



ABBOTT INFORMATICS

**STARLIMS**

**CLINICAL AND HEALTHCARE  
FEATURE / FUNCTION  
SUMMARY DOCUMENT**

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# ABSTRACT

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A reference guide and descriptive summary of the features and functions of STARLIMS' Clinical and Healthcare Solution organized by Lifecycle, Workflow or Module.

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# MAIN MENU

## DATA REPOSITORIES

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Material Types</b>	The Material Types table allows you to create groups to associate similar materials in Material Manager, located under Materials Management. The material type can then be used as a filter to facilitate material selection.
<b>Organization Categories</b>	When entering organization contact information during login, the organization category is used as a filter that facilitates finding the correct submitting organization. You may want to group organizations such as hospitals, businesses, ward, and so on.
<b>Test Capacity Definitions</b>	A process is in place to handle the contingency when your laboratories are operating at maximum capacity. This section provides information about configuring laboratories' capacities for performing tests. Use the Test Capacity Definitions table to supply the number of tests that can be carried out by a laboratory before it reaches its full capacity.
<b>Equipment Types</b>	The Equipment Types table allows you to categorize instruments. For example, HPLC instruments from different manufacturers can be grouped within the HPLC equipment type. When you select an equipment type in the test and method, the options are filtered so that it displays only the equipment of that type available for the team.
<b>QC Types</b>	Quality Control (QC) samples in a laboratory are required to check for accuracy of instruments, the testing process, and the results provided to the customer (for traceability and dependability of results). The QC Types module lists the types of controls used by the organization's laboratories.
<b>Service Group Types</b>	The Service Group Types table is used to identify the service groups, or subgroups of analysts, who test samples within a particular laboratory site. There can be more than one service group at a site. Service groups, and their members, are available for selection when you define a site at path Resources > Sites.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Suppliers</b>	The Suppliers application contains detailed information about vendors who provide commodities used by a facility. Use this application to manage information about suppliers. It allows you to define supplier location and contact information.
<b>Test Plan Groups</b>	Test plans are grouped according to type of testing, such as water or soil. Use the Test Plan Groups table to create categories in which you can later organize the test plans in Test Plan Manager.
<b>Result Qualifiers</b>	Result Qualifiers are used to describe results in printed reports. They can provide more details. For example, a result qualifier value of P may be defined as Pesticide detected. After release, if pesticide was detected, the report may display the value P along with the corresponding text.
<b>Sublocation Types</b>	Sublocation types include shelves, racks, rows, or any arrangement in which you can store containers of samples or materials. They are found in freezers, cabinets, and other similar types of areas organized for storage.
<b>Location Types Hierarchy</b>	Location types include freezers, cabinets, and other similar types of storage areas. Because Location Types typically include sublocations, such as shelves, in the layouts, it is useful to first configure the sublocations to be included.
<b>Units Management</b>	Units Management is used to identify the units of measure used by laboratories. The interface allows users to specify Measure Types, such as mass, Units of Measure, such as kilograms, and a Conversion Map, such as kilograms to ounces. When ordering materials and configuring quality controls, you select from this list.
<b>Conditions</b>	Conditions are used in storing inventory or samples and can include temperature, humidity, luminosity and other environmental parameters. Temperature is the most commonly used parameter in STARLIMS.

## DATA REPOSITORIES

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FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Plate Configurations</b>	This application is used to create plate groups and plate templates to be used for testing samples in plate wells. For more configuration information, see Plate Configurations in the Multiwell Plate Testing chapter.
<b>Transport Temperatures</b>	When shipping outsourced samples according to test, the shipment temperature must be considered. Use this application table to make temperatures available for selection in the Test Manager > Transport Temperature tab.
<b>Hierarchical Structures</b>	Hierarchical Structures is a generic application which allows you to implement any hierarchical static table. For example, use it to build Tissues, Diseases, Species, and Strains, or any other nomenclature with hierarchical structure. Like most of the Data Repository tables, the hierarchical tree can have a name and a code for each element.
<b>Countries / States</b>	Use this repository to make lists of countries and/or states available for selection in other applications.
<b>Lookups</b>	You can use Lookups to provide lists of values that can be made available for selection using dropdown boxes within LIMS applications.
<b>Rejection and Warning Codes</b>	Use this table to configure three categories of messages: Rejection, Warning, or Accept. The last is used to accept a sample back for processing after it's been rejected. When personnel find problems with the sample during the login process, they can click a link such as Reject/Warning in an application such as Clinical Sample Login to reject the sample, cancel the accessioning and document the reason for the rejection.
<b>Shipping Carriers</b>	Use Shipping Carriers to setup a carrier to be used for shipments by laboratories. Carriers will be used when outgoing shipments are created. Refer to the Shipping section of the Inventory – Work Orders Shipments chapter.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Regions and Facilities</b>	<p>Clinical trials are done at facilities located in various areas. Use this window to configure the default hierarchy of sites in each region and sub region, that is, country, state, and so on, where clinical trials can be performed. In the clinical trial manager, you can define any deviations from this default that are specific to a trial.</p>
<b>Commercial Drugs Substances</b>	<p>Configure a list of commercial drugs and indicate which substances are contained in each. This selection list is available in other application windows such as the Medications tab when you process a clinical sample. Medications can then be considered when assigning tests.</p>
<b>Job Descriptions</b>	<p>The Job Descriptions table is used to define job descriptions to assign to users. A job description can be assigned to a user through the Users application.</p>
<b>Logical Observation Identifier Names and Codes (LOINC)</b>	<p>Logical Observation Identifier Names and Codes (LOINC) provides a set of universal names and ID codes for identifying laboratory results. The LOINC Codes application is used to maintain the library of LOINC codes that will be available for use within STARLIMS.</p>
<b>Systemized Nomenclature of Medicine (SNOMED) Codes</b>	<p>SNOMED is the Systemized Nomenclature of Medicine standard for clinical terms, particularly organism names.</p>

## TEST/METHOD MANAGEMENT

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Method Manager</b>	The Method Manager lists predefined methods, such as Standard Operating Procedures (SOP) or American Society for Testing and Materials (ASTM) methods. You select from available methods when configuring a test. Methods are associated with analytes within either Test Manager and/or Test Plan Manager. Both applications can be opened from within the Static Tables branch of the console.
<b>Spec Schemas</b>	The Spec Schema application is used to create spec schemas and schema groups. Spec schemas can be used to apply calculations, validations, or define results of tests. For example, use a spec schema to perform a calculation on several measurements and then validate that the final result is within a specified range.
<b>Test Manager</b>	You analyze samples using tests. Test Manager identifies the tests that can be performed by your laboratory. Test configuration includes analytes used, spec schema used on results entered for each analyte, methods (such as SOPs) used in analysis, the equipment used for preparing samples and measuring results, the specifications (limits) to which results are compared, reagents that are used when a test is performed, and other test parameters.
<b>Test Plan Manager</b>	You can use test plans to organize tests according to certain characteristics, such as similar specification sets. During some login processes, a test plan is required so that particular specifications and other information such as repetitions can be provided, insuring that processing runs smoothly.
<b>Micro Components</b>	Micro components are used for microbiological tests.
<b>Service Manager</b>	Services processing can be adapted to handle actions performed on BioRepository inventory samples. Some screen shots in this section display services used with this wider application.
<b>Plate Workflow Manager</b>	This application allows you to configure a plate workflow in which a well plate of samples is processed. A clinical plate workflow can contain one to many steps. Typically, a workflow at least includes basic steps such as preparation, result entry, and finish. Each step can contain one to many actions that are available through-out the life cycle process.

FEATURE / FUNCTIONALITY	DESCRIPTION
<p><b>Question Forms</b></p>	<p>A question form can be used to get answers to specific questions when a patient specimen is logged. Use this application window to configure a form containing questions relevant to screening for a condition. For example, forms can include questions related to height and weight, recent blood transfusions, and so on.</p>
<p><b>Test Panels</b></p>	<p>Test Panels is an application for defining a test or a collection of tests that can be added to a testing panel which is ordered during the clinical login process in the clinical laboratory setting.</p>
<p><b>International Classification of Diseases (ICD) Code Lookup</b></p>	<p>Use the ICD Code Lookup application to maintain versions and codes from the International statistical Classification of Diseases and related health problems. For more information, refer to the Center for Disease Control and Prevention’s website at <a href="http://www.cdc.gov/nchs/icd.htm">http://www.cdc.gov/nchs/icd.htm</a>.</p>
<p><b>Batch Template Setup</b></p>	<p>The Batch Template Setup module allows you to add tests to a template, associate equipment and a service group, and configure a workflow of steps for processing a batch of samples. Then, when samples are logged to be batch processed using those tests, personnel can use the Result Entry by Batch application to assign the samples to a batch and enter test results. See Batch Template Setup in the Batch Testing Life Cycle.</p>
<p><b>Current Procedural Terminology (CPT) Codes/ Medical Necessity</b></p>	<p>CPT (Current Procedural Terminology) codes are assigned to tasks and services provided by a medical practitioner, and used by insurers to determine the amount to be reimbursed.</p>
<p><b>Login Rules</b></p>	<p>Login Rules application allows business rules related to clinical test requests to be defined. The rules can include criteria such as patient demographics and the tests that are being ordered. The application allows you to create alerts and reports when a certain rule is met during clinical sample login. For example, you may define an alert to be displayed when patient age is below 2 years.</p>
<p><b>Rule Manager</b></p>	<p>This application window allows you to create rules which, when their conditions are met, correspond to actions to be performed by the LIMS. Rules are applied when conditions, if configured, are met at the Rule Category Mapping level, the Rule Mapping level, and any conditions configured within the rule itself as shown in the Diagram pane.</p>

## CLINICAL TRIAL

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FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Trial Manager</b>	The Trial Manager module allows you to create and define clinical trials, also known as protocols or studies. This module allows you to configure a trial to define a visit schedule for the subject participants as well as assist in building collection kits. You can include details such as contacts and associate documents. The module is in the Clinical Trial sub menu within the STARLIMS dashboard Main Menu.
<b>Discrepancy Types</b>	If information required by the trial is missing or is otherwise contradictory to the trial configuration it is a discrepancy. A discrepancy, such as missing a birthdate, can be critical in determining what specifications should be used for comparison to test results. Or, if a dose must be administered in a specific timeframe and a subject shows up early or late it can invalidate some results.

FEATURE / FUNCTIONALITY	DESCRIPTION
<p><b>Materials Manager</b></p>	<p>The Materials Manager application displays materials by Material Type. The window includes, among other things, information that helps you define materials and their proper handling instructions. Some applications, such as alerts, open the Materials Manager application window and populate it according to the view for which it was opened. For example, the Expiring Recipes alert opens the Materials Manager window at the Recipes tab and displays only materials that have a recipe that is expiring.</p>
<p><b>Storage Location Manager</b></p>	<p>Storage Location Manager is used to define the storage hierarchy and properties of the storage farm. Use the Storage Location Manager to configure the storage locations according to the actual appearance of the storage areas, such as freezers, within rooms. If the storage configurations, such as the rows, shelving, or other elements that you want to use in Storage Location Manager are not configured, refer to the sections about Managing Sub-locations, Managing Location Types, and Conditions, to configure the storage areas.</p>
<p><b>Standard Pre-Analytical Code (SPREC) Manager</b></p>	<p>Standard PRE-Analytical Code (SPREC) is composed of smaller codes of letters and numbers separated by dashes. Each of these smaller codes represents a characteristic of the sample. The characteristics are also called Types in the application window. Each position in a SPREC represents a specific Type and the order of the Types depends on state. For each Type, you define a list of values for an analyst to choose from.</p>
<p><b>Standard Pre-Analytical Code (SPREC) Types</b></p>	<p>Standard PRE-Analytical Code (SPREC) is composed of smaller codes of letters and numbers separated by dashes. Each of these smaller codes represents a characteristic of the sample. The characteristics are also called Types in the application window. Each position in a SPREC represents a specific Type and the order of the Types depends on state. For each Type, you define a list of values for an analyst to choose from.</p>
<p><b>Container Conditions</b></p>	<p>Use Container Conditions to define the types of containers and storage conditions used for samples. Some tests can also require certain container types and storage. When you configure a test in Test Manager, the Collection Containers tab uses this list for container selection.</p>

## RESOURCES

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Sites</b>	<p>A Site is an organizational unit and physical location combination. A site is comprised of one or more Service Groups and each service group has a group of Members (analysts) associated with it. A member can belong to multiple labs. Sites application allows the user to create and define lab information and include Service Groups and Members. This is the main interface where STARLIMS administrators assign analysts to Service Groups (or teams) and Service Groups to Sites (or laboratories). Sites provides a simple method to view information about the organizational structure of existing lab sites.</p>
<b>Quality Control (QC) Manager</b>	<p>QC Manager centralizes management and association of QC (quality control) materials with instruments on which they are tested. QC materials are tested according to combined factors, such as the service group doing testing and equipment used, so QC materials are listed according to the factors involved.</p>
<b>Equipment Manager</b>	<p>Use Equipment Manager to access and manage information about equipment used in each lab. The Equipment Manager window can be used to configure equipment that is used by a laboratory to perform analyses. Many laboratory tests are performed using equipment, such as for counting blood cells. You can use this application to track maintenance and calibration dates, list the reports that can be generated about equipment usage, configure actions that should be performed when equipment is used, and format output files.</p>
<b>Equipment Settings</b>	<p>Many laboratory tests are performed using equipment. Configure connection-related settings to support connecting the LIMS to equipment. When you set up interface settings in either Equipment Manager or System Interface Manager, this application table is the selection list.</p>
<b>Connection Interface Manager</b>	<p>Equipment that produce documents are typically integrated with the Scientific Document Management System (SDMS). To use this feature, SDMS must be enabled. To verify that SDMS is enabled, open Settings &gt; General &gt; Enterprise Settings and locate SDMS &gt; SDMSINTALLED.Value must equal Y.</p>
<b>System Interface Manager</b>	<p>STARLIMS can communicate with equipment or a Laboratory Information System (LIS) if a platform that supports instrument integration is added to the base system. Communications protocols are used based on the selected equipment or system. Add or configure interface settings to contain communication details.</p>

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Courses</b>	The Courses application provides tools to create and manage analysts' training and certifications.
<b>Course Schedule</b>	Some laboratories, especially in regulated industries, require that analysts carrying out tests be certified (or validated) to perform the test methods used in the lab. Using the Course Schedule application, training courses can be scheduled, participants selected and invited, and certifications are granted.
<b>Analysts-Certifications</b>	When you assign tests to samples, they are routed according to test library to the appropriate laboratory service group. If your facility requires that the tests be performed in a certified lab or by a certified analyst, you can check on certifications when assigning samples to labs and analysts. You can use contact information to reach and advise analysts who are coming up for re certification.

# ORGANIZATIONS/PROJECTS

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Turnaround Times</b>	Turnaround time (TAT) is the number of working days from the day that the analysis of the samples can begin to the day that results are reported to the submitter. Use this module to add a premium for accelerated testing or offer a discount for longer turnaround times.
<b>Price Lists</b>	STARLIMS provides tools to create, modify, copy, approve, print, and retire price lists. Each pricelist can include prices for both individual tests and profiles, which are groups of individual tests. These tools are found in the Organizations/Projects console sub-branches.
<b>Organization Lists</b>	The Organization Lists (Organizations/Projects > Organization Lists) application manages information about all the organizations that receive services from or provide services to a laboratory. These could be organizations that submit samples for testing or provide services for the lab.
<b>Project Manager</b>	The Project Manager application contains data about specific projects associated with organizations. The information includes terms, organization contacts, results, and invoice information.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Users</b>	In LIMS, users are an electronic representation of the physical user, stored as a record within the Users table. These records are subsequently used to validate whether or not a user has access to the many screens, menus, and functions within STARLIMS.
<b>Concurrent Users</b>	Use the Concurrent Users application to monitor the STARLIMS users currently logged onto the system, the date and time their sessions were opened, and expiration dates for the sessions. You can open this application at Utilities > Concurrent Users.
<b>Roles</b>	Role management provides the administrator with tools to add, delete and customize roles. A role is composed by a set of rights. The system changes appearance based on roles. Functionality is restricted or increased. For example, one lab analyst can be given a role for logging and/or reviewing information prior to performing tests. Another analyst can be given a role to see pending reminders, perform the tests, and enter results. Both analysts see a different set of applications available from the Dashboard.
<b>SDMS Admin</b>	The SDMS Admin window which allows you to define routing, file types, file recognition methods, parsing methods, translations, unified XML templates, MS Office templates, and workflows of steps for processing a file using the templates and methods as appropriate to particular business requirements. The administration window is available from the path Utilities >SDMS Admin.
<b>Word Reports</b>	Word Reports allows you to create and attach a report to the selected specimen. Patient information that has already been entered for the specimen is retrieved and inserted into the report. Additionally, you can type your own text into a Word Report editor that will replace variables in the Microsoft Word document.
<b>Tag Manager</b>	Tags are configured using the Tag Manager and then inserted in a Word Report template. Tags correspond to database table fields containing specimen-related information. Information that is already entered into the LIMS database table fields can then be transferred to a report using these tags.

## UTILITIES

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Metadata Templates</b>	<p>Metadata tabs appear for expanded information in STARLIMS applications. Metadata templates allow flexibility in providing data entry fields according to the attributes of the item. For example, different materials stored in the biorepository may require different information. Other areas where metadata templates may be used are clinical login, for flexibility in specimen information, and patient manager, for additional patient-related information. Frequently you will see Metadata tabs in windows such as these.</p>
<b>Settings</b>	<p>The Settings interface is used by system administrators. Settings provides system information specific to viewing and modifying the business rules used in the various workflow processes.</p>
<b>Query by Example (QBE) Manager</b>	<p>Personnel can use a query to list values from STARLIMS database tables according to conditions such as all positive Hepatitis A results from the endocrinology lab. Queries can be made available to list database table values in the system.</p>
<b>General Workflow Manager</b>	<p>STARLIMS allows you to set up a workflow of multiple steps for use with task flows used in STARLIMS applications, such as Clinical Trials. Different users with different responsibilities can handle the different steps of a workflow. This can help insure that work is properly monitored and reviewed before results are approved. Assign different people to perform different steps to secure access to change sensitive information, provide for verification by different personnel, and ensure compliance with procedures or regulations.</p>
<b>Designer Roles</b>	<p>The Designer Roles application allows you to control software developers' access to categories of applications, scripts, data sources, images and reports. Administrators can give developers access rights to applications they are working on without exposing other areas of STARLIMS. Designer Roles allows you to add, delete, and customize access for new designer roles.</p>
<b>Audit Trail Viewer Configuration</b>	<p>To view and configure the database tables and fields to be audited and for which the audit records are displayed in Audit Trail, use Utilities &gt; Audit Trail Viewer Configuration. The fields listed in the Display Fields pane are displayed when the user clicks View History from within an audited application.</p>

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Email Manager</b>	The system can automatically send emails to alert particular users when events occur that may be of interest to them, such as the release of a final report. If an email does not go out as expected, it is queued in the Email Manager window where a system administrator can determine if there is an email problem and address the problem accordingly.
<b>Audit Trail Navigation Configuration</b>	Typically, the standard navigation tree view for auditing fits the needs of most sites. A power user who knows the STARLIMS database tables and other structures can configure navigation between audited tables to have more granularity.
<b>Inventory Settings</b>	In the LIMS, users can see only the tasks that they are allowed to perform. You can use Inventory Settings to configure users' ability to perform tasks affecting inventory. When you designate users to perform tasks according to role and system/application type, you can fit typical inventory tasks to the typical jobs that users perform, providing better efficiency and control.
<b>Communication Log</b>	Communication logs can be used by personnel to monitor efforts to contact the appropriate people regarding a patient or a specimen and provide/view any resulting exchange of information. This tab lists communication logs according to specific levels, that is, the focus of the communication such as a patient, specimen, or test. Select each level using the search feature.
<b>Log Manager</b>	Typically, this tool is used by administrators to log errors from applications, although they can also log errors manually. It is useful for those who fix the applications.
<b>Comments Management</b>	Comments Management allows the user to create "canned" comments and group them by categories. These predefined comments can be used later in several applications when the user adds comments to a record. The comments should include text that is frequently used by the user. View "canned" comments at Utilities > Comments Management.

## UTILITIES

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FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Application Settings</b>	Applications such as Double-Blind Data Entry (DBDE), Sample Login, Patient Manager, Comments Management, Equipment Manager, and Test Manager can be configured to work according to which Code segment is enabled for the related application.
<b>Email Group Manager</b>	You can group email addresses for the purpose of sending emails to a particular department or personnel who have a similar function. For example, an email group can be associated with an organization project. See Terms in Organization and Project Information > Project Manager.
<b>Hematology Plots Settings</b>	Use this application window to add users who should see hematology plots in the Order/Result Review application window. Customize the way they can view these plots. Typically, users expected to need this feature are added when the system is initially set up. However, new personnel can be added anytime.
<b>Device Manager</b>	Using the Device Manager module, personnel can define and manage devices used within their lab. These devices can include printers and faxes and can be used to distribute final reports to an organization's contacts.

FEATURE / FUNCTIONALITY	DESCRIPTION
<p><b>Data Export/Import (DEI) Database Structure</b></p>	<p>This application provides tools to synchronize the DEI structure with the structure stored in the DICTIONARY. Also business relations between tables can be created using this application. Configuring a DEI database structure is the starting point, next you can configure Job Templates, and then you can export them.</p>
<p><b>Data Export/Import (DEI) Job Templates</b></p>	<p>In this application, define templates to export data, select tables, and attach scripts that will run before and after importing the data.</p>
<p><b>Data Export/Import (DEI) Export</b></p>	<p>Use the DEI Export wizard to create an .sdp package that can be used to load the configured records into another LIMS system. It uses QBE templates created using QBE Manager that meet the following conditions.</p>
<p><b>Data Export/Import (DEI) Import</b></p>	<p>To import records, open DEI &gt; DEI Import or click Import from any application that contains the Import / Export links. Use the wizard to import an existing .sdp package into the LIMS system. Click Next to move between windows of the wizard. When the import is completed, the imported data is available.</p>

# LIFECYCLE OPTIONS

## CLINICAL ACCESSIONING

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Patient Manager</b>	Specimens come from patients. You must configure required patient information prior to logging a sample. Information such as the patient name, gender, and so on, must be available in the system to process associated specimens. Configure this information using Patient Manager.
<b>Clinical Sample Login</b>	To accession clinical samples, use the application window at path Life Cycle Options > Clinical Accessioning > Clinical Sample Login. For information about using the branches in the Clinical Accessioning menu in the Console for the specimen processing life cycle, see the prior section Clinical Sample Life Cycle Flowchart.
<b>Trial Sample Login</b>	If a subject who is part of an existing clinical trial comes in for a scheduled visit, you log the visit using Trial Sample Login. In this application window, you select an existing trial, indicate the type of visit, and create a record for the subject's visit in the system. Newly created subjects will be added to the system and associated with the selected trial. For existing subjects, the system will find associated records in order to display previous metadata information regarding the subject.
<b>Receive in Lab</b>	Typically a member of a service group acknowledges receipt of patient samples for processing in a lab depending on the setting at Resources > Sites > Service Groups. Then the logged sample is available for receipt using the Receive in Lab application. If your facility works in with the incoming samples, such as blood, using the Biorepository, the Receive in Lab transaction can be used instead.
<b>Order/Result Review</b>	This application, located under Life Cycle Options > Clinical Accessioning, allows you to review orders and results as they are received from instruments. Orders and results can also be entered manually.
<b>Double-Blind Data Entry (DBDE)</b>	Double-Blind Data Entry (DBDE) helps ensure that data is entered correctly because the data must be entered a second time and non-matches must be resolved. DBDE requires an extra step in the processing of samples.
<b>Double-Blind Data Entry (DBDE) Discrepancies</b>	Reconciling discrepancies between 2 sets of results entered By run or By batch can be done through the Reminders > DBDE Discrepancies application. Panels for which discrepancies exist have their DBDE Status set to Discrepancy and this discrepancy must be resolved prior to releasing the panel. For more information on releases, refer to the section After Results are Committed within this chapter.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Pending Data Entry</b>	Display requests for which question forms associated with the panel have mandatory questions configured.
<b>Results Entry By Run</b>	Typical use for this application is automatic results entry using an instrument. The samples are arranged in a run on the instrument. The run, also called a worksheet, is also used to assign analysts to perform tests and to make adjustments.
<b>Results Entry By Batch</b>	Use Results Entry by Batch to enter results for a group of samples in a batch. To start developing a batch of samples, select from defined batch templates that are associated with a set of tests/test panels that is assigned to some logged samples. A batch can include one or more tests using the same equipment and testing method.
<b>Run Release</b>	Releasing results by run is an optional step that is performed if the test is not set to auto-release in test level or test plan level. If a test is set for auto-release, you can skip this step. For a test to be set for auto-release, Auto Approve should be set in Test Manager and/or Test Auto Approve should be set in Test Plan Manager. If it is not set, then a test must go through the approval process using Run Release following results entry. The release must be performed by a different user than the one who performed the results entry.
<b>Batch Release</b>	Releasing a batch is an optional step that is performed if the test is not set to auto-release at the test level or test plan level. If a test is set for auto-release, you skip this step. Release can be performed either by a different user or the same user who performed the results entry, depending on the workflow defined. The Different User field in Workflow Manager (Link) is used to manage whether the same person who entered results can release the batch or a different person must do so.
<b>Double-Blind Data Entry (DBDE) By Run</b>	Other results entry workflows in which DBDE can be used are by a run of samples, typically on the same instrument, by batch processing a group of samples according to a template, or by outsourced test. Create a run, assign samples, and enter results using Results Entry by Run. It is a good practice for a different user to re-enter results using DBDE By Run which works similarly to Results Entry by Run, but it is not enforced.
<b>Double-Blind Data Entry (DBDE) By Batch</b>	Create a batch, assign samples, and enter results twice using Results Entry by Batch and then DBDE By Batch.

## REMINDERS

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Double-Blind Data Entry (DBDE) Discrepancies</b>	Reconciling discrepancies between 2 sets of results entered by run or by batch can be done through the Reminders > DBDE Discrepancies application. Panels for which discrepancies exist have their DBDE Status set to Discrepancy and this discrepancy must be resolved prior to releasing the panel.
<b>Micro Results Entry</b>	This results entry interface reflects the steps that were set up within the Micro Settings window. Some steps are shown dynamically.
<b>Micro Batch Results Entry</b>	To enter results during steps defined as Batch, use the Micro Batch Results Entry reminder. The Samples panel allows you to edit results, change sample status, print worksheet(s) and search for samples by Sample, Run, or Component. Samples are displayed at one step within a test for completion. This application is useful for executing the same step for several samples at one time, such as a Media step.
<b>Micro Run Creation</b>	Some steps, such as a Direct Smear, require quality controls to be added to a run before processing the step and entering results. When the Needs Run check box is marked for a step, the sample appears in the Reminder called Micro Run Creation where the assigned analyst can add the quality control(s).
<b>Micro Preliminary Report Release</b>	You can view reports sent from the Micro Results Entry application when an analyst clicks a Send for Approval link (buttons/links are configurable, see Providing Buttons Used in Results Entry).
<b>Plate Lifecycle Tasks</b>	Samples can be added to a well plate or tube rack, tested, and results entered according to a workflow of steps. You need to create this plate map template, a workflow of steps, and a test to associate these elements with equipment to process the plate. After all elements are in place, samples can be logged, then the plate workflow becomes available for processing using the Plate Lifecycle Tasks application.
<b>Generate Invoices</b>	After the specimen is logged, the test can be reviewed in the Generate Invoices reminder where the To be Invoiced tab is in context.
<b>Invoice Release</b>	When the invoice contains all applicable line items and otherwise appears complete, create the invoice statement for the submitter.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Ship Outsource Samples</b>	<p>A site at your facility may outsource samples to an external lab or to an internal lab. After samples are logged they will appear in the Ship Outsource Samples application window only if the validation specified was met, from here these samples can be outsourced by shipping them to the outsource laboratory configured for the test. Internal outsource labs use the same LIMS as the shipping lab at your facility. External labs do not share this LIMS.</p>
<b>Receive Outsource Samples</b>	<p>Personnel expecting outsourced samples can log on to the internal outsource site where the testing is to be done.</p>
<b>Service Processing</b>	<p>You can define generic steps, such as an extraction step, that can be incorporated into more than one service, such as investigations for different types of cancer. In the Service Processing application, samples at that generic step can be processed using the same form and available actions regardless of service.</p>
<b>Training Invitation</b>	<p>After a training course has been scheduled and an invitation sent, when invitees log on, they see anew Reminder Training Invitation (#).</p>
<b>Pending Recertifications</b>	<p>You can recertify an analyst before certification expires by using the Request Recertification link in the Analysts Certification application.</p>
<b>Certifications for Release</b>	<p>If the Auto Certify field has been cleared in the certifications table, then re certification requires managerial approval before taking effect. After the analyst has completed the re certification, the status in the certification table is Completed (as opposed to Certified), until a manager releases the certification.</p>

## ALERTS

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Activate Pending Users</b>	When a user opens a LIMS as a new user by clicking the link New user? Sign up now, an alert appears under the Life Cycle Options pane. You can open this alert, Activate Pending Users, and give the user Active status.
<b>Instrument Exceptions</b>	This application tracks failures that occurred in communications between the LIMS and equipment sending results for analyte.
<b>Pending Maintenance</b>	You can use this application to track maintenance and calibration dates, list the reports that can be generated about equipment usage, configure actions that should be performed when equipment is used, and format output files. Alert displaying equipment that are due for maintenance.
<b>Pending Recertification</b>	You can recertify an analyst before certification expires by using the Request Recertification link in the Analysts Certification application. Alert displaying users that are due for recertification.
<b>Create / View Alerts</b>	Alerts are used to send messages through the LIMS to other users.
<b>Administrative Alerts</b>	Users that were sent an alert from the Alert Management application will see an Administrative Alert in their Alerts menu.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Inventory</b>	<p>Inventory is the physical placement of a material. The Inventory application allows you to manage the consumption, restocking, testing, relocating, and disposing of materials at your facility. Inventory levels are adjusted as a material is being pulled from or added back into stock. For example, inventory items may be added when a new shipment of a reagent is received. Consumable inventory may be received at the lab or created in-house using materials which are already in inventory. Items may be created by following a recipe or in an ad-hoc manner not governed by a recipe.</p>
<b>Biorepository</b>	<p>Biorepositories and their submitters need lab automation and data management solutions, because of exponential growth in the volume of stored tissue and other biological samples, growing use of molecular methods by medical researchers to characterize the samples, and increasingly stringent regulations. STARLIMS meets these needs by combining sample management tools with the laboratory data management capabilities of an advanced laboratory information management system(LIMS).The biorepository works with inventory records and has some transactions that are similar to the Inventory application window; however, the biorepository also has transactions to accommodate special requirements for handling biological specimens such as managing patient consent, test assignment, reservation, and home locations. Based on configuration in the Inventory Settings application, materials can be identified inclusion in the biorepository.</p>
<b>Inventory Pending Transaction</b>	<p>Personnel can reference the inventory tasks that immediately concern them. For example, if a custodian of a material requests an extension of the expiration date, the supervisor who must approve the extension will see this transaction when opening his or her pending transactions. When another person must perform the next step in a task regarding an inventory item, such as approving an extension of an expiration date, the task (called a transaction) moves to the Inv. Pending Transactions branch for view by the users who have role access to perform that task using the applicable inventory system type and/or related application.</p>
<b>Biorepository Pending Transaction</b>	<p>Personnel can reference the inventory tasks that are pending some action. For example, approve or decline a change in custodian.</p>
<b>Location Management</b>	<p>The application displays inventory based on location. Use it to view, move, dispose and increase freeze/thaw counts on the containers or inventory stored at a selected location.</p>

# INVENTORY MANAGEMENT

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Cycle Counts</b>	Cycle counts are scheduled reconciliations of inventory. Each storage location can be assigned a cycle count frequency, minimum and maximum, where the inventory recorded in STARLIMS is verified against what is actually in the location/storage container.
<b>Work Orders</b>	In order to facilitate shipping of inventory items at your facility, you can create a Work Order. A work order is a collection of inventory items stored in various locations in your facility. Work orders include expected shipping date, expected packaging date, and a destination. Once a work order is created, the user can pack samples into storage containers, create packing lists, and finally ship work orders out to destinations labs.
<b>Packing List</b>	Packing lists can be created in order to aid in packing samples into storage containers. You can create a pack list by defining an empty container and specifying the locations where samples will be packed. The Packing List application will display all Released work orders, see section Configuring Work Orders for more information on how to release a work order. In order to create a pack list you must first set a box type.
<b>Packing</b>	The Packing module is designed to pack ordered inventories for shipping. It can be used to store ordered samples into storage containers. The user has two modes for packing samples into storage containers.
<b>Shipping</b>	The Shipping application allows you to manage shipments and send inventories to a desired destination. Shipped inventories can be packed in boxes and cartons or sent individually. Shipped inventories could make part of an order to be sent without being ordered. In order to ship items, you must provide a destination, carrier, and a way bill number.
<b>Storage Containers Manager</b>	Storage Containers Manager displays BioRepository containers. You can perform Transactions in this window similar to those in the BioRepository application window.

FEATURE / FUNCTIONALITY	DESCRIPTION
<b>Trending</b>	You can create X-bar / R charts to graphically display trends by charting results and other statistics that are logged during tests over time. Samples for which you want to display trends can be grouped according to test plan group (called Product Group in this interface) and test plans within the test plan group (in the Sample Type pane).
<b>Report Query</b>	Use to run a Crystal Report created to list samples with warning or rejection messages. Open Reports and Queries > Report Query, select a report template such as RejWarnOrders, and use the other fields to enter criteria such as date range to define the report that you want.
<b>System Query By Example (QBE)</b>	Allows any QBE template to be used for ad hoc querying of the system. The QBE template defines the tables and fields that can to be queried and the data that can be returned from the query. The QBE Manager enables a user to dynamically add or change query criteria and the data that is returned from the query. Any modification to the template can be “Saved As” another template that can be reused. The Data that is returned from the query can be grouped and sorted using standard STARLIMS grid capabilities. In addition, the data that returned from the query can be exported to Excel.
<b>Delivery Queue</b>	Delivery Queue lists “jobs” to send sample results reports in batches for efficiency. It directs any pending report to contacts associated with the sample for whom an automated delivery method has been set up. You can associate contacts and delivery methods when a sample is logged.

# informatics.abbott

## **ABBOTT INFORMATICS**

Tel: +1 954 964 8663  
4000 Hollywood Blvd, Suite 333 South,  
Hollywood, FL 33021-6755 USA

## **UNITED KINGDOM**

Tel: +44 161 711 0340

## **JAPAN**

Tel: +81 3 4555 1000

## **NETHERLANDS**

Tel: +31 72 511 8100

## **FRANCE**

Tel: +33 1 61 37 02 00

## **AUSTRALIA**

Tel: +61 3 9670 0678

## **LATIN AMERICA**

Tel: +1 954 964 8663

## **GERMANY**

Tel: +49 2302 915 245

## **SPAIN**

Tel: +34 91 663 67 64

## **ASIA PACIFIC**

Tel: +852 2793 0699

## **CANADA**

Tel: +1 888 455 5467