

Business Strategies: Materiality Initiatives Aligned with the Medium-Term Management Plan

Contributing to Industrial Development and a Safe and Secure Society

Supporting research and development (R&D) plays a critical role in achieving industrial development and building a safe and secure society. It contributes to promoting technological innovation, enhancing competitiveness, solving social challenges, and ensuring sustainability.

Against this backdrop, Shimadzu has established a mission to contribute to industrial development and the realization of a safe and secure society. As a milestone toward achieving this mission, we are advancing five business strategies in the Healthcare, Green, Material, and Industry domains, as defined in our medium-term management plan. Below are some of the key initiatives we are undertaking as part of this effort.

LabSolutions Series: Software and AI/IoT Supporting Analytical Laboratory Workflows

Corresponding Business Strategies



Reinforce Key Model Businesses



Strengthen Med-Tech Business



Expand Overseas Businesses & Operations



Reinforce & Expand Recurring Businesses



Develop & Create New / Future Businesses

Guided by the concept of a "Living Laboratory," we support the creation of research environments that eliminate reliance on individuals and allow researchers to focus on more advanced and creative tasks. To this end, we have developed the LabSolutions series, a diverse lineup of software and AI/IoT products that support every stage of analytical laboratory workflows. LabSolutions serves as a software platform that underpins these workflows by enabling automation, remote operation, and streamlined processes, thereby transforming laboratories into more efficient and innovative research environments.

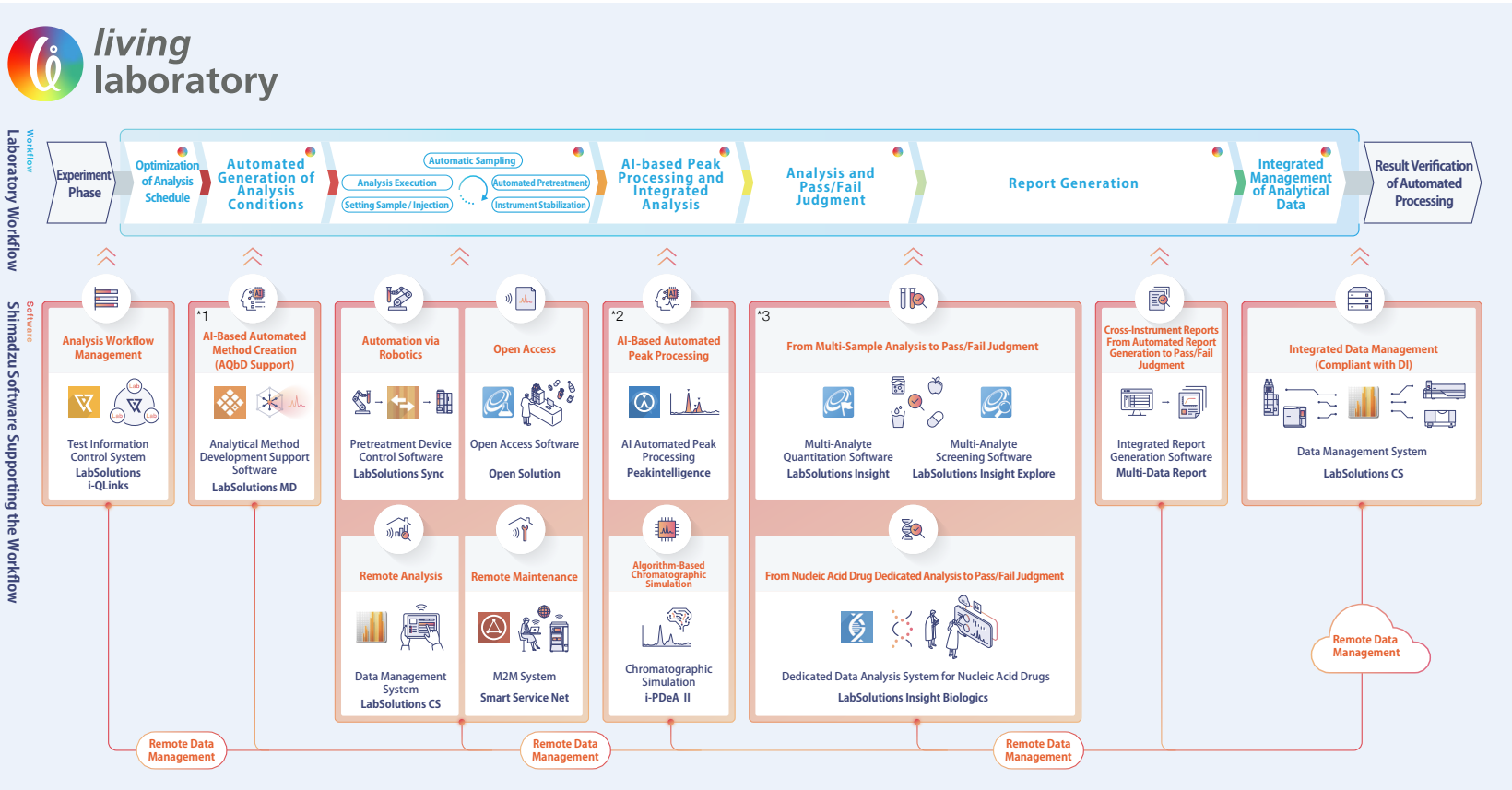


Supporting Analytical Laboratory Workflows

LabSolutions

Reducing reliance on individuals, optimizing utilization of human resources, and supporting workstyle innovation in laboratories

Through the deployment of advanced analytical and measuring instruments, robotics, AI, and IoT technologies, LabSolutions reduces dependence on individual skills in laboratory operations. This enables researchers to focus on higher-value tasks, enhances productivity in analytical processes, and drives transformation in laboratory environments.



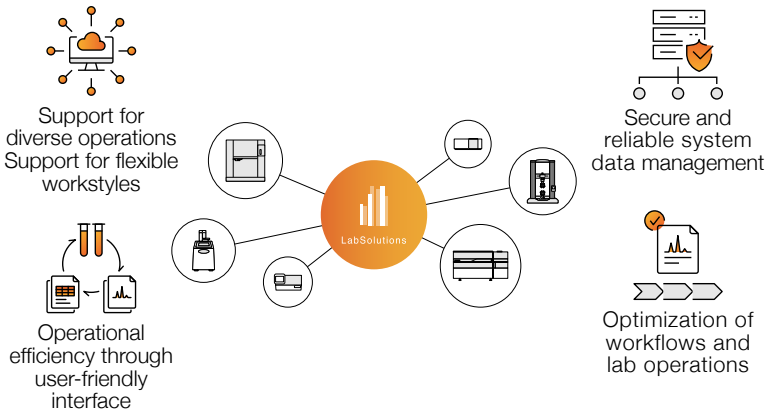
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LabSolutions CS Network System:
Enabling Cloud-Based Remote Access Across Locations

LabSolutions CS is the software within the LabSolutions series used for integrated management of analytical data in laboratories. This network-compatible data management system can connect not only Shimadzu analytical and measuring instruments but also those from other manufacturers. It allows centralized data management and provides access to necessary data from any PC on the network. Additionally, it enables instrument control and monitoring of operational status. Compatible with Windows Terminal Services, it supports diverse working styles such as remote work. It also integrates with various cloud services, enabling unified data management across multiple sites.

Usage Scenarios and Key Benefits of the LabSolutions CS Network System



LabSolutions CS Network System: A Worldwide Analytical Data Platform Serving Diverse Industries

LabSolutions CS Network System provides a comfortable operating environment and ensures safe and secure data management. It supports integrated data management for analytical laboratories across diverse industries. Below are examples of how the system is used in various fields.

Pharmaceutical Industry

- Equipped with features that ensure regulatory compliance—such as data integrity functions in line with FDA regulations and Japan's Ministry of Health, Labour and Welfare guidelines for electronic records and signatures—LabSolutions CS ensures the authenticity of analytical data in pharmaceutical development and manufacturing.
- With optional AI software that supports the Analytical Quality by Design (AQbD) approach recommended by the International Council for Harmonisation (ICH), the system enables robust, scientifically validated analysis conditions that contribute to the safety of pharmaceutical development and manufacturing.

Petroleum and Chemical Industries

- By establishing large-scale GC/GCMS network systems, the system enables remote control at plants and simultaneous operation by multiple users, improving efficiency in analytical workflows.
- With features such as automatic saving of analytical data and auto-generation of test reports, the system prevents unintended data loss or tampering due to human error and ensures traceability.
- The system also supports seamless integration with laboratory information management systems (LIMS) from various companies.

Steel and Transportation Equipment Industries

- Data from a wide variety of instruments are centrally managed on a project basis through the network system. Data from multiple sites can also be integrated for viewing and analysis, enabling the creation of comprehensive test reports.
- By linking with AI analysis systems, the data can be leveraged for materials informatics (MI)—an emerging approach that uses information science for efficient materials discovery and research—especially for materials analysis applications.

Next-Generation Battery Industry

- Analytical data used in digital certification for battery passports—including raw material assessment, degradation analysis during manufacturing, and evaluation of recovered materials during recycling—can be centrally managed in a database.
- Analytical and measuring instruments used in various testing stages during the manufacturing of next-generation batteries can be centrally managed via the network system, enabling remote operation and automation. Test information can be efficiently managed by linking it with specific products, projects, or manufacturing lots.

Academic and Public Research Institutions

- Flexible network systems can be built regardless of the number of instruments, to support research progress.
- Access permissions for instruments and data can be set to prevent information leakage outside the research team, while safely managing time-stamped data for patent applications.
- During measurement operations, data can be viewed or analyzed on other PCs, enabling multiple users to work simultaneously and efficiently even during peak research periods.
- Strict access control settings enable secure remote analysis of analytical data.

Food Industry

- Centralized management of data related to raw material analysis and quality testing for functional foods helps meet functional-food GMP standards (for manufacturing and quality control).
- In analyses of residual pesticides and functional ingredients, the software automatically determines pass/fail status based on standard values and generates test reports, preventing errors and tampering. AI-powered peak processing ensures accurate assessments and supports food safety.

