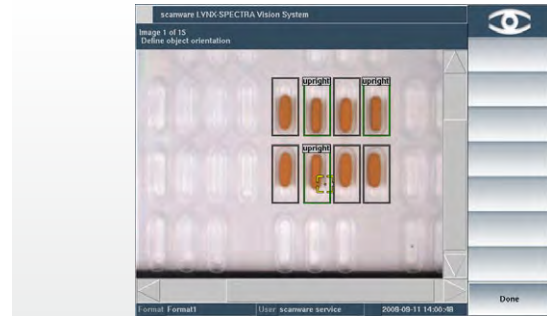
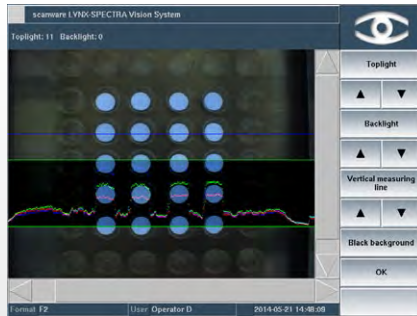


# SOFTWARE INFORMATION



## LYNX-SPECTRA Software packages

### Description

The LYNX system software is a package of components that is tailored to the inspection project and can be configured individually – from the user interface to the machine control unit.

### General components

Operating system:

System downtime is effectively minimized through the use of the hard real-time operating system QNX®. As a result of its high level of security, this operating system is frequently used in life-support systems as well as in the aerospace industry. Data is exchanged within milliseconds, without the need for an UPS. What's more, the danger of virus infection is very low.

LYNX user interface (GUI):

The user interface has the same structure for all systems and is designed in such a way that users can operate the system intuitively.

LYNX web server

LYNX I/O TCP/IP software module

LYNX VNC server:

This integrates the screen and operating elements into an existing human-machine interface and allows remote access to the system when activated.

Optional:

LYNX VDMA protocol client:

The system function control using the VDMA XML protocol comprises the functions of remote format selection and time synchronisation.

LYNX master GUI

LYNX shift register management

### Highlights

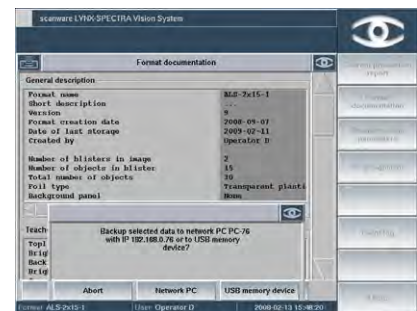
- Full compliance with CFR 21 Part 11: access control with user name and password, freely configurable password criteria, automatic logout, automated password change, more than 1,000 users and six pre-defined user roles, comprehensive audit trail that records date, time, user, function, old and new entry for all changes.
- Clear and detailed format management: up to 1,000 formats and the corresponding reference images can be saved, format versions are defined when saving.
- Easy data management: backup, recovery, printing and data export to USB, systems in the network and systems in a Windows domain.  
Optional function: data exchange using a VDMA XML protocol with remote format selection and data synchronisation.

## ■ Basic LYNX Software

The basic LYNX software contains extensive administrative functions that can be used to control and monitor the packaging process. These include:

### User management and access control as per CFR 21 Part 11

- Access control with user name and password
- Freely configurable password criteria
- Automatic logoff
- Automated password change
- Six pre-defined user roles
- More than 1,000 users possible
- Deletion of the last login name



### Data backup

Manual data backup, recovery and export to

- USB stick
- Systems in the network
- A Windows domain

Data exchange via VDMA protocol (XML)

- Remote format selection
- User management
- Data synchronisation
- Event log

Data export in a "human-readable" format

Print function for images and documents

Automatic data backup following system start-up

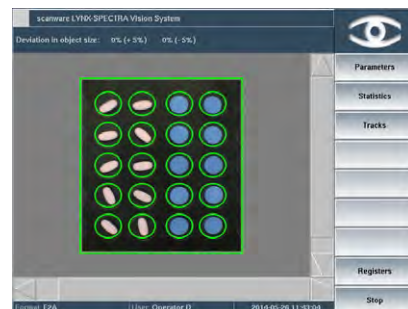


### Audit trail. The following data is recorded:

- Date
- Time
- User
- Function
- Old entry
- New entry

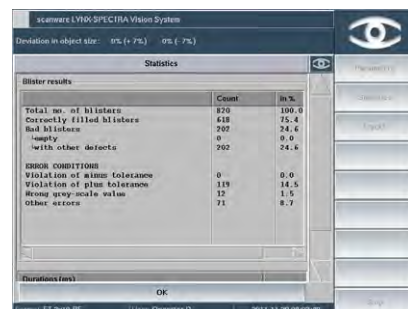


Teach-in functions	1	2	3
User-controlled teach-in	■	■	■
Automatic teach-in	■	■	■
Partial teach-ins for re-teaching the following:			
▪ Product size	■	■	■
▪ Product colour		■	■
▪ Background colour		■	■
Product-specific tolerances			□
Sizing for products with imprint			□
Teaching wrong products			■
Teaching adhesive tape colour			■
Automatic blister arrangement		□	□
Mask management			■
Reuse teach-in images		□	□
Manually reject images	■	■	■
Always reject the first "x" images during the teach-in			■
Remove statistically rare colours			□



Filter functions	1	2	3
Interfering pixel <sup>1</sup>			□

Production functions	1	2	3
Simultaneous statistics	■	■	■
Visualisation of the last blister results	1-10	1-500	1-500
Visualisation of shift register distance		□	□
Indication of an entire machine cycle			□
Display of format parameters	■	■	■
Configurable machine stops for wrong colour, overfilling, position error, consecutive error, broken product	■	■	■
Automatic mask tracking <sup>1</sup>	□	□	□
Error image display in the evaluation		■	■
Displaying the stroke index for intermittent machines <sup>1</sup>			□
In-process control (IPC)			□
Event-driven backup		□	□



Diagnostic functions	1	2	3
Comprehensive format test	■	■	■
Number of saved error images	≤ 10 <sup>2</sup>	≤ 20 <sup>2</sup>	≤ 30 <sup>2</sup>
Saving error images	■	■	■
Extended image saving options	■	■	■
Evaluation test run for machine standstill	■	■	■



<sup>1</sup> = depending on machine type (speed)

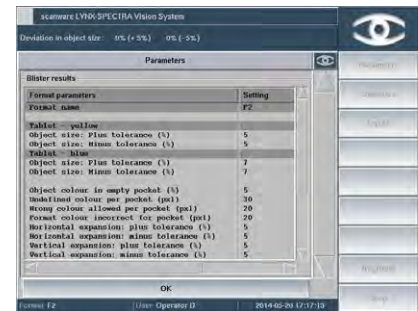
<sup>2</sup> = may also be less for large images

■ = available feature □ = optional feature



## Format management functions

	1	2	3
Format library with more than 1,000 formats	■	■	■
▪ Saving the reference image per format	■	■	■
▪ Saving the illumination settings per format	■	■	■
Format version control when changes are made	■	■	■
Multi-stage format creation taking account of different access rights			□
Global format parameter limits		□ <sup>3</sup>	□
Format-specific limits for format parameters		□ <sup>3</sup>	□
Product specific tolerances			□



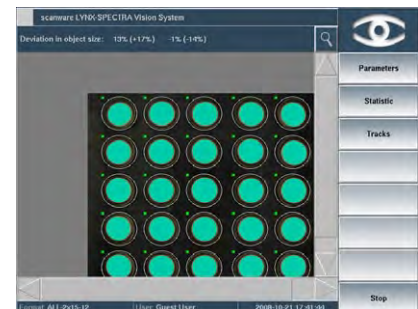
## 21 CFR Part 11 additional functions

	1	2	3
40 freely configurable user roles			■
Machine stops with request for acknowledgement by means of user name and password		□	□
Specification of reasons for making format changes			□
Deletion of the last login name	□	□	□
Forced data backup before deleting data			□



## Operation

	1	2	3
Simple and menu-driven	■	■	■
Identical menu structure in all scanware applications	■	■	■
Multilingual interface	■	■	■
Camera image zoom	■	■	■



<sup>3</sup> = can only be activated together

■ = available feature □ = optional feature



## ■ LYNX-SPECTRA application software

Available for the following areas of application:

- Black and white
- Blister
- Multiple cameras
- Bulk mix-up control
- Bulk on vibration conveyors
- Bulk on drum feeder
- Medical strips
- Special application
- Clinical trial

Available in the following expansion stages:

- Package 1
- Package 2
- Package 3
- Software update to the next expansion stage

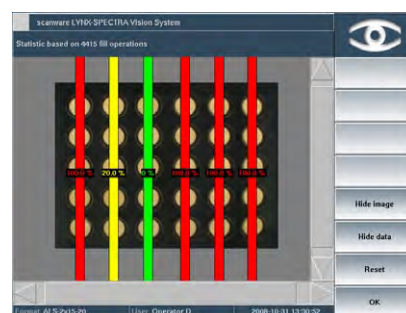
### Control features

	1	2	3
Color	■	■	■
Presence	■	■	■
Size	■	■	■
Shape <sup>4</sup>	■ V1	■ V2	■ V2 □ V3
Perimeter	■	■	■
Position	■	■	■
Broken product	■	■	■
Overfilling	■	■	■
Surface defects	■	■	■
Consecutive errors	■	■	■
Adhesive tape colour			□
x/y measurement		□	□
Detection of upright objects for teach-in function			□
Control of printed hard gelatine capsule			□
Wrong colour in empty pocket		□	□
Colours per blister/camera			□



### Reporting functions

	1	2	3
Report on current evaluation	■	■	■
Format documentation	■	■	■
Batch report (data regarding lots, users and production)		■	■
Function test		■	■
Feeder statistics			
▪ Lane feeder		■	■
▪ Pocket feeder		■	■
Pocket statistics			□
Feature statistics			□



<sup>4</sup> = V1, V2, V3 are different versions of format detection, which differ in terms of algorithms

■ = available feature □ = optional feature



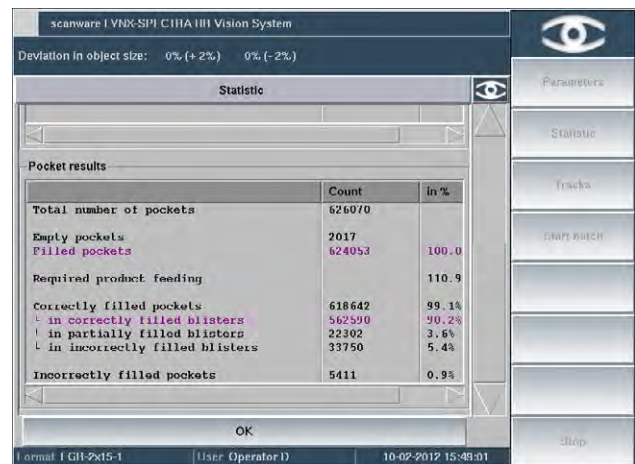


## Functions in detail



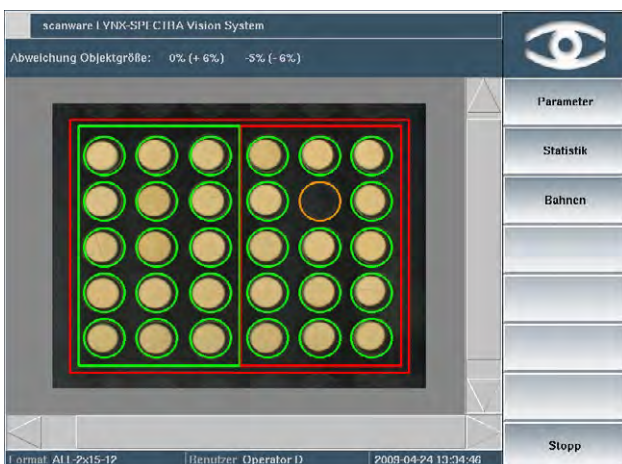
### Format test

The format test is a diagnostic function that can be used to perform an individual check on errors that have occurred. In addition, it displays the blister results and shows the format mask with blister and pocket numbers.



### Pocket statistics

So that the productivity can be determined precisely, the pocket statistics function outputs statistics regarding the individual pockets. This makes it possible to establish, for instance, how many good products have been rejected due to incorrectly filled blisters.



### Automatic mask tracking

In the case of intermittent machines, the trigger time varies depending on the speed of the conveyor belt and other technical factors. These are compensated by the automatic mask tracking.



### x/y measurement

Using the x/y measurement function, the respective expansion of a product in the horizontal x direction and vertical y direction can be clearly recorded, thus preventing errors during evaluation in ongoing production. This feature can be used, for instance, to check transparent hard gelatine capsules with powder.

- LYNX-SPECTRA** Product Inspection
- LYNX-SIGNUM** Code Inspection
- LYNX-FOCON** Pore Detection
- LYNX-CAPA** Track & Trace Solutions

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