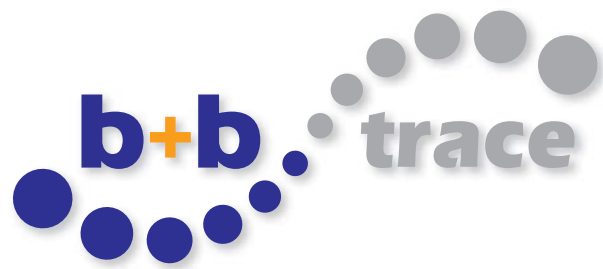




Modular software

for process safety and efficiency in serialisation



In response to the new serialisation requirements that will soon apply within the EU and the USA, **b+b Automations- und Steuerungstechnik GmbH** has developed a comprehensive solution including all software and hardware required for safe and efficient serialisation processing of pharmaceutical packagings.

The core of the system is a modular software architecture. This approach ensures that the software can be adapted at any stage to changing requirements at reasonable costs: for instance if you wish to incorporate additional lines and sites in the management system, if you need to adjust your processes to new coding and aggregation regulations or if you are investing in additional machinery. Within certain limits, our solution also caters for machines from other manufacturers.

The software solution can be implemented as a powerful production management platform for the simultaneous control and management of a wide range of coding and aggregation hardware. Not only the formats, recipes and programmes of the b+b hardware components are automatically sent to the production line: the systems of other manufacturers are also parameterised for fast product change-over.

Please note that, due to the modular software architecture, the modules and add-ons presented here only represent a selection of those possible. Special modules or module add-ons to existing solutions, including subsequent validation, are possible at all times.

bb-trace Software structure



b+b SiteServer



The b+b SiteServer is the central database and service application, and represents the control centre of the entire software modules.

The customer makes available a Windows VM and an MS SQL server database.

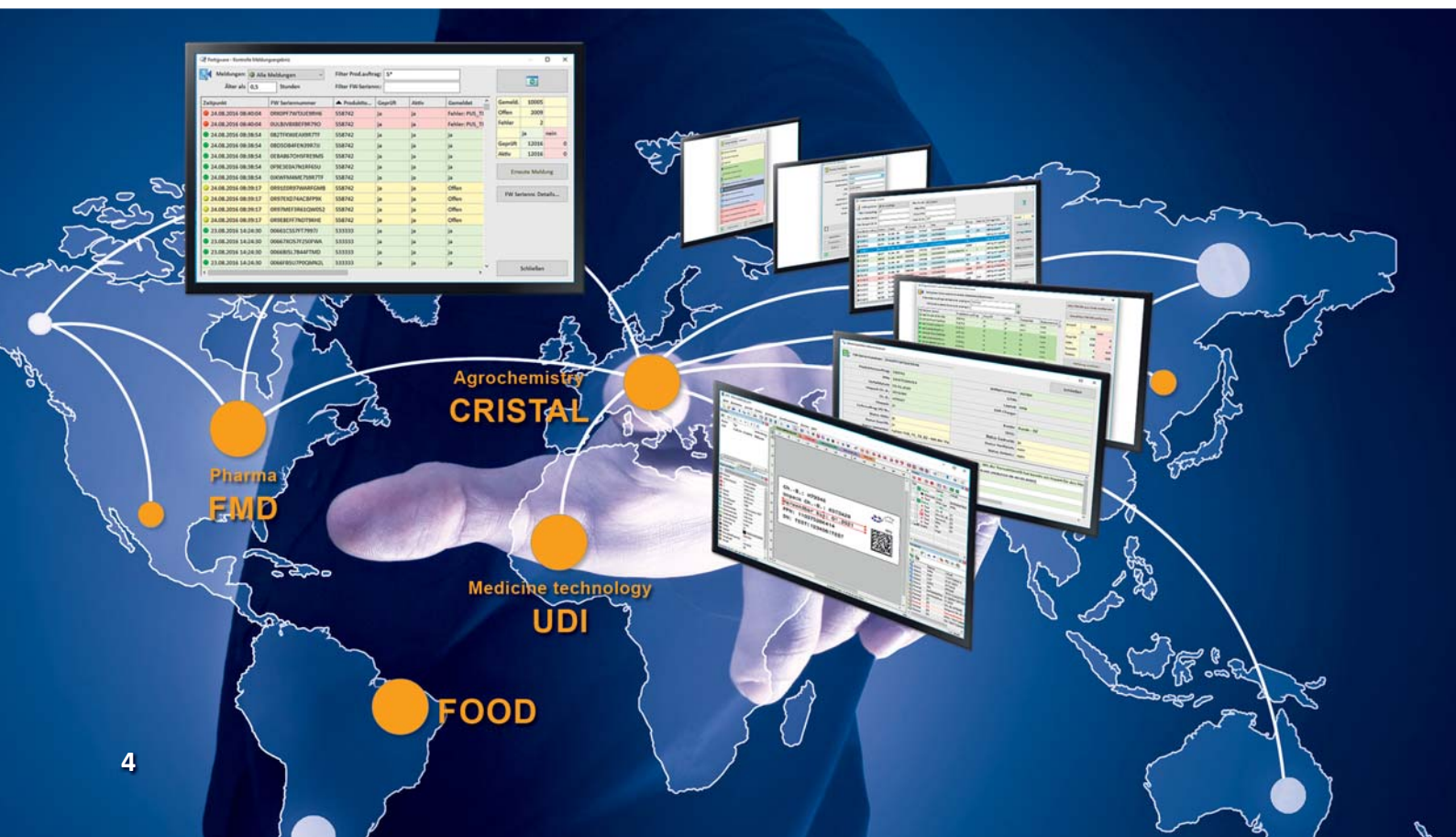
The SQL server database will be equipped with the necessary table structures by b+b. The customer is given read-only access to table data.

Furthermore, the b+b SiteServer application is installed in this windows VM.

The software comprises a Windows service which is immediately activated upon the reboot of the computer/VM, including without the log-on of a Window user.

The “b+b SiteServer” service has the following tasks:

- Management of the database data (automatic back-ups, data cleansing, import/export)
- Management of the users/user rights for all b+b software modules (exception: Line Managers)
- Data exchange with production lines (on TCP/IP basis, b+b Line Link module)
- Licence management of the b+b software modules in the production department / workplace PCs. To this end, the “b+b SiteServer” service requires access to the SQL server database, access to network connections and, if necessary, access to the directory approvals (e. g. XML files).
- Data and report exchange with various external repository databases (e. g. EU-Hub) on a XML basis
- Processing of reports from external repository databases (e. g. EU-Hub) on an XML basis



b+b SiteManager

The “b+b SiteManager” software serves as the central management software of the data contained in the b+b SiteServer database. Depending on the rights, the registered user can launch and use the relevant management screens.

This means that the software can be made available centrally for all users, e. g. in a network drive: upon the launch of the program the software occupies a licence on the b+b SiteServer, and ending the software releases the licence again. The software also requires access to the b+b SiteServer database.

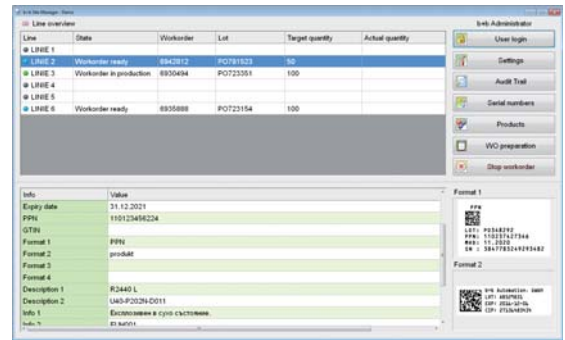
The “b+b SiteManager” software logs data changes entered by a user in the management screens in the audit trail table of the database.

The b+b SiteManager represents the user interface for managing all production orders.

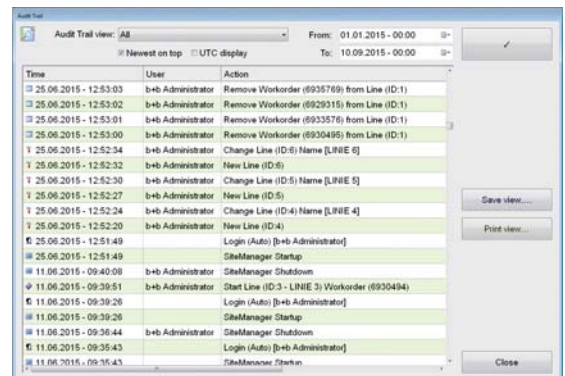
It feeds the production line with the production data such as job number, batch number and quantity, as well as the accompanying serial numbers. At the end of the batch, the resulting data, including the list of the serial numbers, is automatically send by the line to the b+b SiteManager basis.

The serial numbers can then be transmitted to your final customers via the b+b SiteServer.

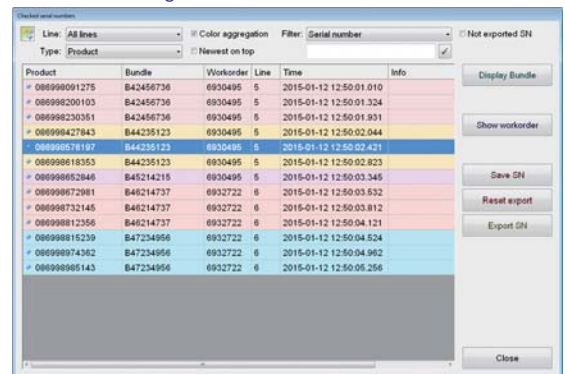
This software typically operates on a PC in the production management or production planning department.



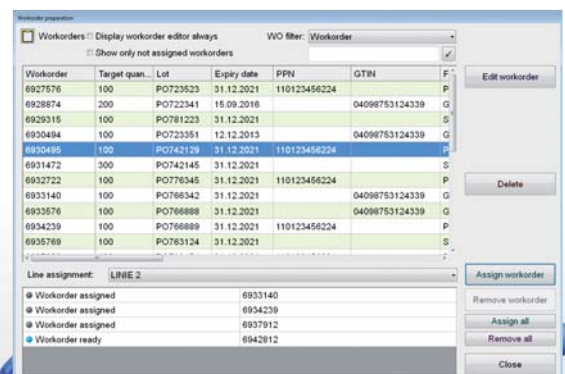
b+b SiteManager



bb-trace SiteManager - Audit Trail



b+b SiteManager - Serialnumber



b+b SiteManager - Assignment

b+b SiteManager ZSP

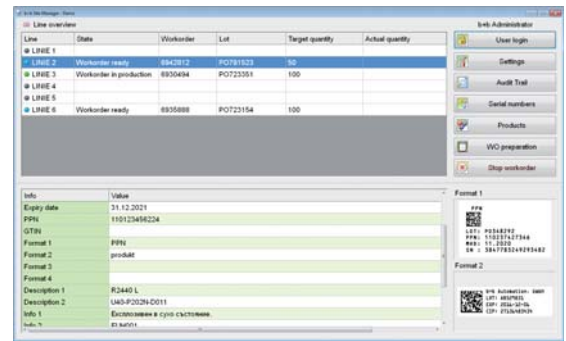
The b+b SiteManager ZSP is based on the standard b+b SiteManager. All the functions contained with it are also contained in the b+b SiteManager ZSP.

Furthermore, the b+b SiteManager ZSP represents an even higher degree of automation across the lines, and an even greater degree of optimisation of the customer's workflow.

In addition to the automatic parameterisation of printing and camera systems necessary for the implementation of the serialisation, the b+b SiteManager ZSP controls and parameterises more extensive system components and selects the relevant format and/or recipe of the connected units based for instance on the selected production order number.

These can include:

- Various printing and labelling systems
- Scanners, camera systems, camera sensors
- PLC, microprocessor controls of various generations
- Check weighing machines, metal detectors
- Further network-compatible system components, such as quantity counters, flow counters, etc.



b+b SiteManager ZSP

b+b ERPLink

The b+b ERPLink is the automated bidirectional interface between the b+b SiteServer and the company's ERP system.

Through this interface, information such as expiry dates, batch codes and serial numbers can be retrieved from the ERP system for production.

The printed and verified serial numbers as well as all relevant validation and order details are then returned to the ERP system, with our without manual release at the b+b SiteManager.



b+b LineLink



The b+b ERPLink is the automated bidirectional interface between the b+b SiteServer and the company's ERP system.

Through this interface, information such as expiry dates, batch codes and serial numbers can be retrieved from the ERP system for production.

The printed and verified serial numbers as well as all relevant validation and order details are then returned to the ERP system, with our without manual release at the b+b SiteManager.

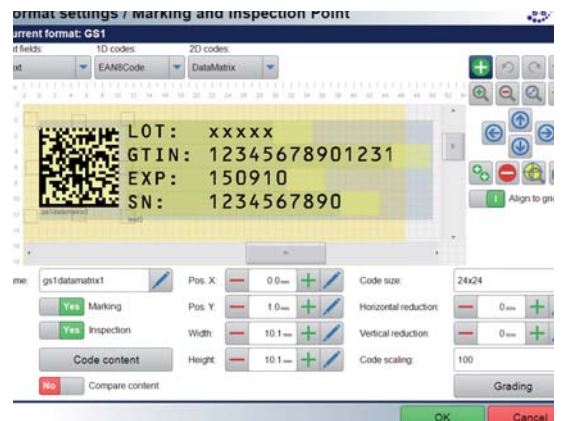
b+b LineManager



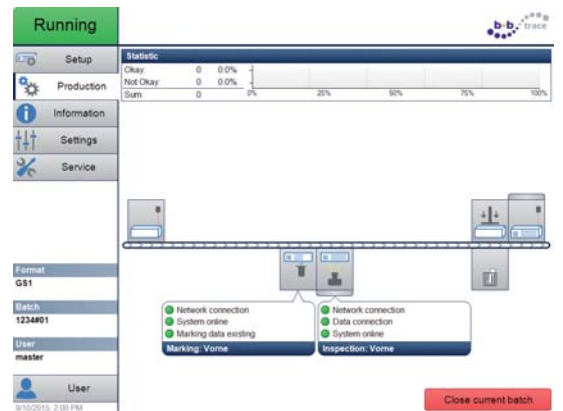
This software module is used for serialisation purposes in production and comes with user-friendly functions for the control of cameras and printers.

In the b+b LineManager, operators can view and select the jobs received from the server via b+b LineLink.

When the user starts a job, the associated serial numbers are printed, validated, recorded and, if necessary, aggregated (up to aggregation level 2-3) before they are returned via b+b LineLink to the b+b SiteServer for further processing



b+b LineManager - Aggregation



b+b LineManager - Production interface



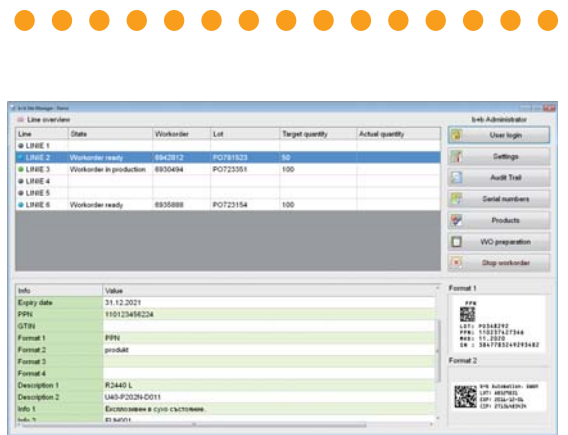
b+b Aggregation Modul

The serial numbers/products to be aggregated can be captured either manually or automatically on the line.

The aggregation can be done either of a single material or randomly.

At the end of the aggregation, according to the aggregation stage, a label for the shipping box or a label for the pallet is produced.

Data export or print-out is possible at any time.



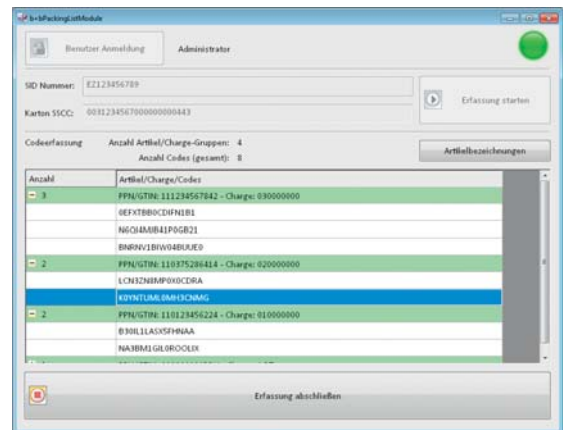
b+b SiteManager

b+b Packing List Modul

The user selects a shipment order number and, if not provided automatically, a SSCC (Serial Shipping Container Code). The products are taken from the warehouse, and their codes are captured using a manual or stationary scanning device.

This procedure is assigning the serial codes to the shipment number, this information is stored in the central b+b database.

When all products are captured, the user is stopping the process and a shipment label is printed automatically. At the same time the products and the shipment information are reported to the customer's ERP system.



b+b Packing List Module

b+b GlobalServer

Where a company operates multiple sites, the bb-trace GlobalServer manages the data from the various b+b SiteServers.

b+b GlobalManager

The functions of the b+b GlobalManager correspond to those of the b+b SiteManager, but obviously cover multiple sites and multiple b+b SiteServers.

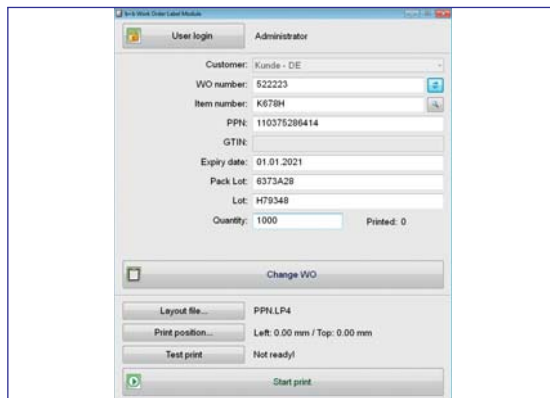
b+b Work Order Label Module Labels Platform 4

Production software

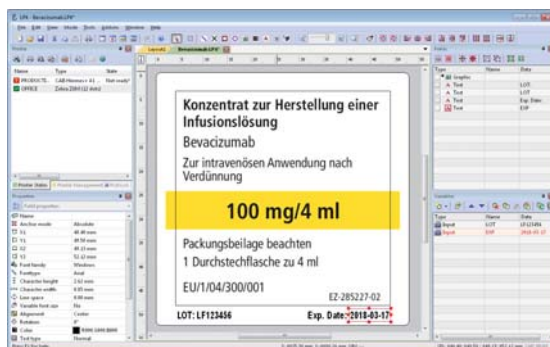
The Labels Platform 4 software enables users to create, load, edit and print customised labels of any size, layout and type.

If these labels need to bear a serial number, the relevant information is retrieved from the b+b SiteServer database using the b+b Work Order Label Module software where the user can specify the label layout and the number of labels to be printed before starting the print run.

The b+b Work Order Label Module software monitors the printing process, sends the necessary serial numbers from the SQLServer database to the printer and flags these serial numbers accordingly in the database.



b+b Work Order Label Module



Labels Platform 4

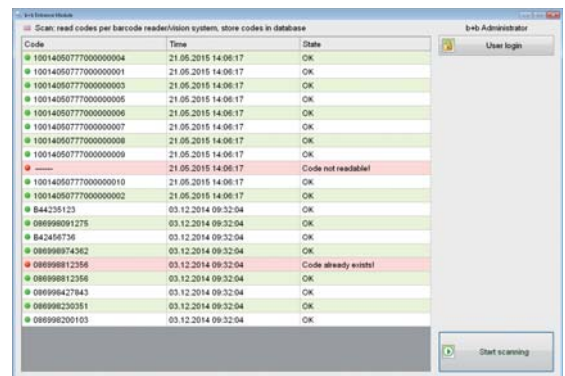


b+b Entrance Module

Production software

The b+b Entrance module has been designed for the recording of scanned codes in the b+b SiteServer database.

To scan codes (e.g. GS1 or PPN codes), the user starts the scanning program on the software GUI and then operates the hand-held scanner. All correctly recorded codes are listed on the screen with a time stamp and subsequently transferred to the b+b SiteServer database. The system detects incorrectly scanned or duplicate codes and alerts the user.



b+b Entrance Module

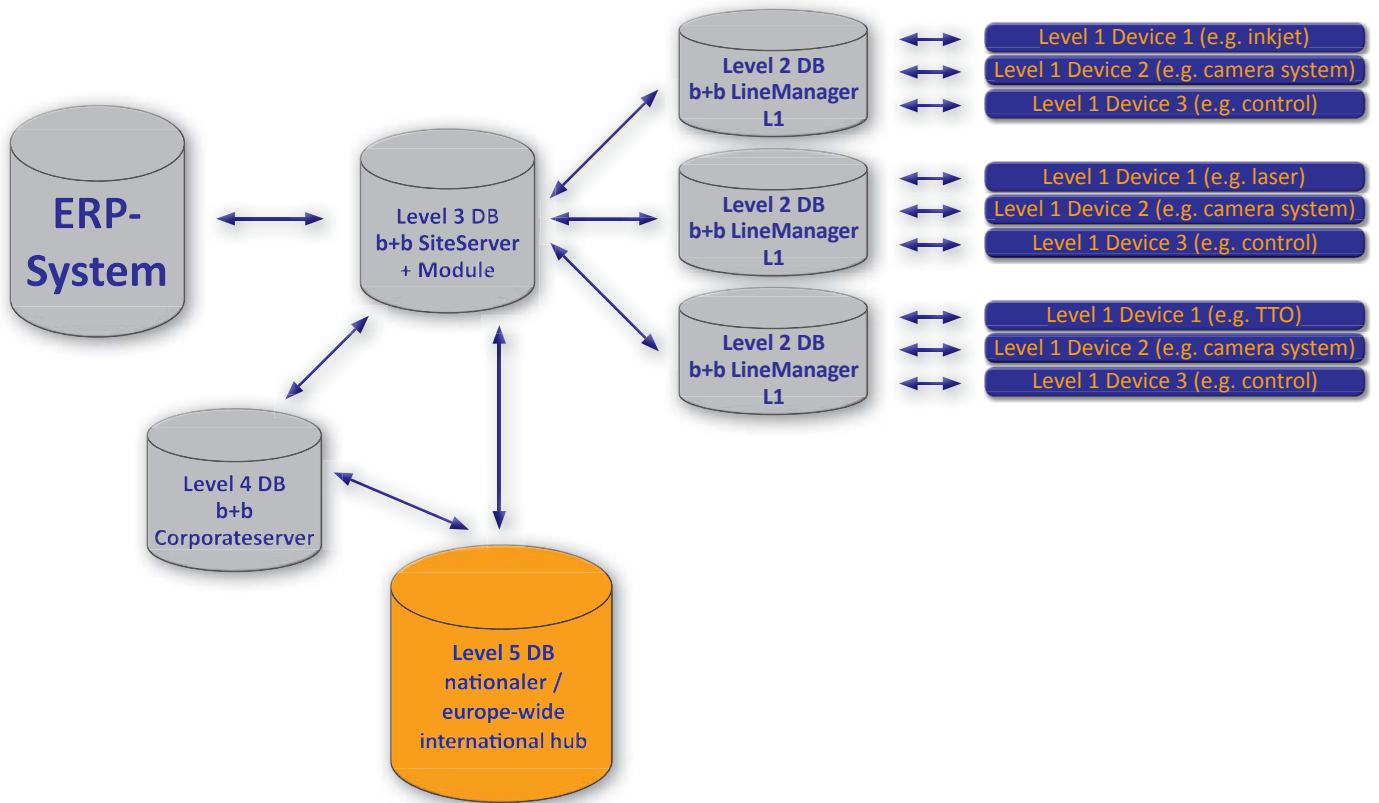
b+b Serialnumber Recording Module

Production software

This software modules enables users to select and run a job from the database. The respective codes are captured by the camera, verified and subsequently transferred to the b+b SiteServer database. The b+b SiteServer Service then forwards these codes to the customer's ERP system.



Database Structure





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