

# Flexible and Fully Functional LIMS, Integrated into the L7|ESP™ Unified Platform with Workflow Orchestration



## CURRENT CHALLENGES

Advances in equipment capabilities such as high-throughput and high frequency measurement technologies combined with innovative, new technological advancements and complex drug modalities have drastically changed the scale and complexity of laboratory experiments and study protocols. The paper and Excel paradigms are incompatible with the current reality of modern research and clinical laboratories. They simply cannot scale to keep up with today's business and scientific demands, make it almost impossible to structure data for downstream process analysis, do not connect the broader lab environment, complicate collaborations, and make historical data retrieval problematic. The result is increased technical debt as the entire process lacks a clear view of the bigger picture.

## KEY BENEFITS

L7 LIMS provides an effective and clear solution to address these challenges by streamlining laboratory operations, the result of which is a highly efficient and accurate process at reduced cost.

- Track and manage samples from collection to disposal, including location, storage condition, testing history, which results in reduced sample mix-ups and increased traceability.
- Make data, results, protocols, and documentation available to the entire organization and collaborators via a centralized data repository that organizes all information and improves transparency.
- Automate and optimize workflows and tasks, which results in higher efficiency and fewer manual errors.
- Manage and optimize all your lab resources (e.g., consumables, equipment, and personnel), which results in better resource allocation and prevents shortages.
- Maintain data integrity with role-based user access controls, audit trails, and electronic signatures.

Worksheet	Workflow	Version	Owner	Samples	State	Started
AST 112723WF	AST blood level measurement	11/20/2023	system admin	4	loading	11/27/2023 02:09 pm PST
AST test 112123D	AST blood level measurement	11/20/2023	system admin	4	loading	11/27/2023 02:04 pm PST
Hemoglobin testing 400	Hemoglobin testing	11/20/2023	system admin	1	loading	11/21/2023 02:26 pm PST
AST test 112123	AST blood level measurement	11/20/2023	system admin	5	loading	11/21/2023 02:25 pm PST
Mutation Generator 112023	Mutation Generator	11/20/2023	system admin	9	loading	11/20/2023 10:49 am PST
c-Myb inhibitor screen 111823	C-Myb Inhibitor screening	11/20/2023	system admin	6	loading	11/20/2023 10:48 am PST
Hemoglobin testing 100423	Hemoglobin testing	10/04/2023	system admin	40	running	11/20/2023 10:39 am PST
AST blood level screening 110123	AST blood level measurement	11/20/2023	system admin	10	done	11/20/2023 10:29 am PST
Hemoglobin testing 112023	Hemoglobin testing	11/20/2023	Thomas B.	6	loading	11/20/2023 10:03 am PST

## KEY CHARACTERISTICS

- Enforces standard operating procedures (SOPs) and regulatory guidelines.
- Dynamically and automatically links entries to L7|ESP data sources.
- Is a flexible, secure, and collaborative digital and process-oriented solution.
- Generates customizable, white-label reports summarizing experimental outcomes, trends, and performance metrics.

## L7 LIMS IS PART OF THE L7|ESP UNIFIED PLATFORM

L7 LIMS is part of the L7|ESP Unified Platform with Workflow Orchestration and Data Contextualization where samples are recorded, experiments are executed, inventory is tracked, and where protocols and workflows reside in the same database as Notebooks, inventory data, scheduling tools, and a myriad of other applications. The system uses existing workflow chain configurations to automate task orchestration and therefore provides a holistic approach to lab process management.

## L7 LIMS OUTPERFORMS TRADITIONAL LIMS SYSTEMS

	L7 LIMS	Traditional LIMS Providers
<b>Life Sciences Standardization</b>	<b>Standard Life Sciences Recipe</b> – Bimodal solution enables rapid reusability, simplified interoperability, and exchange across multiple environments/systems.	<b>System-specific Recipes</b> – Solution-specific, hard-coded recipe files limit reusability, interoperability, and exchange across environments/systems.
<b>Digitalization</b>	<b>DigitalFirst™ Implementation</b> – Low-code/no-code environment to build, configure, and execute complex scientific lab processes.	<b>Digitization and Electronic Solutions</b> - Paper-under-glass solutions require creation of documents prior to digitization resulting in unstructured data and limited reusability.
<b>Seamless Workflow Integration</b>	<b>Workflow Integration</b> – Scientist and engineer self-service authoring tool to quickly revise complex, laboratory processes without the reliance of IT/OT support.	<b>Traditional IT/OT Support Model</b> – Customization requires technical resources for change management, process definition updates, and development which results in delayed time to production.
<b>Platform versus Point Solutions</b>	<b>Digitalization Platform Enabled</b> – Seamless integration with a myriad of Apps (e.g., Protocols, Notebooks, Inventory, Scheduling) providing a holistic approach to lab research plan execution, and data/results reporting.	<b>Point Solution Creates Process Data Silos</b> – LIMS point solutions require complex and rigid integrations with ELNs, sample management, and protocol applications generating data silos across applications and limiting a single-source of truth.
<b>Modernized Database Technology</b>	<b>Consistent, Flexible Database Schema</b> – Seamless ETL processes and minimal change management/re-tooling for reporting and analytics via configuration that includes new entities and protocols registered within existing data tables.	<b>Mixed, Rigid Database Schema Proliferation</b> – Unstructured or rigid relationships and technical debt for ETL, reporting, and analytical processes due to new entities and protocols configured in newly, created database tables.

### L7 LIMS is for:

- **Research scientists and managers across research, therapeutics, diagnostics, and AgBio** – including process development & analytical development.
- **Operational end users** – including lab and R&D technicians, bench researchers, process development engineers and analytical development scientists, lab managers, project/program managers, and GxP expert/quality reviewers.

*“By utilizing the flexible L7 LIMS as part of the L7|ESP Unified Platform, researchers benefit from a seamless integration of structured and unstructured data which is what most experimental paradigms require. Data is organized and accessible, follows FAIR data principles, with LIMS capabilities functioning on the operational side of the process which includes many different apps/modules.”*



L7INFORMATICS.com

1219 W 6th Street  
Austin TX 78703 USA  
+1 888 461 5227  
info@L7informatics.com

L7 Informatics reimagines data intelligence for modern life sciences and healthcare organizations. Beyond simple data management, L7 provides tools that optimize the flow of information between processes and people, unlocking innovation at every stage of the clinical, research, and manufacturing value chains.