infoteam Software for Laboratory Automation
infoteam Software AG is an established service provider with extensive experience in software development for Laboratory Automation. We offer standardised development processes and integrate seamlessly into our customers’ supply chains.
An increasing degree of automation in the laboratory also leads to added complexity in implementing manual processes in automated protocols. To meet the demands on functionality and quality set by the relevant directives and regulations, the highest standards need to be set for software used in the laboratory environment, from the standard-compliant development stage through to day-to-day use. There is a need for flexible solutions that can be adapted quickly and efficiently to the individual requirements of the various fields in which they are used.

Challenges in the field of Laboratory Automation
CUSTOMER-SPECIFIC REQUIREMENTS
In order to implement increasingly work-intensive processes in complex laboratory facilities, many different devices are used for liquid handling, the preparation of samples, analysis and evaluation. Integrating different manufacturers’ laboratory devices into a harmonised overall laboratory concept is extremely resource-intensive, as
- the device control protocols and data exchange protocols are not standardised,
- the data from various different devices often cannot be integrated reliably enough,
- many of the existing planning, management and visualisation systems are not sufficiently user-friendly,
- and the specific requirements of the users themselves do not receive enough consideration.

PRACTICAL IMPLICATIONS
The following requirements are fundamentally important to the development of software for modern laboratory automation systems:
- Flexible hardware management and monitoring
- Ease of integration of (third-party) devices
- An efficient approach to large volumes of data (e.g. results)
- Functionalities for implementing FDA Guidelines 21 CFR Part 11
- Tracking and tracing of system and user actions
- Modularity and expandability to implement (OEM)-applications
- Modern and intuitive user interfaces
- Data preparation and visualisation

We develop software for life science applications that is diverse, customer-specific and complies with relevant standards.

infoteam has extensive experience in developing software for laboratory automation systems. The combination of substantial expertise in the field, outstanding qualifications and the ability to integrate seamlessly into our customers’ value chain are some of infoteam’s unique strengths.

Our customers save time and costs when running their projects, coordinating and certifying them with notified bodies, as infoteam is DIN EN ISO 13485:2010 certified in the field of medical software engineering.

We Beside You

Your Benefit
CUSTOMISED SOLUTIONS

infoteam develops individual workflows, device connections, user interfaces, database connections and methods for complex laboratory processes in a variety of projects – from process specifications and assay implementation to final on-site acceptance. In many cases, third-party devices by a wide range of manufacturers are integrated, such as incubators, readers and automatic stackers.

SOFTWARE ENGINEERING SERVICES

infoteam can provide complete solutions for your products’ software system components, or support you in implementing your software projects – from requirements analysis and usability engineering, software development and verification, including automated series of tests, all the way to the service and support stage.

In particular, infoteam has excellent competencies with regard to the implementation of powerful automated test concepts.

SILA – RAPID DEVICE INTEGRATION

The SILA organisation, of which infoteam is a founding member, has defined a manufacturer-independent standard for the integration of laboratory devices. The infoteam SILA Library is an open, platform-independent implementation of the SILA standards for use in integrated laboratory devices (SILA Service Providers) and for process management systems (SILA Service Consumers).

The infoteam SILA Library

- saves on the implementation and testing costs of the standard SILA functions for your laboratory device and
- includes maintenance and updates in accordance with the latest alterations to the SILA standard.

ILAB – THE BASIS FOR YOUR LABORATORY AUTOMATION SOFTWARE

ILAB is a flexible and device-independent software platform. The basic architecture of ILAB, along with a plug-in concept, provides the basis for implementing customer-specific solutions to manage, monitor and visualise laboratory automation processes. ILAB implements existing laboratory automation standards such as SILA, and is open to the integration of individual solutions. Using ILAB as a basis and with infoteam’s support, you can accelerate your development project and reduce the risk of development errors.
infoteam has years of extensive experience in developing software for laboratory automation systems.

infoteam is there for you at every stage of implementation, from process specifications and assay implementation (application development) to final on-site acceptance.

infoteam has excellent competencies with regard to the implementation of high-performance, automated test concepts.

infoteam supports you from the requirements analysis, through usability engineering and the implementation of software, to verification and validation.

infoteam Software AG works with a certified quality management system in accordance with DIN EN ISO 9001 and DIN EN ISO 13485 as well as a certified development process for safety-related software in accordance with IEC 61508.

Software development for the laboratory automation sector must meet numerous quality standards. The interpretation of applicable directives and standards can have a significant impact on the cost of a project. It is therefore best to ensure that this is done to an extent appropriate to the project targets.

To ensure that software is developed in compliance with the relevant standards, infoteam’s iMED process model is applied. infoteam’s Application Lifecycle Management includes process descriptions and templates required for IVD and FDA approval. The iMED processes can be individually adapted to the needs of individual projects and serve to ensure that the requirements set by the applicable standards (IEC 62304, ISO 14971; IEC 62366) can be implemented transparently and efficiently.

Verification and validation are the most critical aspects when it comes to approving software or devices. In addition, the implementation of a suitable test concept and efficient test automation during the development phase has a crucial effect on the success of a development project, and therefore on the entire product.
With a background of 30 years’ experience in the design, implementation and maintenance of software based on state-of-the-art methods, technologies and processes, infoteam is the right partner for your project. We have proven project experience in the following areas:

- Creating individual solutions for a variety of manufacturers and users of screening and diagnostic systems
- Developing software platforms, designing and implementing schedulers, developing 3D simulations and user interfaces and implementing powerful (automated) test concepts for leading manufacturers of liquid handling robots
- Database or LIMS connections for users of laboratory automation systems
- Embedded software for a variety of laboratory device manufacturers

INNOVATIONS BY AND WITH INFOTEAM
infoteam has worked closely with partners from the biotechnology, process engineering and electrical engineering sectors on a project funded by the German Federal Ministry of Education and Research (BMBF) to develop a software system that contributes significantly to shortening development times in bioprocess engineering.

“Our sustained commitment to research projects ensures that innovation is transferred directly to our customers.”

Stefan Angele, Member of the Managing Board, infoteam Software AG

infoteam has worked on projects with over 100 companies worldwide to develop powerful software solutions efficiently.