



## for Laboratories and Diagnostic Centres

### *LABWARE - LIS*

Labware-LIS is a comprehensive Laboratories Information System, designed and developed with the assistance of professionals from the Diagnostic Laboratories, healthcare facilities and IT industry. Labware-LIS caters to the need of all operational, diagnostic and administrative functions in a Laboratory. All operations are integrated with one another to provide a comprehensive Labware- LIS. Labware-LIS is a real-time and interactive system, which improves the performance of the Laboratory with online reporting.

The LABWARE - LIS package consists of the following options

- Patient Requisition / Investigation prescription Entry and Billing
- Sample login and tracking
- Results capturing manually or automatically, through medical equipment interface
- Investigation Report Generation
- Management Information Reports
- Masters Files maintenance

### *Key Features*

Easy-to-use system with an intuitive Graphical User Interface (GUI)  
Automates all Departments of a Diagnostic laboratory.

Departments covered are:

Biochemistry, Hematology, Clinical Pathology, Histopathology, Microbiology, Serology, Gastroentrology etc.

Streamlines the workflow of a Laboratory.

Sample Status tracking any given point of time.

Maintains one to one relations between patient investigation requests, investigations tests conducted and results generated for a given patient.

Usage of Name, Age, Sex and Referral Doctor from billing module ensures correctness of data throughout.

Results are validated for their boundary values while capturing.

Automatic printing of normal ranges against the results.

Improves patient services.

Prints Alert indicator to indicate results that are outside the normal range.

Edit facility to modify the "text based results" to enhance ease of preparing test reports.

Results are stored for statistical purposes.



Generates billing invoices for chargeable tests / investigations conducted.  
Provides effective cost control measures by monitoring services and consumables used.  
Provides valuable management information consisting of diagnostic center performance statistics and historical analysis.

#### *Labware - LIS - BRIEF DESCRIPTION*

Labware - LIS is designed to automate all the functions of a Laboratory. From the operational point of view, it facilitates recording and reporting of patient diagnostic requests and the investigation results. The departments include:

- Bio-chemistry
- Hematology
- Clinical Pathology
- Serology
- Histo-pathology
- Microbiology
- Gastroenterology etc.

Labware - LIS updates its database with all related information on the basis of a "single point input" principle i.e. once data is captured at any source, it updates all related activities within the system.

Labware-LIS is a GUI based system and can be hosted on SQL and ODBC compliant RDBMS like Oracle, MS SQL in a multi-user environment and also on MS Access for single user environments. Labware-LIS can be configured to suit to the needs of Laboratories in a small Diagnostic Centre or a Corporate Level Hospital.

Labware-LIS design incorporates advanced features and functions that fulfil the demand requirements of diagnostic centres in today's rapidly changing environment. The fundamental concept of Labware - LIS is to integrate state of the art but proven technology into functional design that address laboratory operational requirements. The design and development of the Labware - LIS system has been directed towards meeting the following general areas of technical advancements:

- User/ machine and advanced functionality
- Workflow and process management
- Networking and connectivity both local and wide area environments

Labware-LIS can be installed as a standalone system and can be interfaced to any Hospital Information Management System (HIMS). It can also be integrated to external third party financial packages to capture billing information. Hardware Interfaces can be established with any microprocessor based laboratory equipment for capturing test data directly.

Labware-LIS has a powerful information processing system, provides valuable management information. Extensive reports and statistics cover Daily, Monthly,



Quarterly, Half-yearly and Annual historical information with detailed analysis.

### *Patient Requisition Entry and Billing*

This sub module provides Patient Requisition entry for the investigations to be made followed by preparation of bill for the same. Payment details are also captured in the module for subsequent adjustments.

### *Specimen login and tracking*

Specimen login and tracking helps to update the specimen status at each and every point of time. And at any given point of time it can trace out status of the specimen.

### *Investigations Results Capturing*

In Labware - LIS system the most important module is Investigation Results Capturing. This option allows capturing the investigation results and validates the same. If medical equipment interface module is installed, results are directly populated in Patient Database eliminating the need to enter results manually.

The concerned departments will login into the results capturing screen for entering the results of a patient who is

identified through PRF Number. System displays the relevant investigation details along with pre-defined parameters, if any, of that department against the PRF number of the patient. The system prompts the user to enter the results against each Investigation / Parameter.

### *Investigations Results Approval*

In general, the Investigation Results are entered and generated by Lab Technicians or medical assistants. These Investigation Results are verified and approved by the concerned Doctor/ Department head through an integrated approval system built into Labware - LIS. (Updates approve flag). Only approved Investigation Results are used in generating the final test reports.

### *Investigation Reports Generation*

Investigation results are printed along with the prescribed normal ranges against each of the individual test result. These are parameterized for Male and Female based on age groups for each investigation as applicable.

Several user friendly features are available such as :

Entry of default result, Predefined comments, Predefined Investigation method, Predefined sample type, Facility to print all / selected investigations, facility to reorder page number for a particular / set of results, facility to select one / multiple profiles



and/or investigations for inclusion / exclusion of a result, On line follow-up Cards and many others.

System generates various formats of result report depending on the nature of the investigations and test procedures.

### *Master Files Maintenance*

Following masters are maintained in the system:

- Investigation Master
- Profile Master
- Package Master
- Boundaries Master
- Normal Ranges Master
- Characters Strings Master
- Standard report Template Master
- Organization Master
- Historical trend analysis report

### *MIS Reports*

Labware - LIS provides power full MIS reports, to help the management to take day-to-day decisions, plan for longterm plans, feature expansions and budgeting system etc. Labware - LIS also generates other MIS reports such as:

- Daily Cash Collection Register (Payment Mode Wise)
- Daily Revenue Generated Vs Collection
- Daily Patient Outstanding Statement
- Patient wise Investigation details register.
- Free & Discount Service Statement.
- Departments Revenue Summary for a given period.
- Test Wise Analysis of Results
- Outstanding Statement for a Sponsored Company
- Sponsored Company Billing.

### *Integration & Interfaces*

Labware - LIS can be integrated to other HIMS with ease. Integration enables flow of investigation request flowing from the Hospital System into LABWARE - LIS followed by the processed test results from LABWARE - LIS Package back into HIMS.

Optionally for Microprocessor based diagnostic test equipment, Labware - LIS can be integrated and interfaced to capture the test result directly through RS232 port. Labware - LIS captures the results received from the Diagnostic test Equipment and processes results in the normal way before they are sent directly to HIMS or printed in the Diagnostic lab.



**Benefits**

The benefits from the implementation of the Labware-LIS package may be enumerated as:

- Provides valuable management information consisting of diagnostic center Performance statistics and historical analysis
- Sample status tracking any given point of time
- Easy-to-use system with an intuitive GUI
- Generates environment invoices only for chargeable tests/ investigations conducted.
- Usage of name, age, sex and referral doctor from billing module ensures correctness of data throughout.
- Results are stored for statistical purposes and Edit facility to modify the text based results to enhance ease of use. It prints alert indicator to indicate results that are outside the normal range.

Labware - LIS is HL 7 compliant thereby providing standards for the exchange, management and integration of data that supports clinical patient care and the management, delivery and evaluation of healthcare services. Labware – LIS covers the complete 'life cycle' of a standards specification to integrate with other HL7 compliant healthcare environments like Hospitals, Clinics etc.

eServices@Symphony Pvt. Ltd., India 1st floor, "Saranya", Nagarjuna Hills Panjagutta, Hyderabad - 500082, INDIA Tel: + 91 - 40 - 55626187 / 55616188	Symphony Global Technologies plc, UK # 6, Oakley Street Chelsea London - SW3 5NN UK
F-501, 5th Floor, Remi Bizcourt, Plot # 9, Shah Industrial Estate, Andheri (W), Mumbai - 400058, INDIA Tel: + 91 - 22 - 26735711 / 55020025	Symphony Africa (System Integration Ltd.) Symphony Place, Waiyaki Way Westlands, P.O.Box 14201 Nairobi, KENYA

*Licenses and Trademarks: Product names mentioned in this brochure are used for identification purposes only and may be trademarks of their respective owners. Registered and unregistered trademarks used herein are the exclusive properties of their owners.*