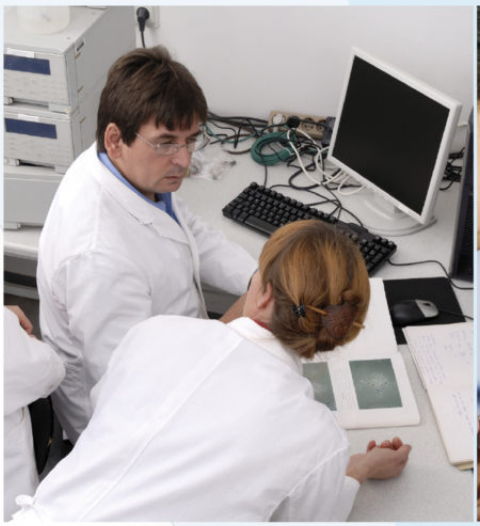
SDC
Sm@rtLine
AGU Industrial IT Solutions

Data Integration Solution

A laboratory middleware for central device data handling
in production, development and research

Sm@rtLine Data Cockpit



Research	Development	Manufacturing

Sm@rtLine Data Cockpit is a unique software middleware which enables the use of sensors and analyzers for the collection, review and approval of trial results. SDC is available in the following modes:

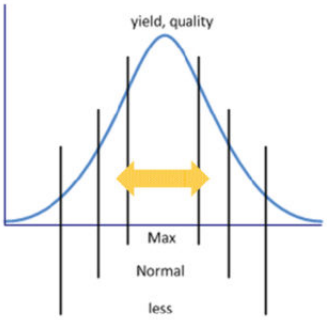
- SDC-LS provides a comprehensive user interface for operators in the laboratory
- SDC-PS collects data from the process control systems

Closes the gap between LIMS, MES, DCS and the laboratory

SDC is placed between the sensors and the analyzers for the BIO-API processes and the interface to LIMS (laboratory information management system), MES (manufacturing execution system) or DCS (distributed control system) systems. SDC provides standardized, flexible interfaces for these systems which deliver calculated and evaluated data.

Improves your quality

SDC supports your implementation of PAT/ QbD [Process Analytical Technology/ Quality by Design). These concepts strive to ensure a predefined product quality by implementing measures to improve understanding of the manufacturing process by using real-time measuring for all attributes. SDC supports these requirements by providing data transparency reliability and traceability instead of manual measurement, where accuracy of data and precisely timed sampling cannot be guaranteed.



Increases your knowledge

The technician is no longer required to manually start and read measurements from the devices, but rather the measurements for these devices are reported centrally on the SDC server. SDC allows you to measure faster and more frequently and save the evaluated data in a central system. From this data, you can form a golden batch and compare your measurement and calibration curves together with multiple analyzers in a graph.

Reduces your costs

SDC incorporates validated interfaces which have been approved by Roche. This reduces your cost for validation and integration of the analyzers as well as reducing costs for the validation of the data handling. Overall, your costs are optimized through the improved data quality, your reaction time improves, production is streamlined and yield can be increased.

One hub system for your success

SDC, as the most used middleware in the pharma industry, connects your instruments in the laboratory with your preferred software for higher-level systems, and at the same time automatizes manual processes with a bidirectional data flow.

It increases not only efficiency and data quality but reduces the overall risk of data errors at every level of your production.

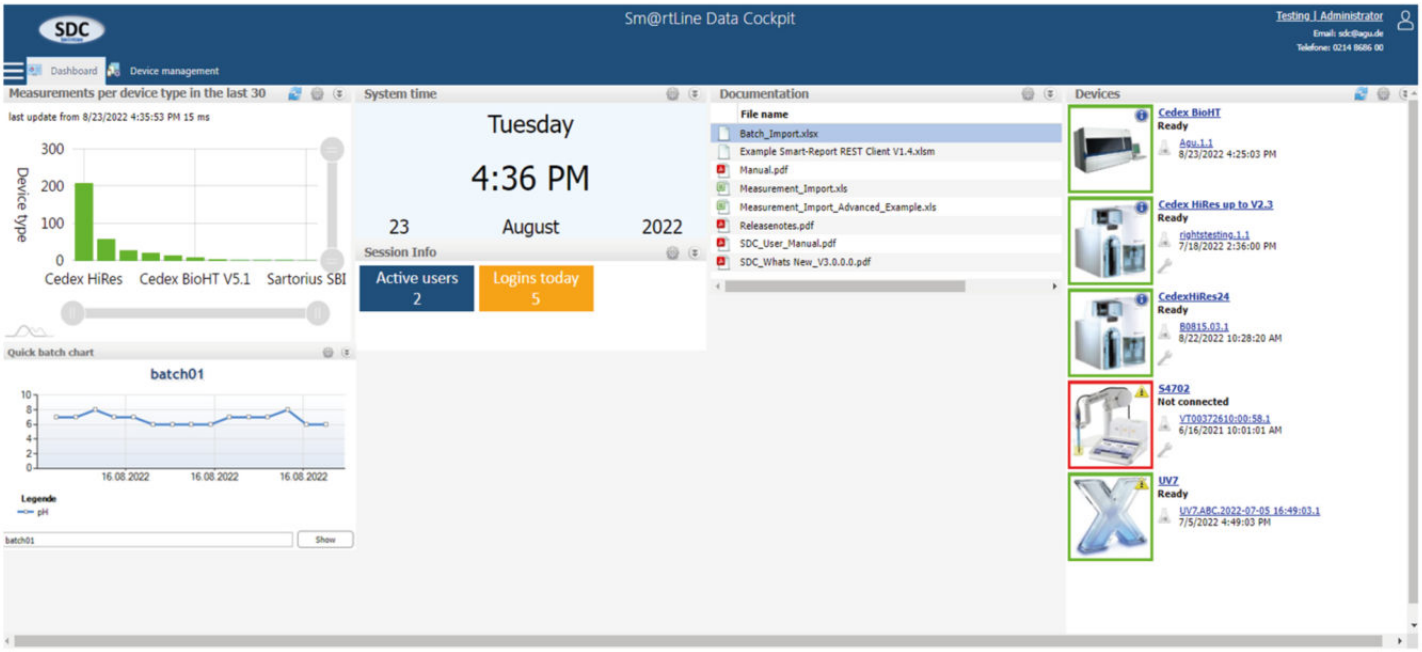
Main features

- SDC is a middleware between LIMS, MES and DCS systems and the laboratory areas of “research”, “development” and “production”.
- SDC provides a centralized master data management of devices, samplings, samples and users.
- SDC gives you the ability to combine a multitude of analyzers and sensors to form one system.
- SDC is a web- based platform that can be used from every client without special installation.
- SDC includes management of user-rights, which guarantees safe access to data.
- SDC is able to control analyzers so that the operator is using one consistent GUI while performing his or her tasks.
- Create, start and evaluate the analyzer measurements in a central system. The approved
  results can be uploaded to a foreign system (e.g., LIMS, ELN, MES or DCS)
- SDC offers the functionality of generating measurement results based on the data retrieved from the instruments. Available calculation methods include averaging and trypsinization.
- SDC gives you the ability to compare development and production (e.g. interface calibration data) comprehensively
- SDC can be connected to upper level systems
  - ChemLIMS persistent
  - SQL*LIMS LabVantage
  - DasGip Technology
  - Labware
  - Sartorius MFCS/Win
  - IDBS E-WorkBook ELN (dev.)

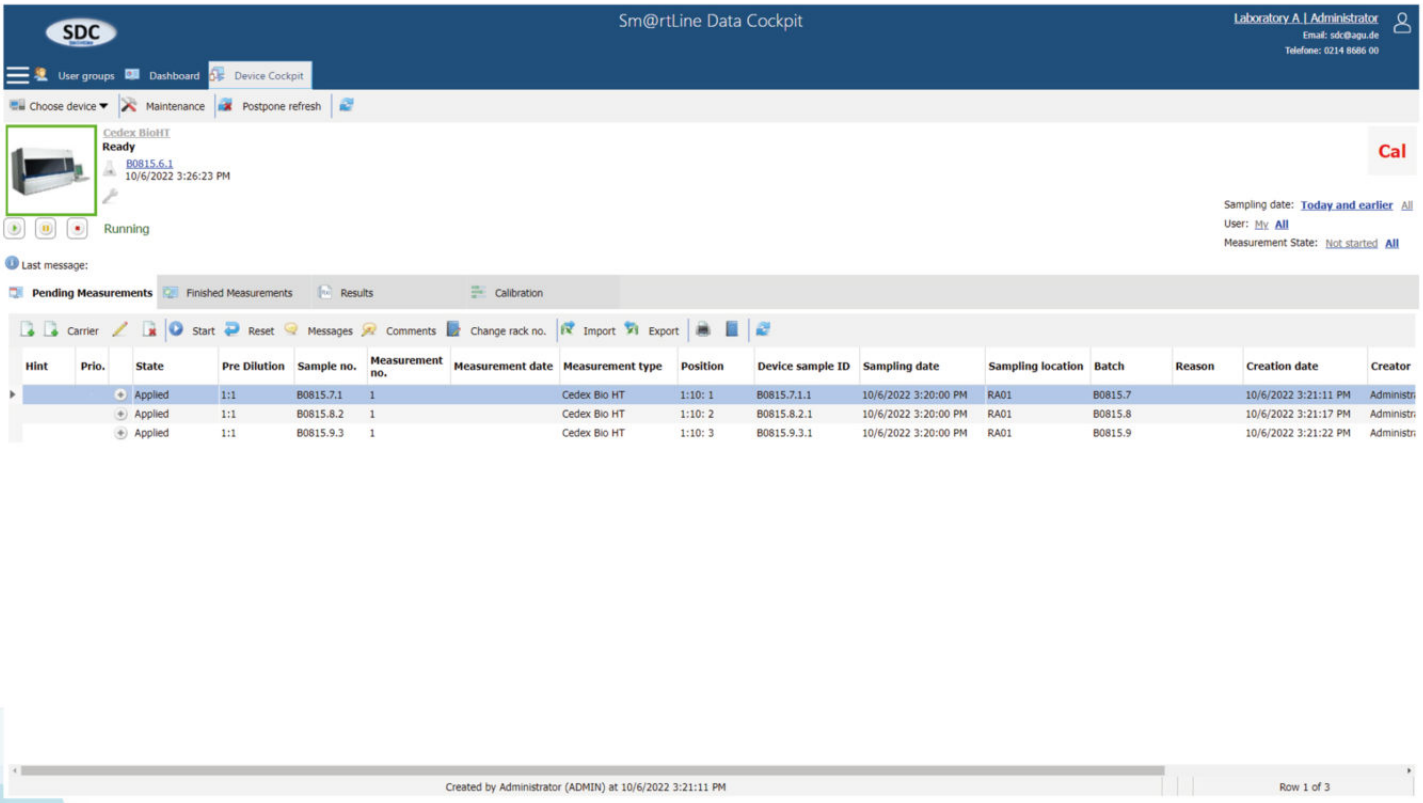
SDC is a scalable and configurable solution

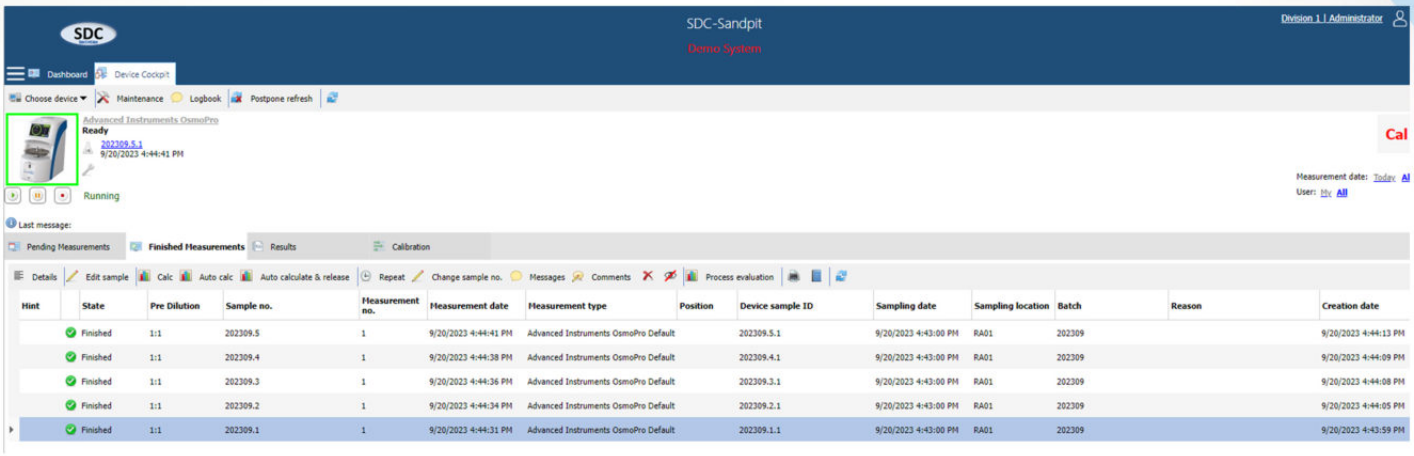
User interface

SDC is a web based, easy-to-learn software solution. Great importance was placed on developing an intuitive operating concept and a perfect overview. The department-oriented dashboard provides the individual operators with simplified view of the analyzers that are important to them.

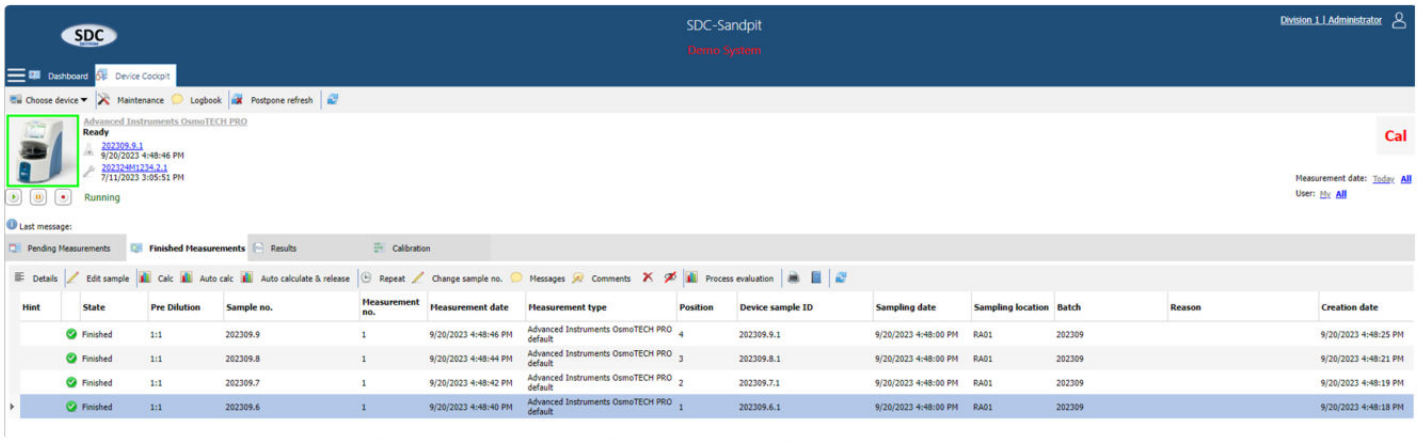


The consistency of operation is apparent in the recurring buttons and graphical elements for all analyzers. Information is displayed uniformly, creating data transparency.

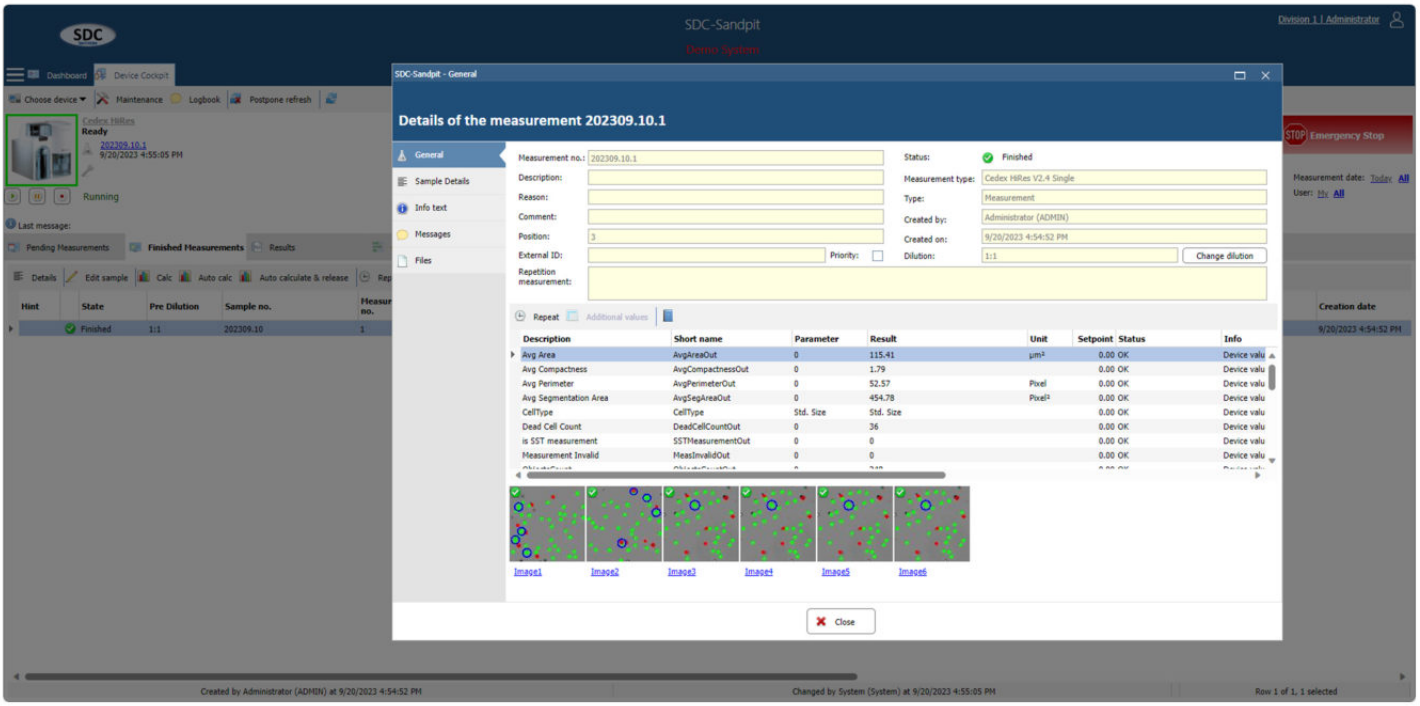




Double clicking a measurement entry shows details including images, if available



Finished measurements can be viewed under the corresponding tab



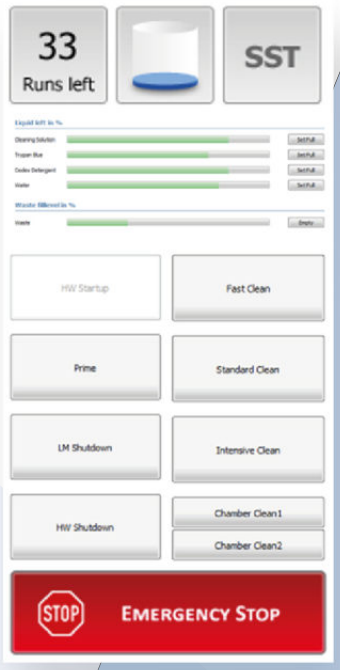
The grid table gives a quick overview of samples, their corresponding IDs and more

Extended interface functions for the Cedex® HiRes Analyzer

SDC supports the operators and laboratory personnel when performing tasks in the areas of maintenance management, lifecycle management and consumption management.

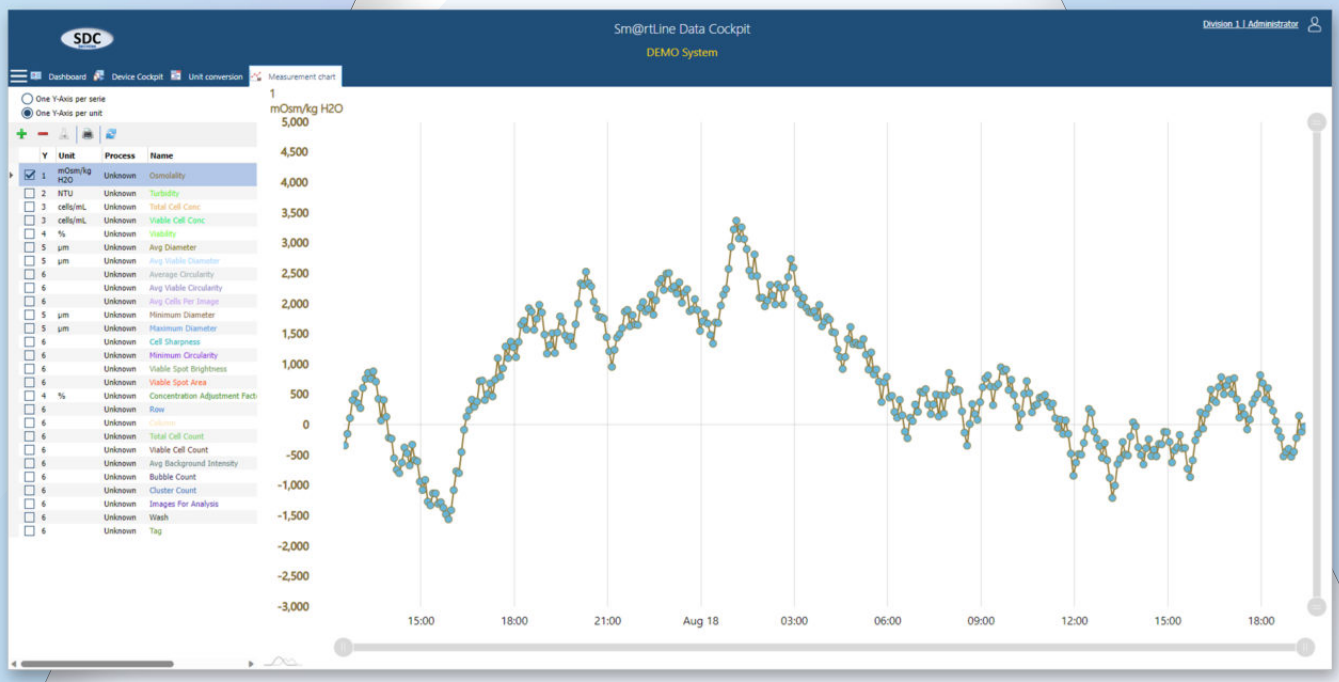
The interface to the Cedex® HiRes Analyzer offers multiple functions which can be performed directly from SDC.

- Liquid management (resetting liquid and waste levels)
- Hardware control (cleaning and emergency stop)
- Cedex® database storage optimization
- SST: performing System Suitability Tests
- Display of the runs-left counter



Batch results compilation

The compilation and depiction of the measurement results of a batch makes SDC an efficient tool. Batch results can be compared and exported to Excel for additional evaluation.



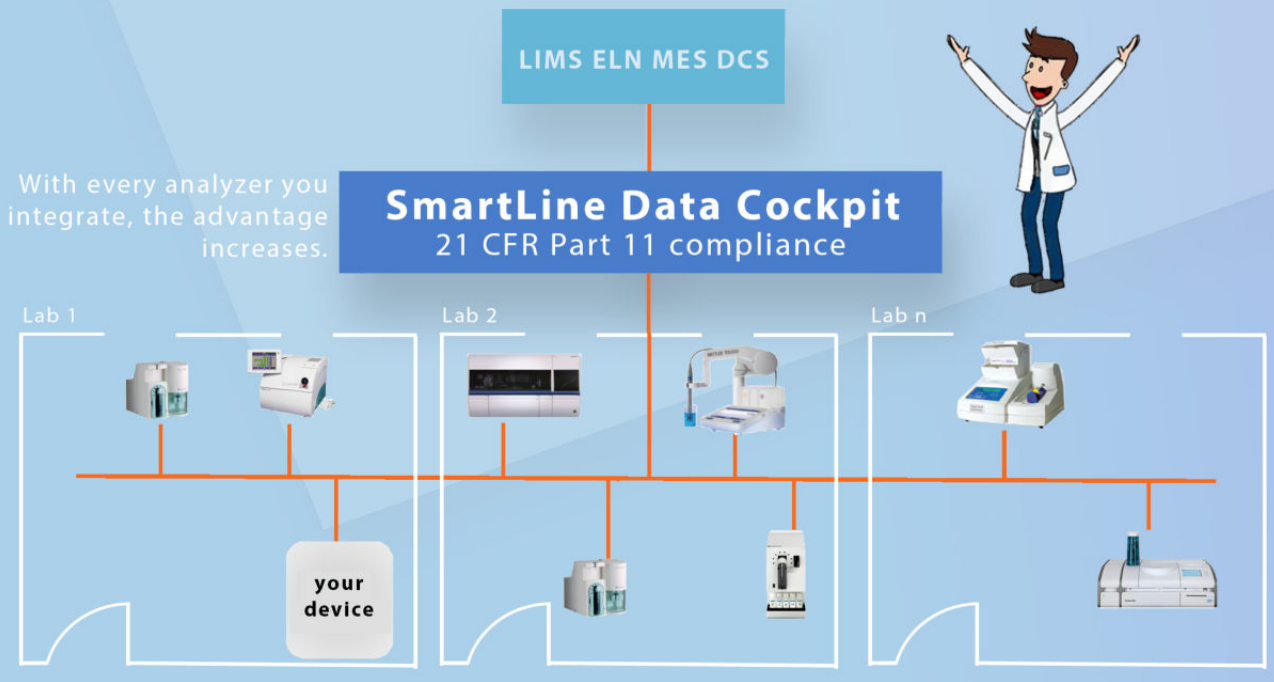
Manual

no data integration

data integration

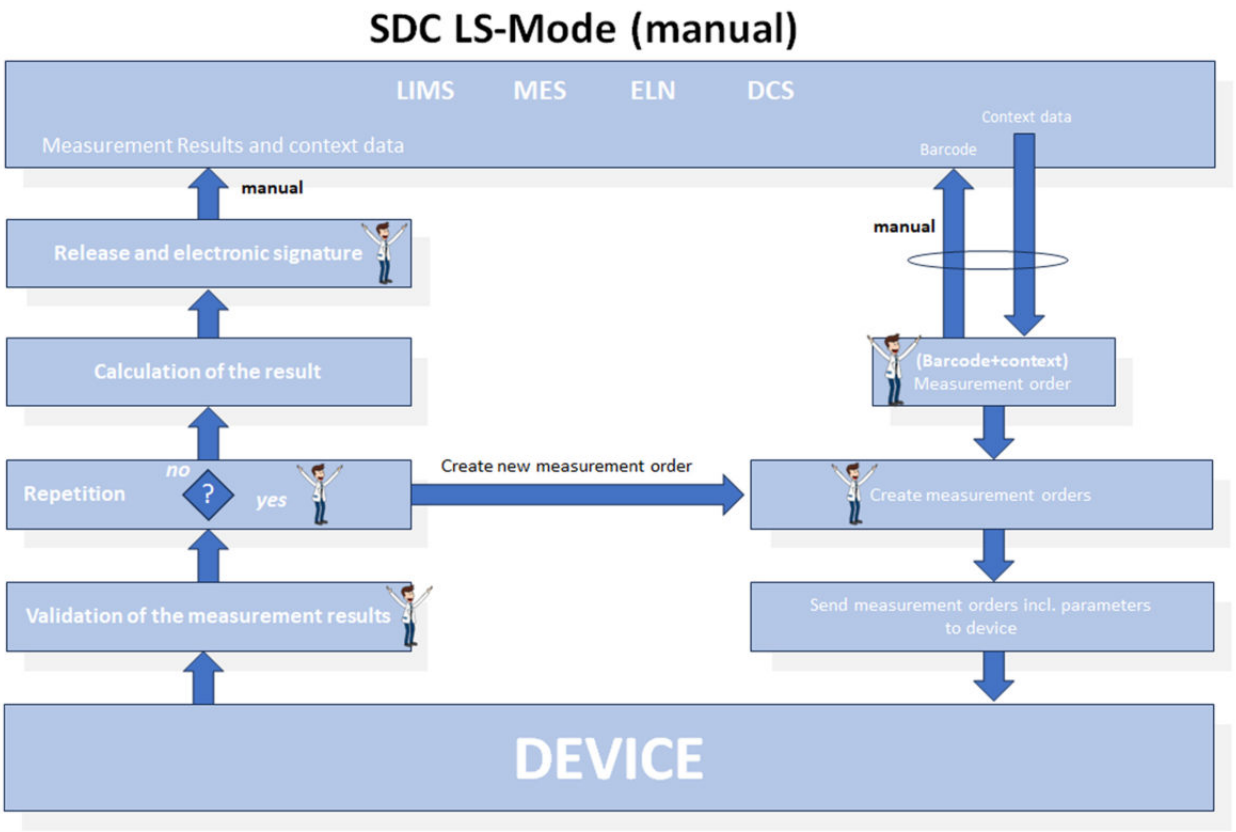
Digital

SDC simplifies the processes, increases flexibility and secures data quality. The implementation of SDC to connect the analyzer level to a higher system saves substantial costs because it is only necessary to take one interface into consideration

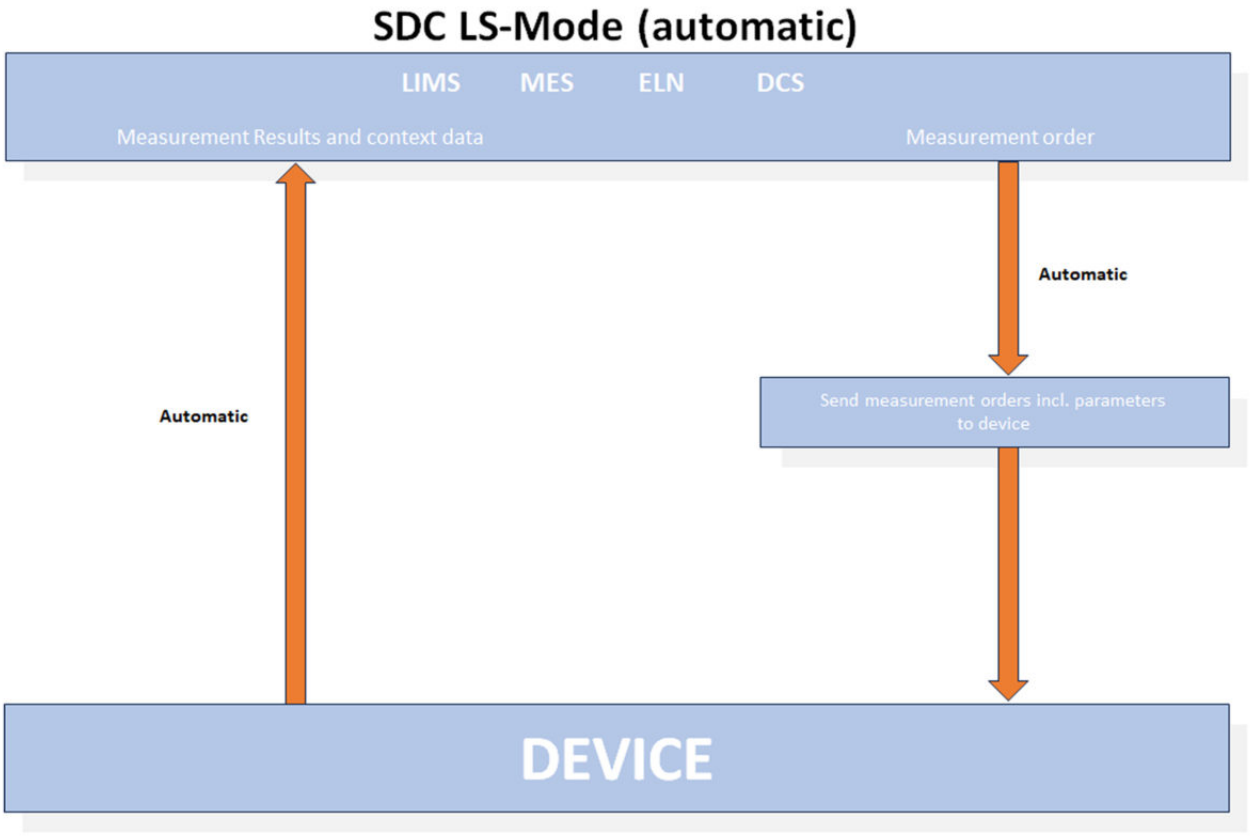


SDC-LS [Laboratory System Mode]

- The implementation of SDC makes it possible to combine SDC-LS and SDC-PS in one environment
- Central user interface for all analyzers to support the operator in the laboratories.
- The operator can request the context data from the master system using the sample number, enter measurement jobs and send these to the analyzer. If the analyzer supports the remote control, the measurement jobs can bestarted using SDC.
- Measurement results are recieved from the analyzers and the measurement jobs and results are archived.
- The operator can evaluate, calculate and release the measurement results
- The released measurement results are transferred to the master system.



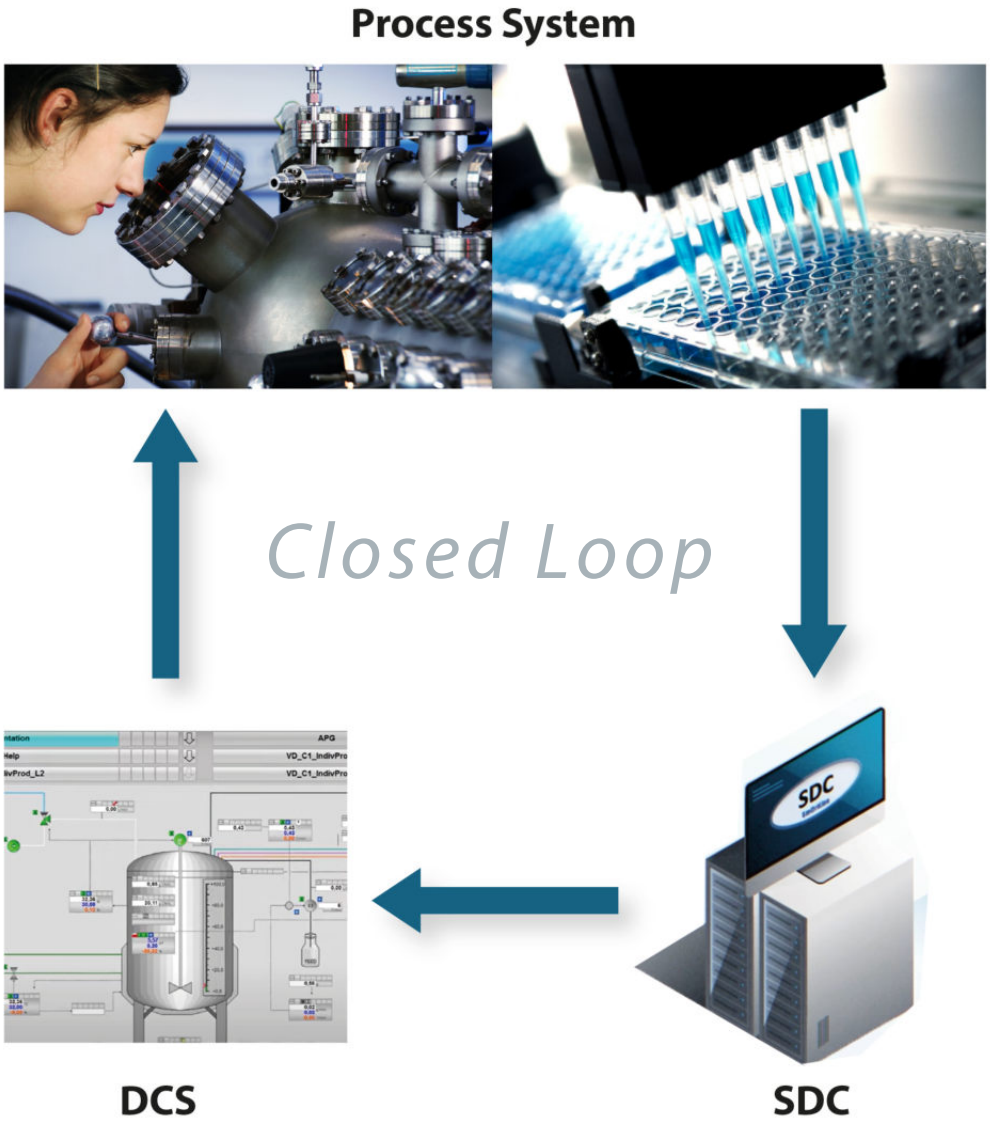
- in automatic mode SDC-LS creates measurement orders by itsself
- these measurement orders will be sent to the device with the parameters
- results will be automatically transferred back to SDC



SDC-PS [process system]

SDC-PS makes it possible to assign sensor data from the BIO API process to the sample-oriented data. Like all other data, the sensor data can be graphically depicted, exported and made available in the interfaces.

- SDC- PS includes all functions of SDC-LS systems
- It is possible to combine SDC-PS and LS systems
- SDC-PS enables the continuous reading of measurements from sensors which are implemented in the process control or other systems. Together with the intermittent, sample-oriented analyzer values, these values can be displayed, saved as a batch and compared.



With SDC, it is possible to connect the following systems:

Analyzers

Advanced Instruments - Model 2020
Advanced Instruments - Model 3320 Micro-Osmometer
Advanced Instruments - Model A20
Advanced Instruments - Model 3250
Advanced Instruments - Model OsmoPro
Advanced Instruments - Model OsmoTech
Advanced Instruments - Model OsmoTech Pro
Advanced Instruments - Model OsmoTech HT
Advanced Instruments - Model OsmoTech XT
BeckmanCoulter - Vi-Cell Blu
BeckmanCoulter - Vi-Cell XR
C Technologies, Inc. - SoloVPE
CAS - CI 153 CLiMET particel counter
Chemometec - NucleoCounter NC-202
Gonotec - Osmomat 030 RS/D
Gonotec - Osmomat 3000
Gonotec - Osmomat auto
Hach Lange - DR 2800 photo meter
Hach Lange - DR 3800 photo meter
Hach Lange - TL2350
Heidolph - Overhead Stirrer Hei-TORQUE
Knick - Portavo 907 pH, conductivity, O2
Mettler Toledo - Compact Titration G20 / G20 S
Mettler Toledo - Compact Titration V20 / V30 / C20 / C30
Mettler Toledo - D4 / D5 / D6 / R4 / R5 / RX4 / RX5
Mettler Toledo - DM40 / DM45 / DM50 / RM40 / RM50
Mettler Toledo - DX40 / DX45 / DX50 / RX40 / RX50
Mettler Toledo - Excellence balances XP / XS / XPE / XSE - LabX
Mettler Toledo - Excellence balances XPR / XSR - LabX
Mettler Toledo - MP70 / MP80 / MP90
Mettler Toledo - Quantos automatic dosing systems: XP/XS/XPE
Mettler Toledo - SevenExcellence
Mettler Toledo - Titration Excellence T5 / T7 / T9
Mettler Toledo - Titration Excellence T50 / T70 / T90
Mettler Toledo - UV7/UV5/UV5Nano/UV5Bio
Nova Biomedical - BioProfile FLEX
Nova Biomedical - BioProfile FLEX 2
Nova Biomedical - BioProfile phOx
Pall - Palltronic® Flowstar IV
Perkin Elmer - Lambda 25 Spectrometer
Radiometer - ABL 805
Rapid Micro Biosystems - Growth Direct
Roche Diagnostics - Cedex Bio
Roche Diagnostics - Cedex Bio HT
Roche Diagnostics - Cedex HiRes
Roche Diagnostics - cobas b 123
Roche Diagnostics - cobas b 221
Roche Diagnostics - cobas e 411
Sartorius - ambr 15
Sartorius ambr 250
Sartorius - Sartocheck 5 Plus
Sartorius - Scales
Siemens - RAPIDLab 1200
Siemens - RAPIDLab 248
Siemens - RAPIDLab 348
Siemens - RAPIDLab 348 EX
Siemens - RAPIDPoint 500
TECAN - EVO
TECAN - Fluent
TECAN - Infinite M200

Bioreactor systems

Sartorius ambr® 15
Sartorius ambr® 250
Sartorius BioPAT® MFCS/win
DASGIP
Finesse TruBio

ELN/LIMS systems

Labware LIMS
Persistent LIMS
LABVANTAGE LIMS
IDBS E-WorkBook ELN

Historian systems

OSIsoft-PI
Generic OPC DA

You can view the current list of supported instruments here:
https://www.agu.de/de/SDC/AnalyzersDevices

Your analyzer isn`t listed?

No problem. SDC`s development framework makes the integration of new interfaces a snap.

Contact us with your lab requirements.

sdc@agu.de

Manager Benefits

01 Cost: SDC reduces cost by minimizing manual data processing and offering a unified validated interface for devices.

02 Reliability of data: SDC shortens measurement times, which leads to more frequent data and therefore to more knowledge about correlations between critical parameters. Reproducible and automated cell culture analysis improves the reliability of data.

03 Transparency and traceability: SDC makes a comprehensive correlation of analyzer and sensor measurements in research, development and production possible and creates transparency and traceability.

04 Central database: The central database provides a unique point of information. Data analysis occurs within ONE database and not in many different databases.
Efficient data evaluation occurs in ONE system for flexible data analysis and reporting.

05 Global visibility: Global data collection increases the visibility of different processes. Global task-sharing is facilitated.

06 Data availability: SDC delivers the data simply and transparently. The operator saves valuable time on the preparation of measurements and data transfer.

07 Calibration data: Calibration data during a product lifecycle (research, development and production) can be compared and contrasted regardless of the device used.

User Benefits

01 Sample handling: Measurements can be repeated easily and they can be prepared while the analyzers are still working. It is possible to monitor measurement progress from anywhere within the company´s network, including status observation of devices and calculation of time remaining. The measuring procedures of the analyzers are controlled without further user action.

02 Data evaluation/ calculation: Individual measurement results of the analyzers and sensors can be evaluated and calculated into a single result (e.g., mean value, trypsiniyation). Measurement results can be evaluated/ calculated according to batch ID and then displayed graphically in a “time cultivation chart”. The integrated batch comparison enables comparison with the golden batch.

03 Intuitive system: SDC`s modern and intuitive operating concept is grounded in practical experience, resulting in wide acceptance and minimizing need for on-the-job training.

04 Validation effort: SDC reduces the validation efforts tremendously by replacing the manual transaction and processing of data by the user.

05 GMP conforming data handling: Paperless data handling of measurements and data transfer to foreign systems (LIMS, MES, ERP) occurs with electronic signatures and change logs in consideration of 21 CFR Part 11. This ensures the data integrity of all measurements and further parameters. The operator can transfer data for special reports or evaluations easily to Excel.

IT Benefits

01 Cost: SDC reduces cost by minimizing manual data processing and offering a unified validated interface for devices.

02 Remote solution: SDC can be used as a remote solution for facilities regardless of location. Due to its integrated web technology, SDC can be used within the complete network centrally or remotely. Due to modern web technology, no additional installation work is necessary at the client site.

03 Interfaces: SDC has an open interface concept that enables the connection of LIMS, MES, and ERP through XML, SQL and OPC.

04 New analyzer: The adapter concept for the connection of analyzers and sensors allows for a continual expansion of the system.

05 Administration: User administration (user- and rights- management) can be linked to the active directory.

06 Backup: SDC supports the central data backup of results and images.

07 Setup: A setup oriented toward master data enables conformity and expandability.

08 IT concept: SDC is a fully developed *.NET* technology with an Ajax GUI framework and MVP architecture.

Production Benefits

01 Real time: Real-time data leads to a more accurate process adjustment. Real-time monitoring increases process understanding.

02 Ready for automation: SDC creates the basis for future automated processes. The development data can be compared to the production data and all process information (sensors and analyzers) can be viewed on a common timeline. The golden batch can be formed through real-time monitoring for "Closing the Loop" (QbD = Quality by Design)

03 Boost of quality and yield: More effective and faster processing time of trials makes more frequent measuring possible, optimizes process monitoring and boosts both quality and yield.

04 Consolidation: With SDC, the user can consolidate all sensors and analyzers used in fermentation research, development and production into a single system. This method makes the work easier and safer.

05 Fulfill GMP requirements: SDC supports your implementation of PATH / QbD (Process Analytical Technology / Quality by Design) by providing data transparency, reliability and traceability instead of manual measurement, where accuracy of data and precisely timed sampling cannot be guaranteed.

How to get in contact with us:

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