

L7 Notebooks Captures Unstructured and Structured Data for Research, Assay, Process, and Analytical Development

CURRENT CHALLENGES

The traditional use of paper-based lab notebooks and spreadsheets present well-established logistical, scientific, and data challenges. Annotating experiments, aggregating results and findings, and diligent updates are laborious, time-consuming, and error-prone tasks. Moreover, advances in equipment capabilities such as high-throughput and high frequency measurement technologies have drastically changed the size and complexity of the data generated by study protocols and experimental paradigms in R&D. The paper and excel paradigms are incompatible with the current reality of modern R&D. They simply can't scale to keep up with today's business and scientific demands and provide no way to structure data for downstream process analysis, do not connect the broader lab, complicate collaborations, and make historical data retrieval problematic.

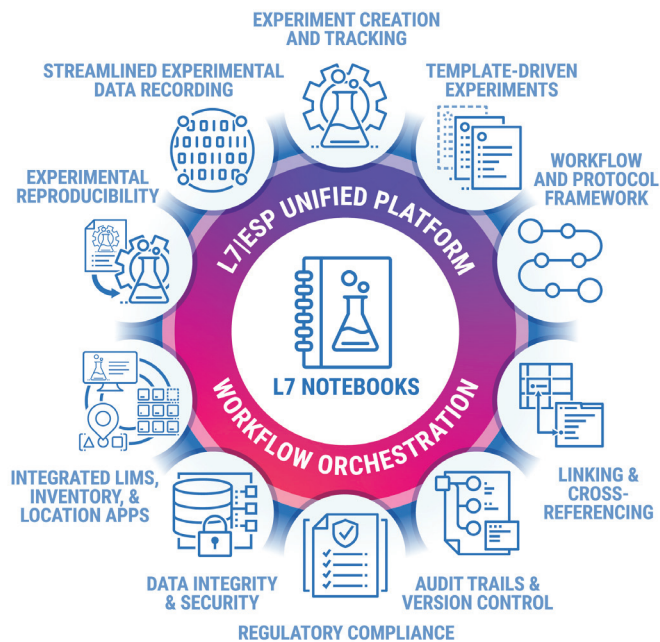
KEY BENEFITS

L7 Notebooks offers a solution to many of the challenges life sciences research organizations face, especially those that need streamlined operations, flexibility, and the ability to quickly react to market changes.

- Move protocols efficiently from research to production resulting in reduced tech transfer and consistent data recording and analysis.
- Generate reusable templates to standardize lab processes for improved productivity and precision.
- Ensure role-based user access and data security to support cross-departmental collaboration.
- Quickly and easily query and report laboratory data to be presented to customers, managers, and other stakeholders.

KEY CHARACTERISTICS

- Supports the creation of notebook templates, libraries, and entries and enables the import and execution of protocols.
- Is a flexible, secure, and collaborative digital and process-oriented solution.
- Dynamically and automatically links entries to L7|ESP data sources.
- Is part of the L7|ESP™ Unified Platform with its Workflow Orchestration system which supports both structured and unstructured data.



Template driven experiments

Extensible widget ensemble

Experiment creation and tracking

Review process complying with FDA regulations

PDF for regulatory compliance

L7 NOTEBOOKS IS PART OF THE L7|ESP™ UNIFIED PLATFORM

L7 Notebooks is part of the L7|ESP Unified Platform where protocols and notebook library data reside in the same database as LIMS, inventory data, scheduling tools, and a myriad of other applications. It uses existing L7|ESP workflow chain configurations to automate task orchestration. For example, a benchtop researcher can document a sample collection in Notebooks which would automatically schedule the analytical procedure in L7 LIMS and subsequently query the result back into Notebooks for interpretation.

L7 NOTEBOOKS OUTPERFORMS TRADITIONAL ELN SYSTEMS

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

L7 Notebooks is for:

- **Research scientists and managers across research, therapeutics, diagnostics, and AgBio** – including process development and 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 L7 Notebooks 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. This ultimately leads to efficient tech transfer from research to production and streamlined research and production operations.”



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.

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