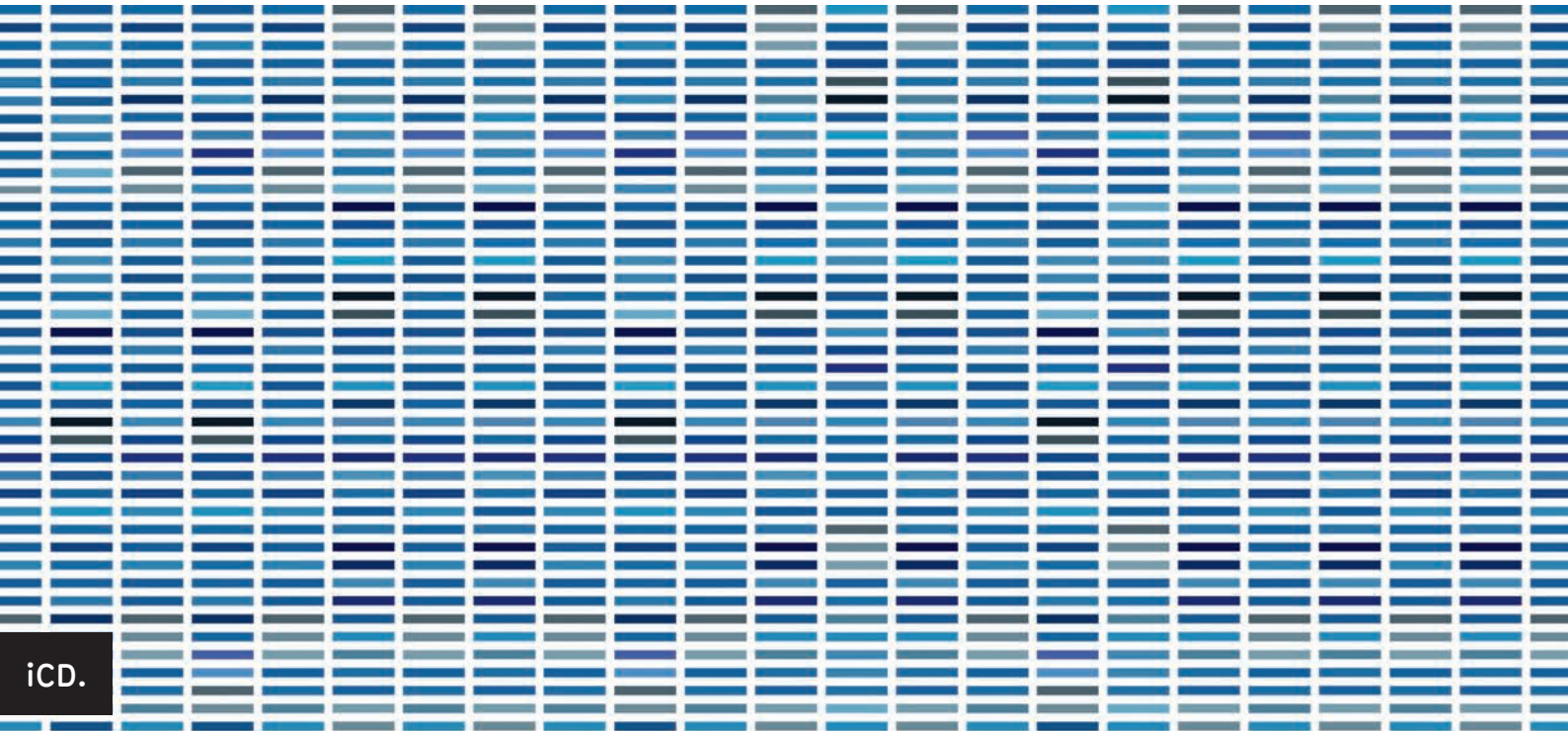


LABS Suite

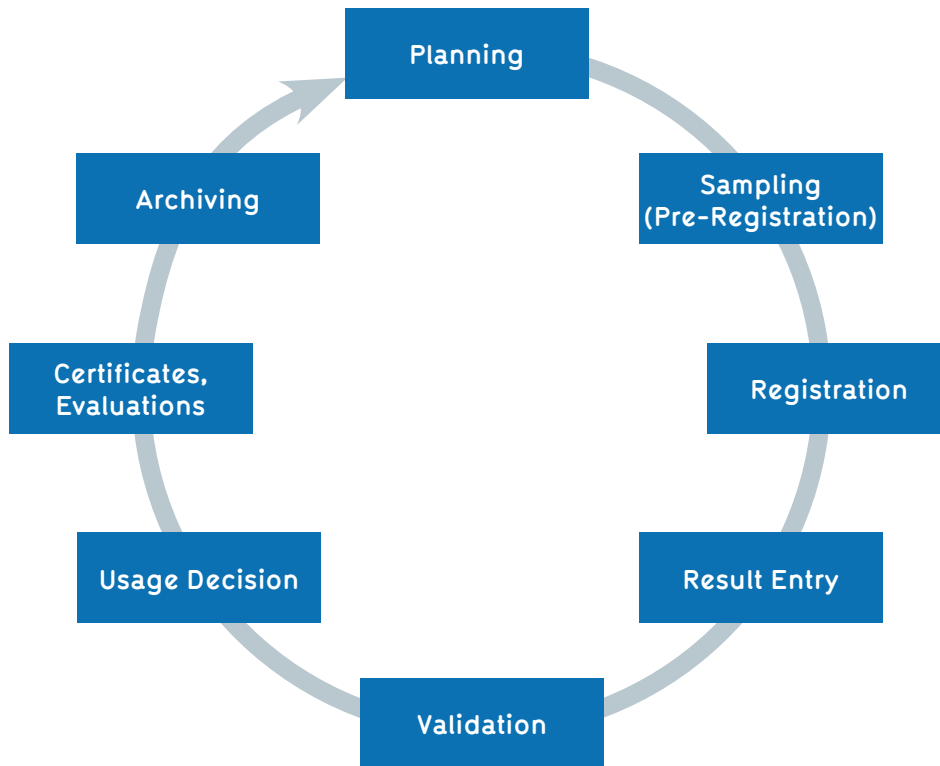
Das professionelle Enterprise-LIMS




- » LABS/Q® - LIMS-Competence at the highest level
- » The LABS-Suite fulfils your modern LIMS demands
- » LABS/Q® - comprehensive basic functionality and high flexibility
- » The LABS/Q®-Dashboard
- » LABS/Q® - modular system
- » Interfaces to LABS/Q®
- » Adaptable LABS/Q® structure
- » Scalability and flexibility
- » Validated system with expandable safety
- » Benefits

LABS/Q® -LIMS-Competence at the highest level

For more than 5 years LIMS LABS/Q® of iCD. has reliably fulfilled the numerous requirements of our customers around the globe. LABS/Q® is part of the LABS-Suite. It has proved its high quality as an extremely robust and flexible system in many industries. These include the chemical and pharma industries, petro chemistry, corporate environmental protection, materials testing and the automotive sector, as well as the food industry and service laboratories. Owing to its high degree of automation, its extreme adaptability, an open report-tool interface and many other interfaces LABS/Q® has established itself firmly in many enterprises. You too will profit from our competence in achieving your goals.



Ill. 1: Typical Workflow of quality control

A person wearing a light blue button-down shirt is shown from the chest down, holding a large, dark grey gear with their right hand. The gear is positioned in the center of the frame. Surrounding this central gear are several other dark grey gear icons of various sizes and designs, scattered across the upper half of the image. The background is a soft, out-of-focus light blue. A semi-transparent white horizontal band runs across the middle of the image, containing the text.

LABS/Q® assists you in the automation of your processes in a reliable and professional system and thus saving you time and money. Furthermore, LABS/Q® supports your internal quality control and safeguarding of results.

The LABS-Suite
fulfils
your
modern LIMS demands

Our extensive and long-standing experience has provided us with detailed knowledge of our customers' varied and extensive demands on a successfully operating LIMS. In addition to mapping all relevant daily laboratory processes, all required systems and equipment need to be connected in order to achieve a high degree of automation reliability.

Moreover, it is necessary that a modern LIMS can be integrated seamlessly into the diverse software landscapes of today's businesses. It needs to adapt to the constant changes and support modern technologies in order to offer maximum investment protection.

We have implemented your requirements in our LABS-Suite and are ready to use our competence supporting your successful LIMS-Project.

LABS/Q® offers convincing solutions for

- » Process industry:
 - » Pharmaceuticals
 - » Biotechnology
 - » Chemistry
 - » Petro chemistry
 - » Automotive
- » Food and beverages
- » Public authorities
- » Contract laboratories

LABS/Q® - comprehensive basic functionality and high flexibility

LABS/Q® is successfully used in various areas like R&D, production, QA/QC, environmental protection & hygiene monitoring. The standard edition usually covers more than 95% of our customers' requirements. Our customers represent various industries like the chemical and petrochemical industry, pharmaceutical and biotechnological industry, the automotive sector, the food and beverages industry and many more. Every industry sector, every customer and even every laboratory has individual requirements, which at first glance cannot be fulfilled by a standard off-the-shelf solution. The advantage of the consistent modular structure of LABS/Q® is that it can be upgraded without a problem whenever the need for adjustment or modification arises. Furthermore, LABS/Q® can be easily configured and, therefore, adapted

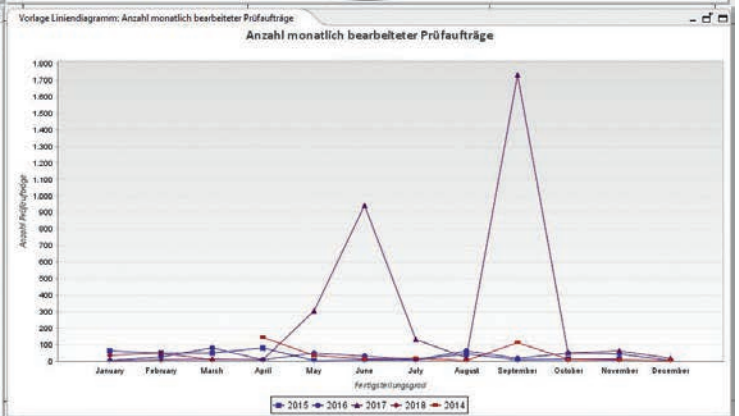
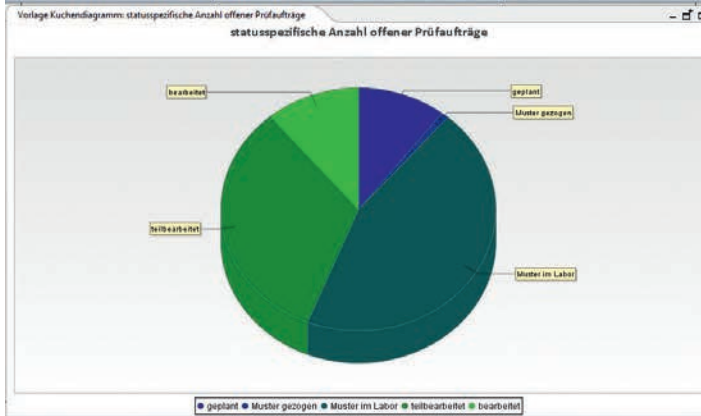
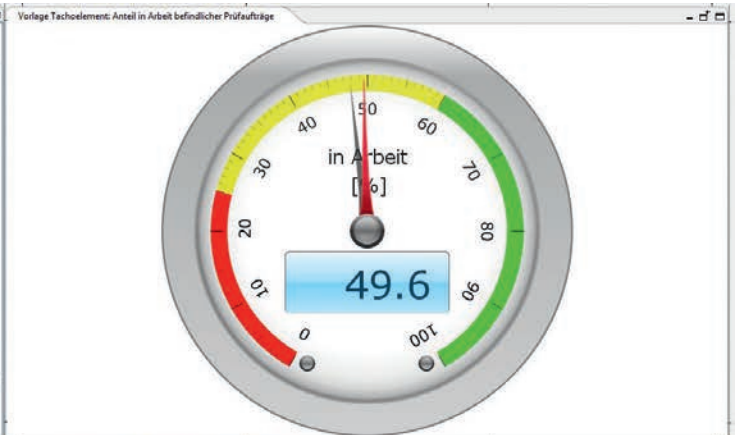
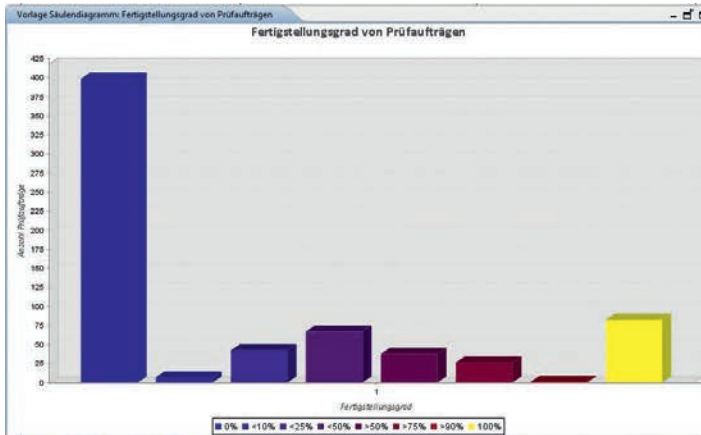
to specific requirements. LABS/Q® takes into consideration the diverse demands on sophisticated, highly complex analyses and certificates as well as the specific know-how of the organisation. LABS/Q® comes with an integrated, iCD own report tool as well as an open report tool interface. This means that you can use any commercially available report tool of your choice of which your company already has an in-depth knowledge. Consequently LABS/Q® actively supports commercial products like Oracle Reports® and SAP Crystal Reports®, open source-solutions like Jasper Reports®, but also Microsoft Office™ products like Word™, Excel™ and Access™. The standard solution also includes LABSGraphic, a versatile graphic and statistic module which allows you to carry out individual, clearly presented analyses of your

LIMS-data. The integrated Document Management System DMS, the SOP-management with a full text search facility, a comprehensive monitoring of testing material and measuring equipment and the Workflow-Manager are part of the standard scope of LABS/Q®. This gives you all the tools you need on your way to a paperless office.

You can rely on our expertise also with regard to raw data storage and long-term archiving. The solution is called AnIML (Analytical Information Mark-up Language (NIST/ASTM E13.15)). An **AnIML**-Data-Container can store random analytical data, among others also raw data, which can be used and re-evaluated after many years without the need for the original software. The AnIML-converters necessary for this are already available for more than 200 devices.

Predefined workflows and inspection plans for cross-functional solutions

- » Receipt of goods
- » Material release
- » Sample source
- » In-process control
- » Final inspection
- » Initial sample
- » Special tests
- » Stability studies
- » Process development
- » Claims & complaints
- » Testing material
- » Service laboratories
- » Projects
 - » General
 - » Material
 - » Residual materials
 - » Ground
 - » Water
 - » Wastewater/sewage
 - » Pollution
 - » Emissions

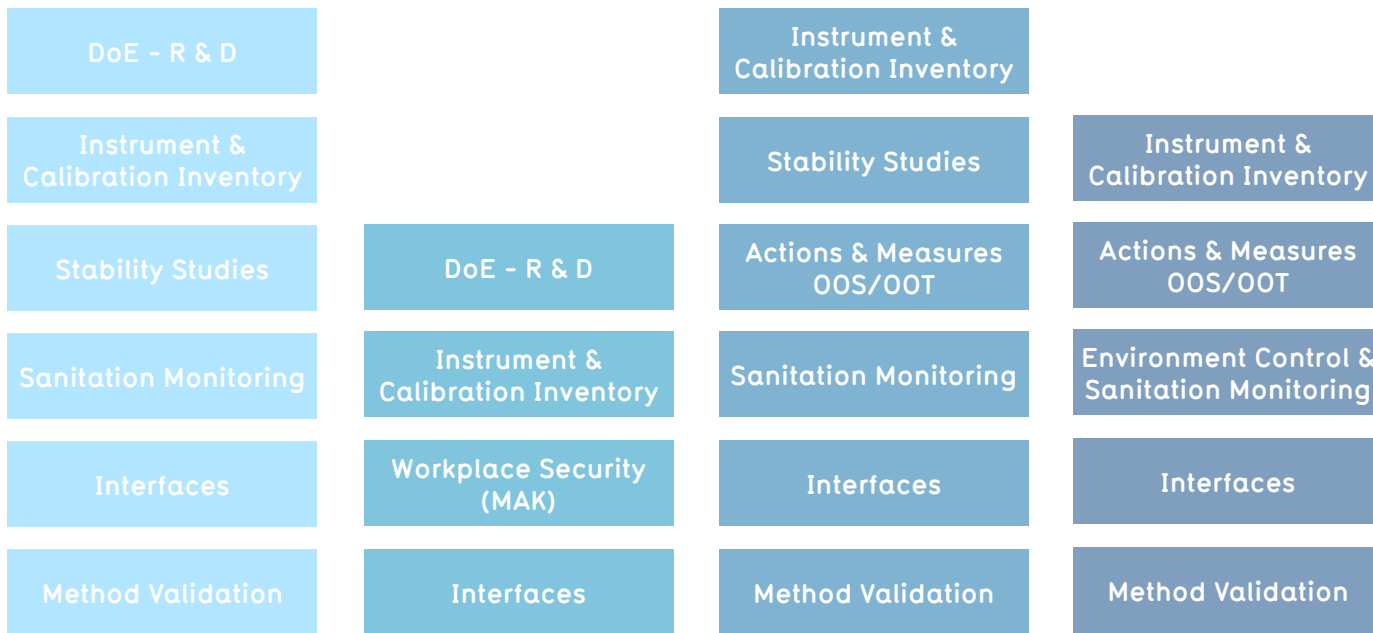


III. 2: Configurable Dashboards

A person's hand is pointing at a computer monitor. The monitor displays a dashboard with several charts and graphs. The main chart is a line graph titled "Statistical Charts Last Year Earnings" showing three data series (Product A, Product B, Product C) over a period of time. There are also pie charts and other smaller graphs visible on the dashboard. The background is a blurred office setting with a window and a plant.

The LABS/Q® Dashboard

LABS/Q® enables the creation of **user specific dashboards**. This allows for the provision of important data and analyses for each user and they can be interactive if required. Consequently, you have your current data on display without having to switch to the relevant module. In the long run you save a lot of time and you have constant access to up-to-date information. The GUI-components displayed on the dashboard can be generated in the required quantity and configured by an experienced user.



LABS-Suite



III. 3: Branch specific extensions (options) to LABS-Suite

LABS/Q®- modular system

The LABS-Suite with its LIMS LABS/Q® fulfils with its options a wide range of demands and requirements. It covers all processes in analytical laboratories from the development and validation of analytical methods, to AQS (analytical quality assurance), routine examinations in the quality and in-process control, carrying out environmental monitoring up to and including conducting stability studies as well as service analytics on request. The extension LABS/R is a further option of LABS-Suite and supports all processes for the development and optimisation of chemical syntheses and formulations by applying a statistically based test structure ranging from basic to control recipe.

Industry-sector specific extensions to LABS-Suite

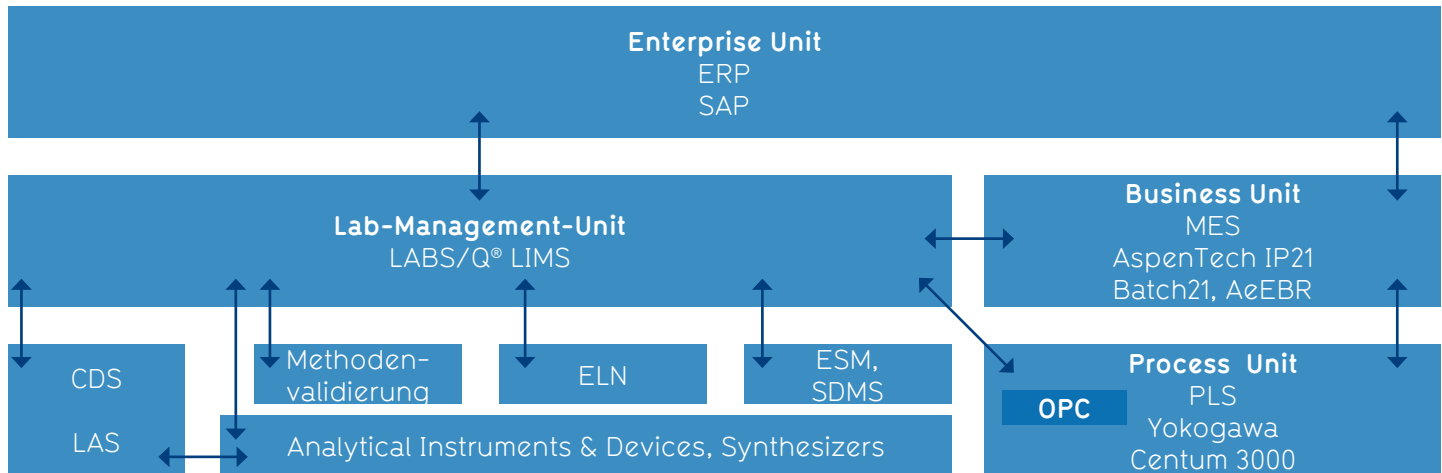
- » Stability studies
- » Environment control
- » Hygiene monitoring
- » Monitoring of testing material and measurement equipment
- » Variance-/deviation management „actions & measures“
- » Design of Experiment DoE
- » Method validation
- » Interfaces
 - » SAP
 - » CDS
 - » ELN
 - » PLM
 - » PIMS
 - » PLS
 - » Various testing equipment

Interfaces to LABS/Q®

It is often necessary to exchange information between systems within a business. For example in case an SAP system is used, master data, registration of tests as well as result feedback, sometimes also in combination with a usage decision, need

to be exchanged via a certified interface. When carrying out chromatographic analyses for example it may be appropriate to transfer the sample information used for generating sequences to the CDS and report the results of the measurements to LIMS.

This process will be automated as far as possible and retraceable at any time with regard to the status of the exchange of information. Furthermore, the interfaces must support general standards.



Ill. 4: Exchange of information within a business

Example for an exchange of information within a business

For this task LABS/Q® offers optimised solutions which apply various techniques depending on the particular requirements:

» DCI/XML/AnIML-Interface

- » Simple, standardised structure with implementation possibilities based on XSLT / AnIML
- » Communication via email, WEB Services, file transfer

» COM-LABS SQL Interface

- » Standardised SQL database interface (e.g. CDS as well as ERP- / MES-systems like SAP, Aspen Tech, OSIsoft, Scalarvis)
- » Views or PL/SQL Package functions, as well as JAVA

» GTI Server

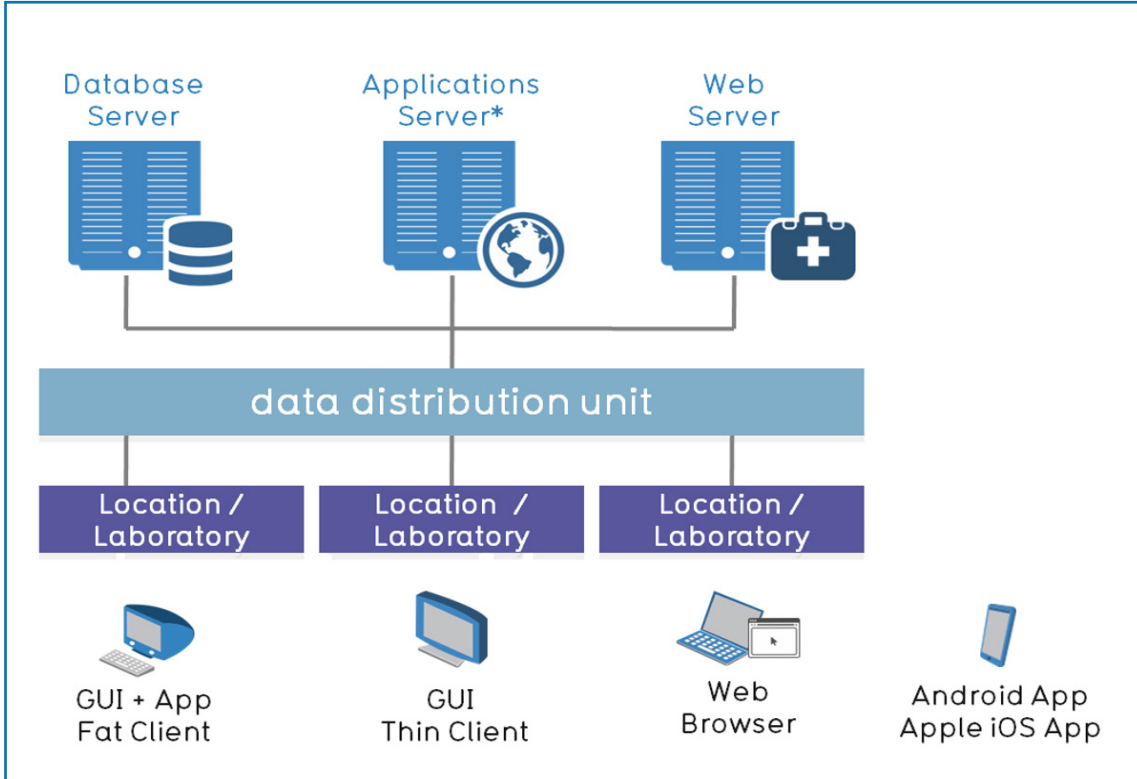
- » TCP/IP communication with server program (bidirectional program-to-program communication; also frequently used for direct connection to “simpler” measuring devices like scales, titrators, etc.)

» OPC Client

» Web Services

- » State-of-the-Art communications technology

The **advantages** of this tailor-made interface to lab and measurement equipment, software in the lab, company software (Enterprise Unit, Business Unit, Process Unit) are that they are easily integrated into the individual IT environments of enterprises. They are easy to install and configure in order to be at the same time highly efficient, easy to maintain, fully ready for release and particularly cost effective.



Ill. 5: The flexible architecture of LABS/Q®

*Productive system, validation system, training system

Adaptable LABS/Q® structure

Particularly noteworthy is the extreme flexibility when installing LABS/Q®, either locally or globally. A reliable multi-tier-architecture enables a separation of database, application and graphical user interface (GUI). This allows for an installation of components on a single server either completely or largely, or a completely distributed setup and of course a cloud-installation. LABS/Q® runs within or outside the Internet Browser with identical functionality as well as look & feel.

Furthermore, the GUI of LABS/Q® can be easily customised at any time. When using LABS/Q® you are

independent of the operating system which enables the use of Windows servers using Windows 7/8, Linux, Unix, AIX as well as Apple iOS X. This also applies to the choice of a database as you can choose between Oracle® and MS SQL Server®. A further advantage is the immense ease of integration into the enterprise IT landscape.

Clustering and App-distribution are supported as well as the use of Citrix Presentation Server, Xen App Server and MS Terminal Server. Virtualisation is also supported either with the assistance of VMWare ESx or by means of MS Hyper-V.

Architecture - maximum IT-flexibility

- » OS-Independence
 - » Windows Server 2008 or higher
 - » Vista, Windows 7 or higher
 - » Linux, Unix, AIX, HP-UX
 - » Apple OS X
- » Database
 - » MS SQL Server 2008 or higher
 - » Oracle 11.x or higher
- » Android & Apple iOS Apps
- » Clustering
- » Applications options
 - » MS Terminal Server
 - » Citrix Metaframe/XEN App Server
- » Virtualization
 - » VMware ESX-Server
 - » Microsoft Hyper-V

Scalability

Thanks to its free scalability LABS/Q® is an enterprise LIMS which scales easily from single user up to an unlimited number of users and offers a multi-lingual GUI.

LABS/Q® is, therefore, highly suitable for companies of all sizes whose users speak different languages and may be located all over the world. Licences of LABS/Q® are issued as so-called Concurrent User Licences which means on the basis of a simultaneous registration in LABS/Q®. Hence you do not need LABS/Q® licences for all your employees but only for a limited number of simultaneous

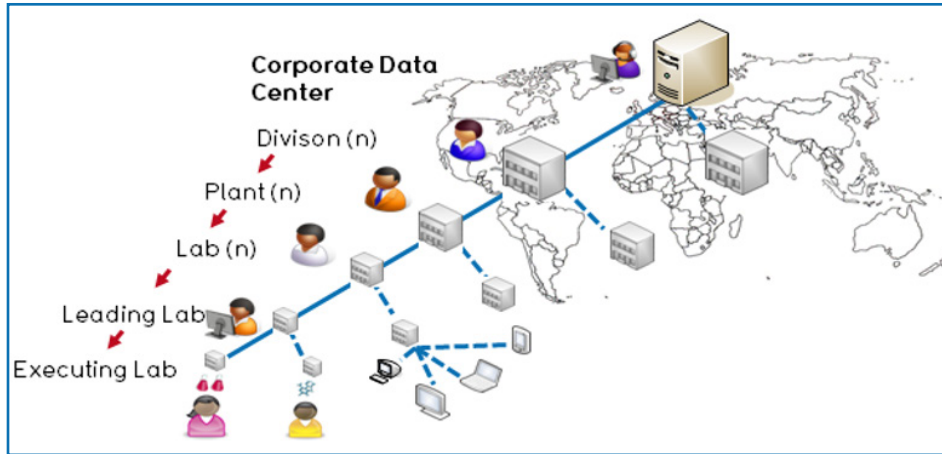
user accesses. According to our experience this amounts to about a third or half of your staff working with LIMS.

The sophisticated and configurable registration concept of LABS/Q® assists you in keeping the number of licences to a minimum and results in a low level of costs. Should you however find that you need a further LABS/Q® licence to ensure a smooth and proper operation it can be subsequently acquired at any time without problems.

The multi-lingual GUI of LABS/Q®

- » German
- » English
- » French
- » Spanish
- » Portuguese
- » Dutch
- » Japanese
- » Chinese
- » Thai
- » Further languages are in the pipeline

Flexibility



III. 7: LABS/Q[®] with exclusive access rights for clients and multi-client companies

LABS/Q[®] can be fully multi-tenancy. This means that even with an installation in a Corporate Data Center you can achieve an effective separation of plant, division, laboratory, leading lab and executing lab so

as to allow each part of the organisation to view and handle only its own data despite having a common database. This option is ideal for multi-national and globally operating enterprises.

Validated system with expandable safety

The development of LABS/Q® is based on the requirements of both the most up-to-date GAMP-guidelines and most current DIN ISO EN 9001. Furthermore, iCD has had a well-established quality management system since 1992 which was certified as early as September 1994 according to **DIN EN ISO 9001**. The current version is DIN ISO EN 9001:2008.

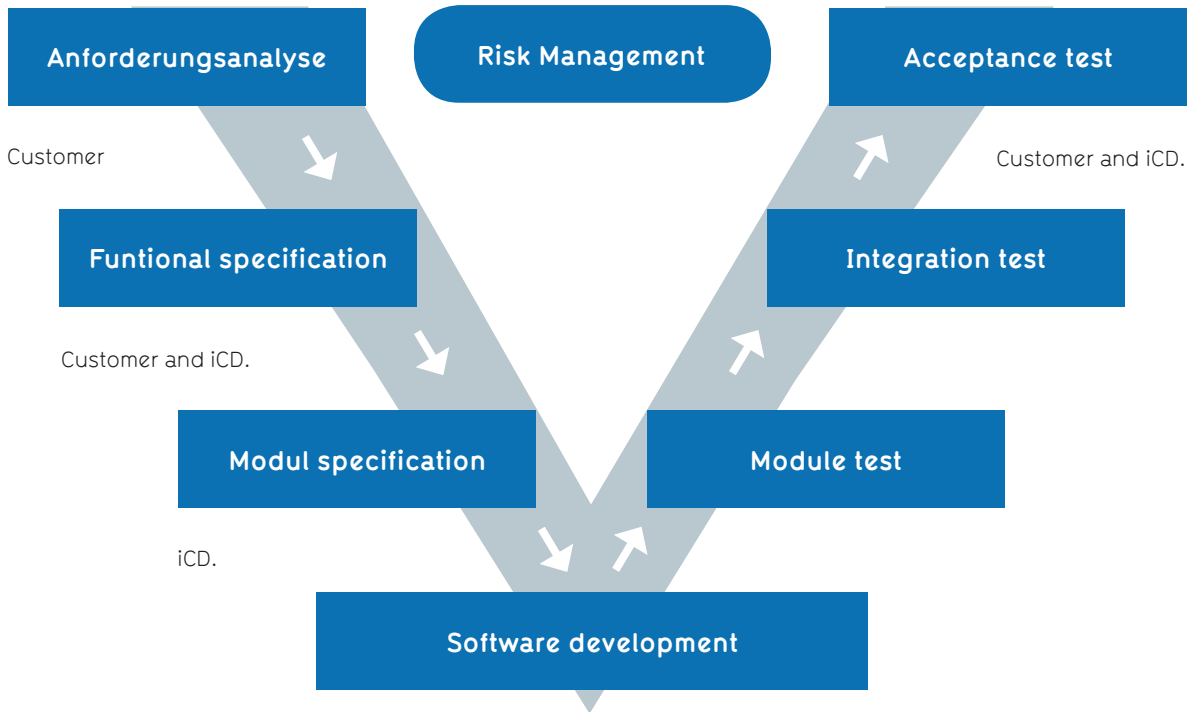
Many customized adjustments to user requirements can be implemented through simply configuring environment variables (switch on/off) or through configurable workflows

without the need for further programming. This saves programming costs and time which would be necessary for the implementation of requirements.

However, should the need arise for any customer specific add-ons (Customizing) they will also be carried out according to the most current GAMP- und DIN-requirements based, of course, on the V-Model. The advantage for you is that you maintain a valid system status which offers you the **highest degree of security in audits** (public authorities).

Responsible for specification

Responsible for testing



Ill. 8: The V-Modell of iCD.

- » LABS/Q® facilitates all processes as it is an integrated and cross-functional platform for large and mid-size laboratories.
- » It is especially tailored to the demands of the process industry like for example the pharma & biotech, chemistry & petro chemistry, food & beverages and automotive industry, etc.
- » LABS/Q® is a universally deployable LIMS owing to its multilateral functionality for R&D, production and in-process inspection, quality control and corporate environmental protection all on a common platform.
- » You acquire only licences for modules you actually need. The comprehensive standard functionality of LABS/Q® can be extended by five modules if the need arises.
- » Interfaces from LABS/Q® to SAP/ERP, MES, PIMS, PLM, CDS or to any measurement and test equipment allow for a reliable and seamless integration of LABS/Q® into the entire business workflow.
- » The open Report Tool Interface offers you complete flexibility in the reporting process.

A hand in a dark suit sleeve holds a glowing lightbulb. The lightbulb is positioned behind the text 'Benefits'.

Benefits

- » Its multi-tenancy support and multi-lingual GUI make LABS/Q® LIMS an ideal solution for globally operating enterprises.
- » The interface from LABS/Q® to the method validation software VALIDAT offers you the possibility to validate methods according to ISO, DIN, USP and FDA.
- » Our software development based on ISO 9001:2008, GAMP guidelines and regulations relevant to GxP (including FDA 21CFR11 Compliance) guarantees you the highest degree of security for documentation and audits.
- » iCD. has had a well-established quality management system, certified according to DIN EN ISO 9001 since September 1994 with the current status: DIN ISO EN 9001:2008
- » LABS/Q® presents a future-proof investment as it has been developed in Java™ and supports leading databases like Microsoft SQL Server™ and Oracle™
- » LABS/Q® is independent of the operating software and supports all modern IT technologies.

We look forward to hearing from you!

iCD. has been well-known internationally for outstanding laboratory software solutions and associated consulting services since 1986.

More than 300 large and medium-sized businesses from different fields, some operating globally, trust in our software solutions.

You can have confidence in our expertise.

We will support you through every phase of your project to ensure that you successfully implement the best possible LIMS solution for your company.



iCD. Vertriebs GmbH
Augustinusstraße 9d
50226 Frechen

+49 (0) 2234/9 66 34 - 0
info@icd.eu
www.icd.eu