

TubeScan Digital Strobe

*Special Edition



**World's first LOW COST
100% Inspection System for Labels**

Introducing "TubeScan Inspection System"

In this Issue.....

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- **New Product: TubeScan Inspection System**
- **BST at Label Expo 2013, Brussels**

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Salient features of Nyquist TubeScan Inspection System:



- ***100% Print Inspection***
- ***Detection of fine print defects, register defects & color variations***
- ***Detect defect size > 1 mm (Defects > 1mm considered as wastage)***
- ***Extremely Cost effective: Price equal to normal Video Inspection System***
- ***Coarse inspection at low cost: sufficient in many applications where discrete sensors are used or where operators turn down the sensitivity of the print inspection system in order to get higher production yields***
- ***Combines the advantages of area-scan camera & line-scan camera***
- ***Highly Recommended & Ideal for all types of press, slitters & re-winders irrespective of any video inspection system installed***
- ***Accurate counting of repeats, labels and missing labels***
- ***Real-time display of the detected defects on HD monitor***
- ***Optional placement control module with defect queue for automatic control of a re-winder***
- ***Time saving and simple setup***
- ***Very reliable and stable operation***

New Partner- Nyquist System:

BST International is extremely happy to announce our latest association with "Nyquist System" and yet another addition in the widespread product portfolio "TubeScan Inspection System" for Narrow-web. After the positive results received from asking about the opportunities in various markets, BST International decided to conclude a sales contract with Nyquist Systems, the manufacturer of TubeScan.

TubeScan is a product of Nyquist System. Responsible for the development is Mr Stephan Krebs, CEO of Nyquist. He was in charge of the Erhardt&Leimer's video and inspection developments. Then he left E&L and started Nyquist. To promote his TubeScan system, he started a sales co-operation with eltromat in 2011/12. The reason he switched over to working with BST is that we have a broader access to the narrow web and converting market.

Nyquist Systems, founded in 2004 by Stephan Krebs (PhD), specializes in the design and integration of dynamic motion/tension controls and print inspection systems. As the first company worldwide, it developed an innovative workflow for print inspection, that has been successfully positioned in the market have revolutionized the printing process in numerous print shops across the world.

Today, Nyquist Systems focuses on the development of new and innovative quality control systems for the packaging and the label printing industry, employing a team of highly qualified hardware and software engineers.

We showcased "TubeScan Inspection System" during the latest Label Expo at Brussels and the response from all of you was simply overwhelming. We would sincerely like to Thank you all for the same.

In this special edition, we want to provide you with more information.

Warm Regards,
Khushal Patel
GM- Sales & Mktg.



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New Product- TubeScan Inspection System: World's first digital strobe for smart print inspection

The first digital strobe for label printing control. By the combination of imaging technology with the stroboscopic principle, TubeScan enables simple and safe, quality control during the assembly of labels for inspection of webs up to 430 mm web width (up to 850 mm to come) and up to 250 m/min web speed. It works with the so called Digital Strobe.

TubeScan combines the well-known principle of visualization the running web with a strobe with the display of the complete repeat.

TubeScan is available in three versions:

- **TubeScan** = basic device for visualisation
- **TubeScan +** = visualisation, label counting & missing label detection
- **TubeScan ++** = visualisation, label counting, missing label detection & defect detection

*The "+" and "++" versions are software updates to the basic device.

The intelligent solution for print Inspection

Quality control during printing or finishing has to be simple and must be very reliable. At the end, your reputation depends on the work you deliver to your customers.

Conventional methods such as, counting of repeats, detection of missing labels, with photo-electric sensors or the visualization of moving webs with strobe lights often reach limitations and are complicated to use. On the other hand, automatic print inspection systems based on-line scan cameras might be oversized and too expensive for many applications. Hence, a concept of TubeScan sets a new standard with the smart combination of imaging technology and the stroboscopic principle.

TubeScan provides considerably higher process reliability with the base function "**Digital Strobe**" because it always delivers a steady image and true colour representation- interdependent from the machine speed. Thus, the operator keeps full control over the entire production, even during critical phases like make-ready time or start/stop.

The function "**Digital Strobe+**" is not only accurately counting repeats, labels and missing labels in total and per lane, but it also detects matrix residues across the entire web width. This eliminates the usage of expensive and unreliable sensors and the necessity of cumbersome and time-consuming sensor adjustment.

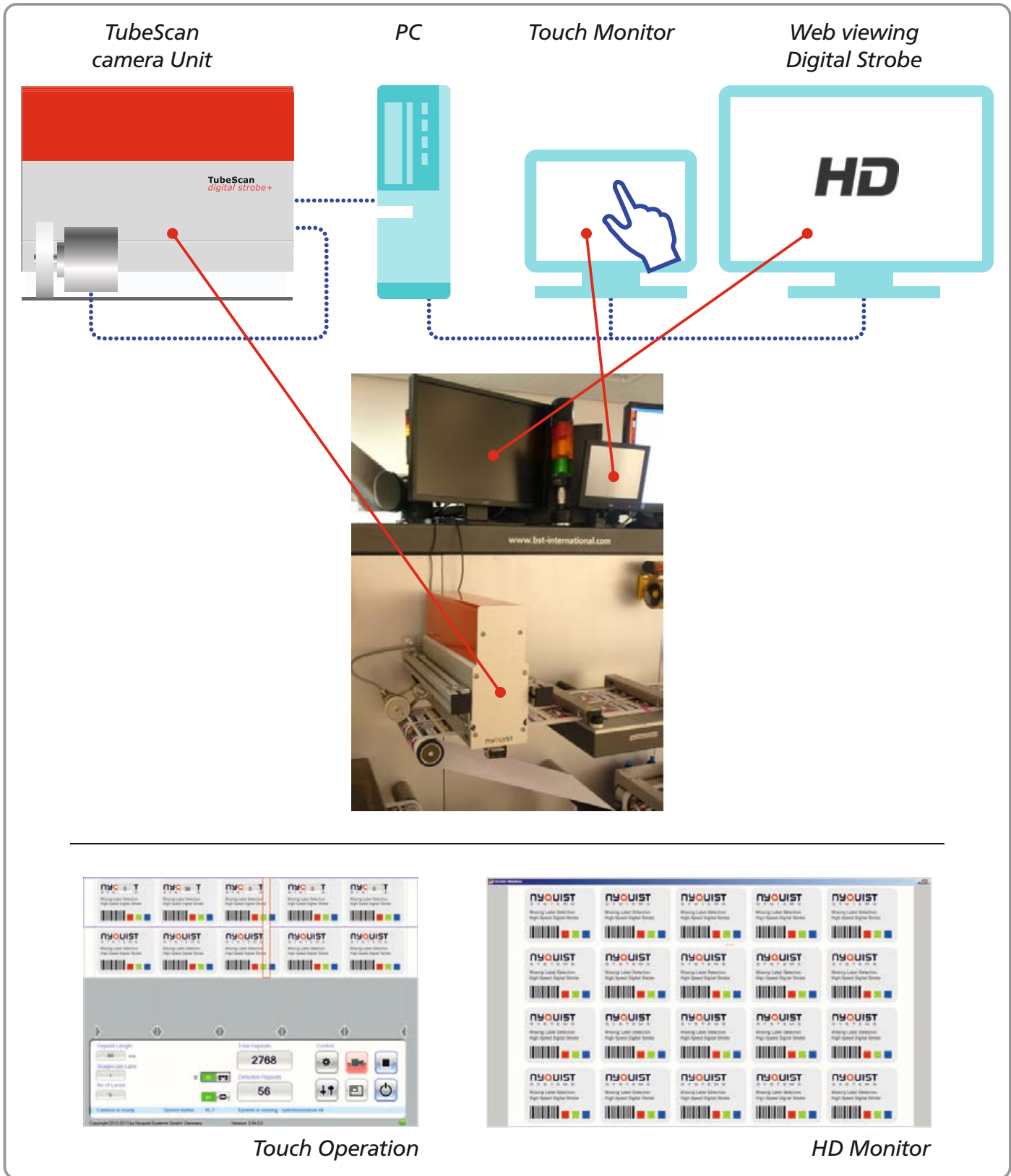
By choosing the additional option "**Digital Strobe++**" TubeScan even becomes a full grown print inspection system, which is able to detect print defects and register variations below one mm. so you live up to your reputation in an economic way by delivering quality up to your customers' expectations!

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New Product- TubeScan Inspection System:

TubeScan uses a modular PC system and a high quality digital image recording unit. Thus, the system allows for convenient coarse monitoring, that reliably detects defects such as labels, grid residues and missing ink even with reflective and metallized surfaces.

System Overview:



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TubeScan Inspection System:

Model Overview:

	TubeScan <i>digital strobe</i>	TubeScan <i>digital strobe+</i>	TubeScan <i>digital strobe++</i>
web width	330 mm / 430 mm / 660 mm / 850 mm (13" / 17" / 26" / 34")		
print inspection	–	counting + completeness	fine
digital strobe for web viewing	yes		
reflective material	yes		
touch monitor	yes		
HD monitor	yes		
dimensions	(W x D x H) 410 / 510 / 760 / 960 mm x 125 x 305 mm (16.1 / 20.1 / 30 / 37.8" x 4.9" x 12.0")		
operating temperature	0° – + 35° C (+ 32° – + 95° F)		
supply voltage	100 V - 240 V, 50 - 60 Hz		
I _{max} digital outputs	150 mA		
encoder with layon wheel	RS422 channel A+B		
binary inputs / outputs 24 V	3 / 4		



TubeScan *digital strobe*

Base device *digital stroboscope*

Your benefits:

- Camera with up to 30 images per second shows every repeat in real-time
- Clear image representation even with reflective materials
- Automatically synchronized images over the entire speed range of up to 250 m/min
- No health risks and less tiring compared to the use of commercially available strobe lights
- Optional UV-illumination for monitoring security features (wave length 365 nanometers)
- Time saving and simple setup
- Very reliable and stable operation
- Intuitive operation via touch monitor
- Cost-efficient

TubeScan *digital strobe+*

Counting and completeness

Your benefits – in addition to base functions :

- No time-consuming sensor adjustment
- Detection of missing labels, coarse print defects and matrix residues (defect size Ø approx 5 mm)
- Accurate counting of repeats, labels and missing labels for up to 20 lanes
- Generation of a 24 Volts defect signal to trigger alarm device or marking system
- Optional placement control module with defect queue for automatic control of a re-winder

TubeScan *digital strobe++*

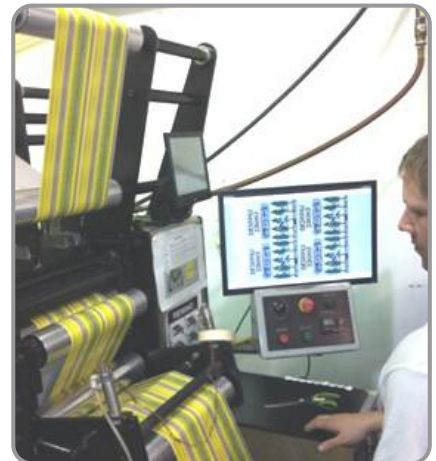
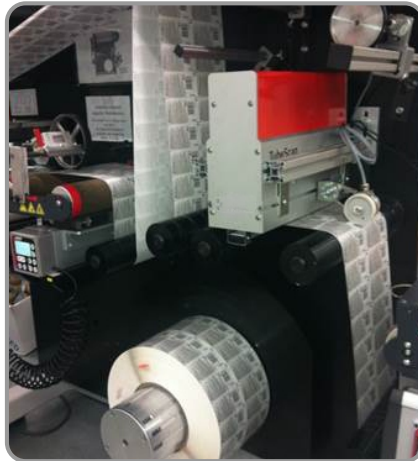
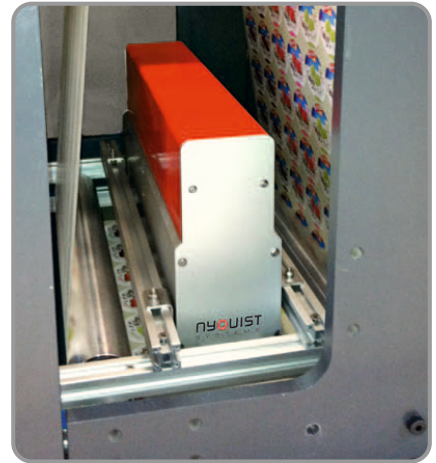
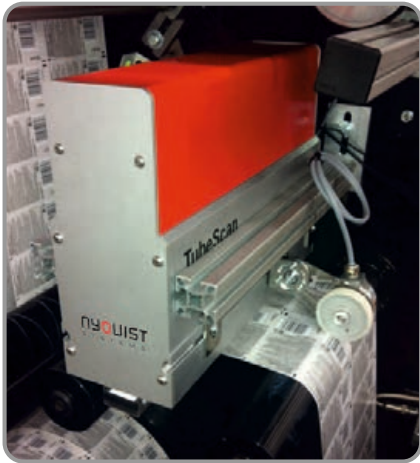
Print inspection

Your benefits – in addition to digital strobe+ :

- Detection of fine print defects, register defects & color variations (defect size Ø approx. 1 mm)
- Real-time display of the detected defects on HD monitor
- Masking tool to define areas to be ignored
- Job saving function for repeat orders

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Installation of "Nyquist TubeScan System" on live Press:



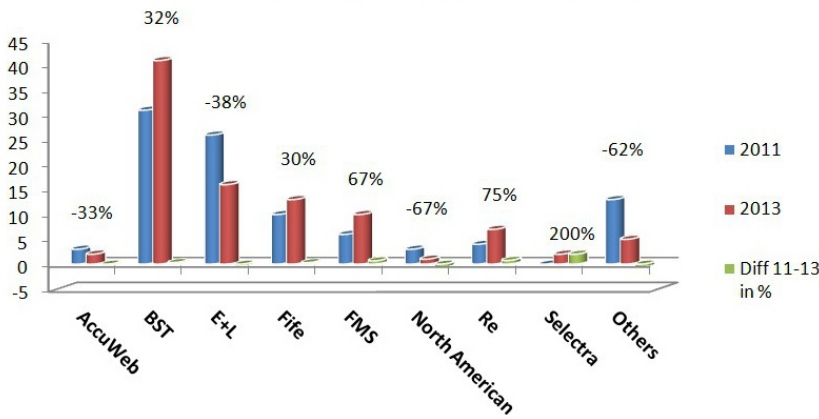
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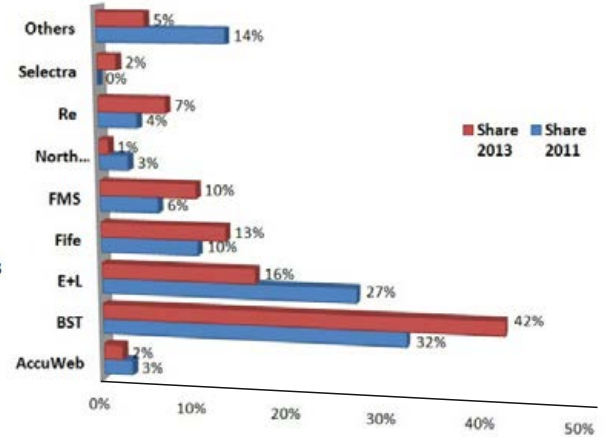
BST at Label Expo 2013, Brussels:

We can give a lot of figures illustrating the Label Expo success. As mentioned, in this Newsletter edition we start with the number of exhibitors having systems installed. These figures are even higher than 2011, which was already a record year. And we are very proud that all BST systems shown on Label Expo were sold beforehand! Special highlight were again the web guiding systems: we never had that number of exhibitors who equipped their machines with BST web guiding systems. But see for yourself:

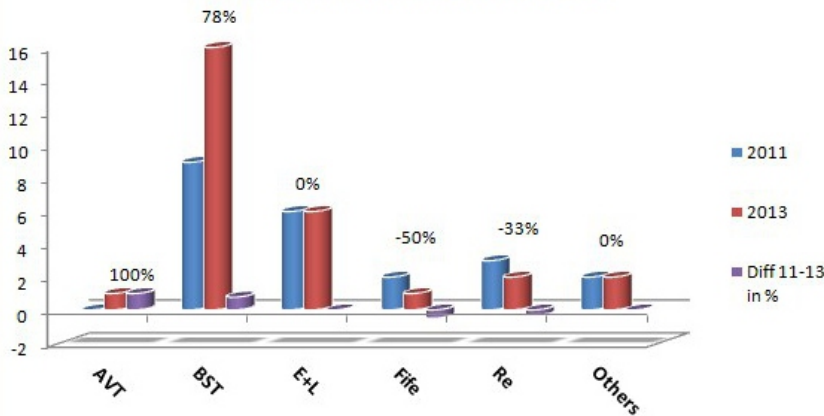
Web Guides - No. of Exhibitors



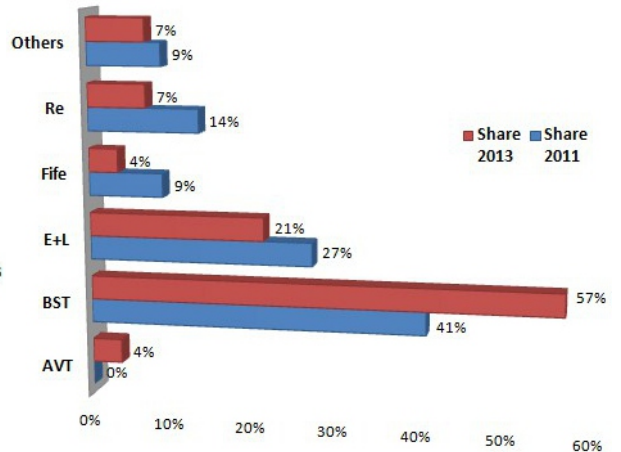
Web Guides - Share of Exhibitors



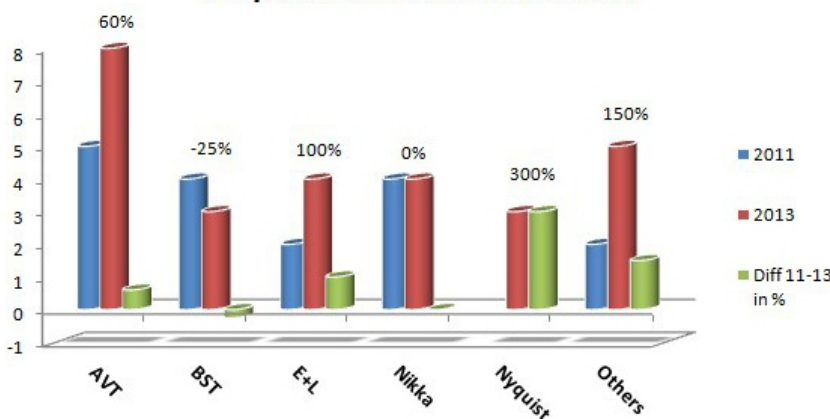
Video - No. of Exhibitors



Video - Share of Exhibitors



Inspection- No. of Exhibitors



Inspection - Share of Exhibitors

