, time-zone adjustment, and language translation
- Allows for the embedding of an array of chart types including: tables, cross-tabs, and bar and pie charts, that enhance data visualization
- Ready-to-print report generation delivers prompt data review capabilities in different print and export formats, such as PDF and Microsoft Excel
- Drill-through feature and hypertext enable dynamic linking of reports and supporting documents, along with reat-time data analysis
- Ability to version control and deploy multiple report templates, changing the look and feel of the report as desired
- Control and manage amendments and regeneration of reports as results change

Certificate of Analysis report included with LABVANTAGE

Sample List report generated from LABVANTAGE
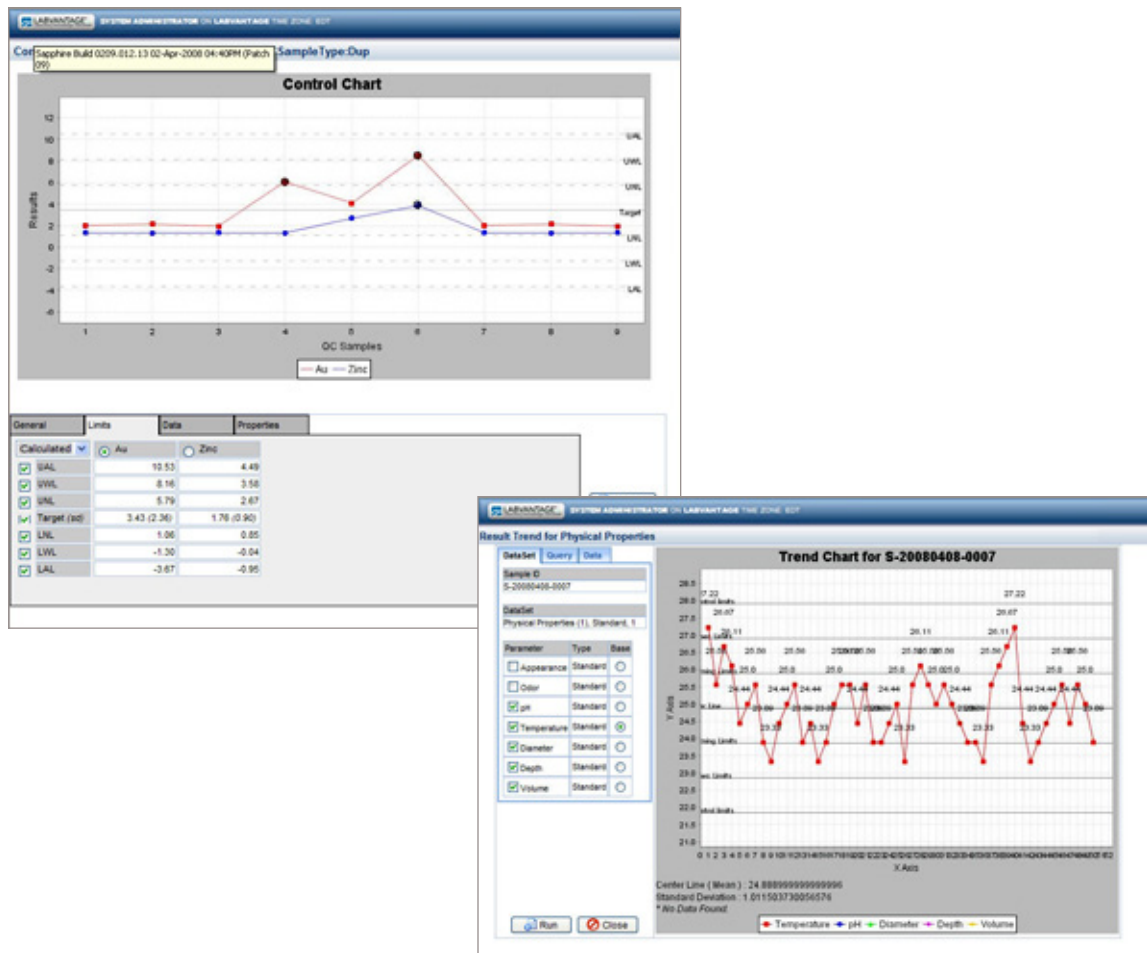
LABVANTAGE ANALYTICS
Built-In Control Charts and Trend Charts – Powered by JFreeChart
LABVANTAGE Analytics provides versatile visual charting. Leveraging LABVANTAGE's integrated trend and control charts, you can effectively and efficiently evaluate processes and initiate process improvements as needed. Control and trend charts provide for the identification and visualization of trends in process data, enabling you to quickly spot problems and highlight critical issues, resulting in the ability to quickly make real time changes to your processes.

Once a chart is displayed, you can interactively zoom in on specific ranges or narrow down their selections to only show a subset of the last number of data points. Graphs can be configured to show violation limits for control, warning, and upper limits to help users identify violations to control limits.

Control and Trend charts displayed in LABVANTAGE

LABVANTAGE PROCEDURES REPORTING & ANALYTICS
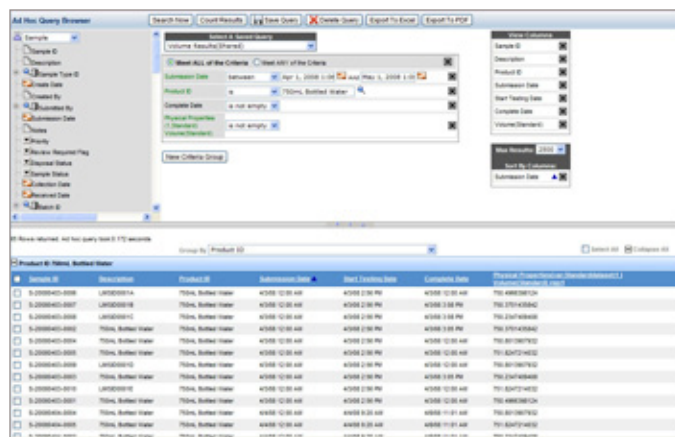
LABVANTAGE AD-HOC QUERY TOOL

LABVANTAGE Ad-hoc Query Tool provides real-time access and visibility to laboratory data. Traditionally, in order to analyze laboratory data, laboratories had to construct multiple sets of reports or queries. Most often these reports or queries are pre-constructed or pre-defined, and managed by a system or database administrator. This can occasionally form a gap between the actual dynamic needs of the end-user and the "canned" information in the report or query. To eliminate this gap and provide users with maximum use and analysis of laboratory data, LABVANTAGE's Ad-hoc Query Tool enables end-users to construct and execute complex queries against the LABVANTAGE database, with no technical skills, database administration experience, or knowledge of SQL required. Users can execute ad-hoc or saved queries on LABVANTAGE data, including samples, experiments, projects, and results. Built on top of LABVANTAGE's thin-client enterprise platform, the Ad-hoc Query Tool empowers authorized end-users, both inside and outside of the laboratory, to simply mine the data in LABVANTAGE and extract the information for further use all through a zero-footprint web browser.

End-users can construct their own queries by navigating the object structures in a drag & drop layout, or simply execute previously saved queries by selecting and supplying the criteria needed. Queries can be maintained by the end-user or shared with other users of LABVANTAGE. Moreover, all of the security, compliance, and multinationalization features of LABVANTAGE are fully maintained with the Ad-Hoc Query Tool.

LABVANTAGE's Ad-hoc Query Tool empowers end-users to:

- Construct on-demand queries by dragging and dropping appropriate fields onto the query builder palette
- Execute previously saved queries by simply selecting and supplying the criteria required
- Select and move the data columns, as well as sort order on the query results for intuitive viewing
- Export the data to Microsoft Excel for further analysis or processing, as well as, print to PDF
- Access the powerful query interface in any LABVANTAGE list page or through the "Reports" section of LABVANTAGE
- When integrated on a LABVANTAGE list page, users can execute operations on the results such ship, transfer, perform data entry, or add to a work list.

LABVANTAGE's Ad-hoc Query Tool simplifies access to information and improves knowledge sharing throughout the global enterprise. By expediting flexible queries, organizations gain meaningful results that can be shared to make critical decisions. Ultimately, it gives back the power of query construction to end-users, enabling real-time access and visibility to all data.

An Example of the LABVANTAGE Ad-hoc-Query Interface
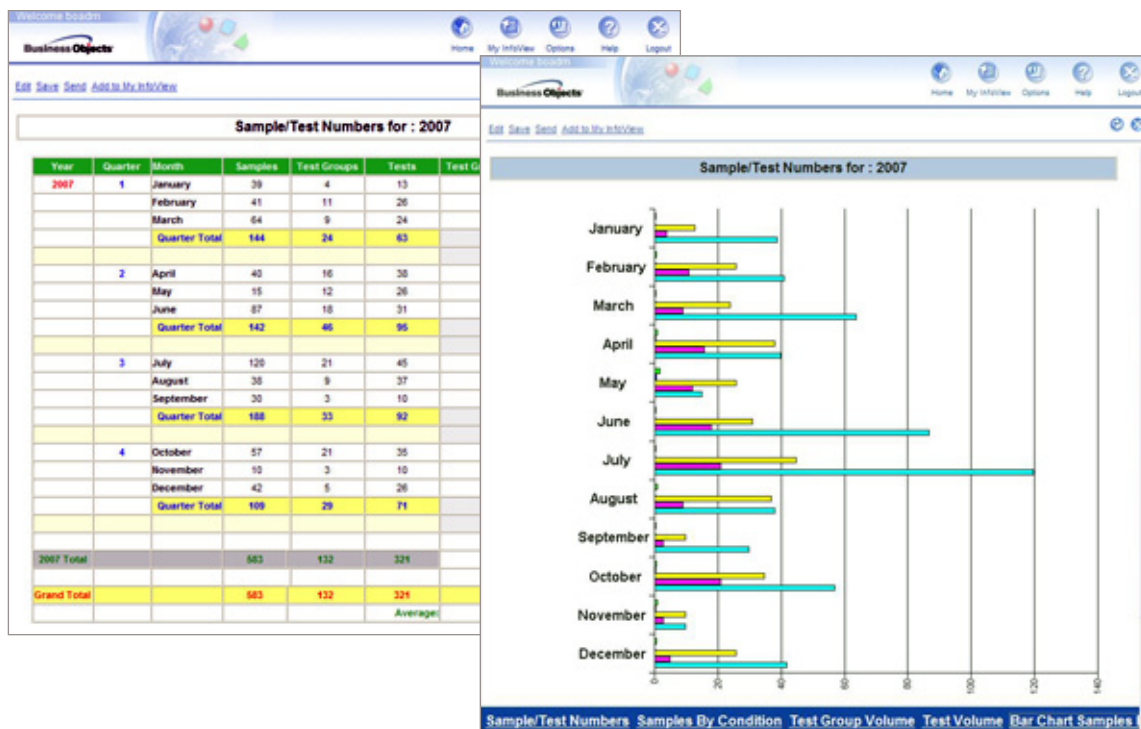
LABVANTAGE ADVANCED REPORTING
Advanced Reporting Solutions – Powered by Business Objects™
LABVANTAGE Advanced Reporting provides robust enterprise reporting and analytics. Powered by Business Objects, it offers a complete suite of critical business applications, including information management, performance management, and reporting tools built on the business intelligence platform, Business Objects Enterprise. A robust reporting application, Business Objects offers online reports, as well as, printing, emailing, and exporting of reports to a number of file formats. Moreover, reports can be designed via the thick-client Desktop Intelligence tool, the thin-client Web Intelligence tool, and Crystal Reports.

LABVANTAGE also seamlessly interfaces with Business Objects, enabling enterprises to continue to leverage their existing investment of this enterprise business intelligence tool. Business Objects enables LABVANTAGE users to:

- Leverage the powerful tool set of report authoring, formatting and distribution, enabling rapid creation of flexible, feature-rich reports of LABVANTAGE data.
- Create dashboards and scorecards that summarize and visually represent critical performance and efficiency measures.

LABVANTAGE with Business Objects provides a versatile, interactive viewing framework for companies with a wide range of users, facilitating critical enterprise information sharing.

Examples of Business Objects generated reports.

REPORTING AND ANALYTICS

## LABVANTAGE ADVANCED ANALYTICS
SPC Charting and Statistics – Powered by Northwest Analytical® (NWA)

LABVANTAGE Advanced Analytics provides full-featured statistics and charting. Powered by Northwest Analytical, a leading Statistical Process Control (SPC) charting and analysis application, LABVANTAGE offers the standout combination of flexibility and ease of use. It enables a variety of users to graphically analyze and judge the impact of data to make key decisions with minimal training in statistical techniques. Quality Analyst provides comprehensive functionality for companies requiring advanced charting needs for certification, regulatory compliance, process improvement, and cost reduction.

Some of the key benefits that LABVANTAGE offers with NWA Quality Analyst are:

- Multiple chart displays and printing
- Control charts and reports to accompany the Certificates of Analysis (COAs) on any manufacturing process that the laboratory is monitoring
- A state-of-the-art statistical quality/process control (SQC/SPC) charting tool to facilitate the analytical process and discoveries of critical insights through massive loads of data
- Easy access to information needed to foster improved relationships with customers, increase capability, and decrease waste

LABVANTAGE provides NWA Quality Analyst as an optional charting and analytical application interfaced with LABVANTAGE. Combining a set of comprehensive charting and analysis capabilities, NWA Quality Analyst empowers LABVANTAGE users with a comprehensive choice for their advanced statistics and charting needs.
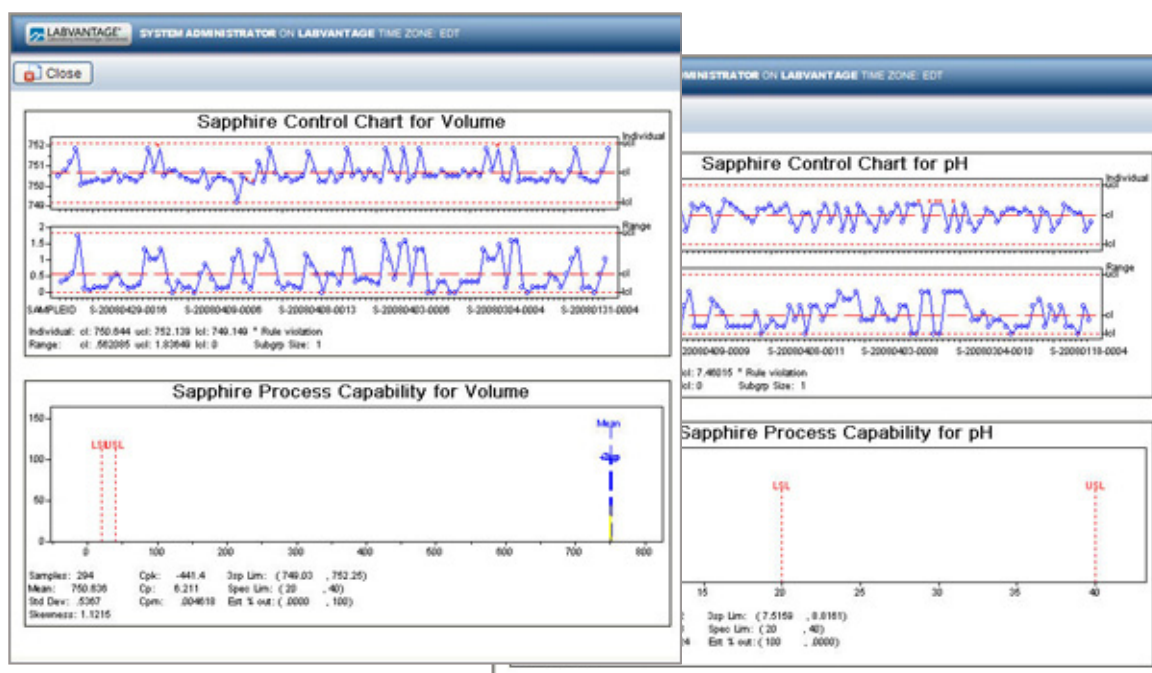
NWA Control charts displayed in LABVANTAGE

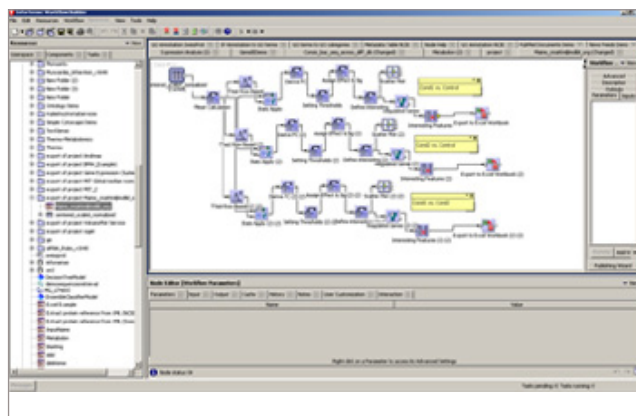LABVANTAGE PROCEDURES · REPORTING & ANALYTICS

LABVANTAGE OPERATIONAL INTELLIGENCE
Integrative Analytics - Powered by InforSense™

LABVANTAGE Operational Intelligence couples the best of laboratory information management with integrative analytics. Powered by InforSense, a leading provider of flexible data integration and visualization tools, Combined, the solutions enable organizations to integrate, automate and visualize data sources, information, and analysis processes to deliver significantly improved productivity, performance, and breakthrough predictive insights. As a partner of LABVANTAGE, the InforSense platform is a fully integrated option with LABVANTAGE.

Integrative analytics is a paradigm pioneered by InforSense that addresses the challenges faced by all stakeholders. This approach is based on the use of analytical workflows as a means for rapidly integrating data from multiple sources and for coordinating the use of various analytical tools. Integrative analytics provides various specialized extensions for integrating, accessing, browsing, and analyzing the related data sets within a truly cross-domain research and discovery platform.

InforSense Workflow Builder

InforSense caters to numerous types of users, from the power user who authors analytical workflows to the laboratory scientist who needs to simply run analyses. The building and authoring of InforSense workflows happens in the InforSense KDE environment and utilizes the InforSense Workflow Builder. Once the workflow has been tested and validated, it can then be deployed to the Web and accessed as a Web Portal. This enables many different researchers performing the same type of analysis to use a universally accessible, consistent and reproducible analytical workflow. InforSense KDE provides:

Example of the InforSense VisualSense Web Portal

- Built-in support for a wide variety of applications and data types including: SAS, R, Oracle, Perl, etc.
- Interactive user environment enabling experts and non-experts alike to rapidly construct and deploy their analytics applications with no programming effort.
- Interactive workflow authoring tools enable informaticians, scientists, and business analysts to design, implement and execute tailored integrated analytical applications.
- Interactive visualization technology provides a wide variety of interactive visualization tools (including third party visualization tools) for data exploration and analysis.
- Web portal access and execution of analytical workflows

REPORTING AND ANALYTICS

LABVANTAGE BROCHURES — REPORTING & ANALYTICS

When combined with LABVANTAGE, the solutions leverage the flexible, workflow-driven enterprise information management of LABVANTAGE and the flexible, workflow-driven enterprise data integration and interactive analytics of InforSense. The unified solutions leverage the modularity of both platforms to effectively aggregate, mine, and analyze data stored in LABVANTAGE coupled with data stored in other heterogeneous scientific and operational data sources, including in-house and proprietary life sciences R&D and clinical applications. Together, the platforms deliver a powerful and versatile laboratory informatics solution spanning discovery, development and manufacturing.

SUMMARY

Reporting and analytics plays a vital role in knowledge sharing and informed critical decision-making. LABVANTAGE recognizes that different organizations will have varying requirements for the depth and extent of data accessibility, reporting and analytics. By embedding and integrating multiple leading reporting and analytics applications, LABVANTAGE offers the most versatile and advanced tools required to streamline laboratory management processes and facilitate greater knowledge sharing across your organization and partner network. From the core reporting and analytics functionality, to more intricate, enterprise reporting and analytics capabilities, LABVANTAGE provides the best combination functionality, flexibility, and technology to drive efficiency and knowledge sharing in today's laboratories.

LABVANTAGE OVERVIEW

LABVANTAGE REPORTING & ANALYTICS

LABVANTAGE Solutions, Inc. is an innovative global provider of enterprise solutions tailored for leading laboratories. We serve numerous laboratories focused on:

- Research & Discovery
- Development (including Life Sciences Pre-clinical & Clinical Development)
- Formulation & Process Research
- Raw Material Testing
- Quality Management

Our global customer base encompasses companies across multiple industries including:

- Pharmaceutical & Biosciences
- Health & Personal Care
- Food & Beverage
- Process Chemicals
- Petrochemicals
- Parts, Hardware & Equipment
- Law Enforcement & National Security
- Contract Services

LABVANTAGE is a thin-client Laboratory Information Management Solution (LIMS) tailored to manage an organization's critical laboratory information across its worldwide R&D pipeline and manufacturing supply chain in order to optimize productivity and more effectively share knowledge.

Headquartered in Somerset, New Jersey, United States, LABVANTAGE also has offices in High Wycombe, United Kingdom and Kolkata, India, and utilizes a strategic network of global business partners to provide regional sales and customer support.

LABVANTAGE is a privately held affiliate of The Chatterjee Management Group Company, a $1.5 billion private investment group that invests globally in infrastructure, communications and information technology companies.

LABVANTAGE Brochure

www.labvantage.com