

## 25. Hofer Vliesstofftage



**ISRA**  
**V I S I O N**

**"PREMIUM-Qualität sichern,  
Kundenreklamationen vermeiden –  
Kleinste Spunbond-Materialfehler  
bei 1000m/min sicher erkennen"**

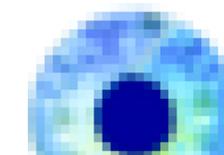


# ISRA im Überblick – Niederlassungen & Technik-Zentren

**ISRA**  
VISION

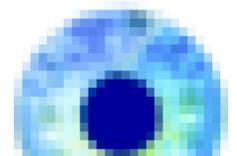
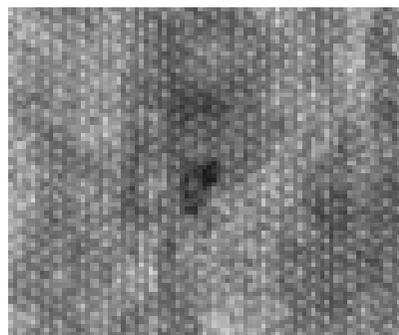
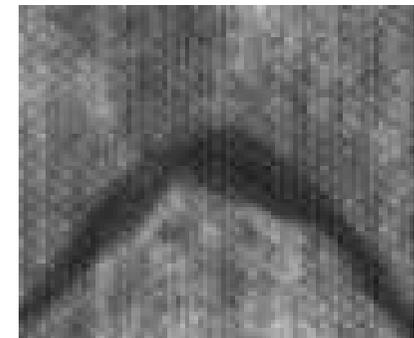
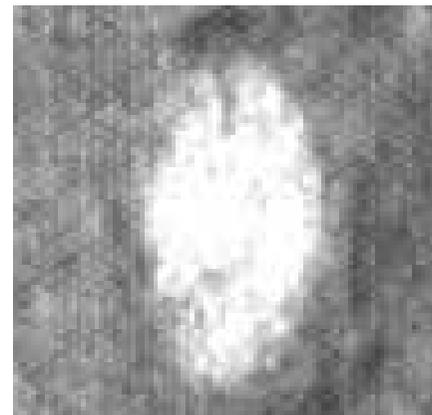
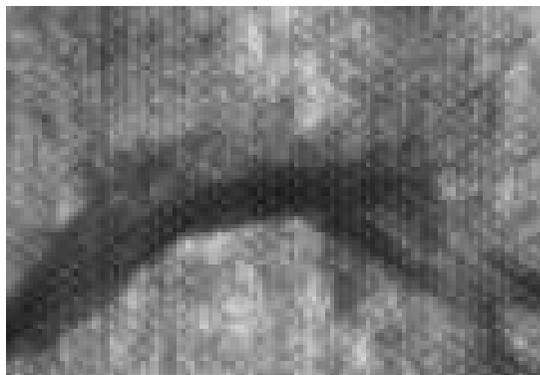
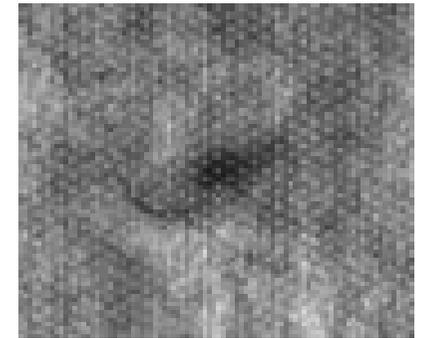
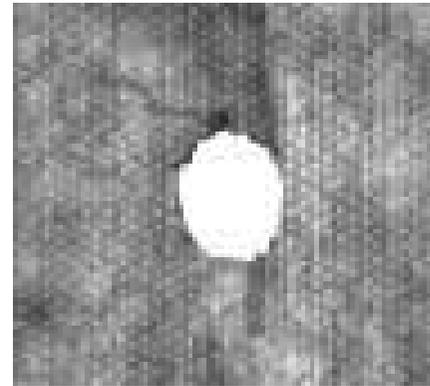
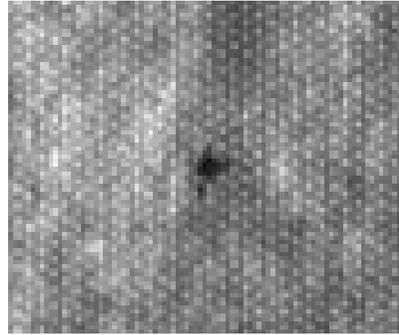
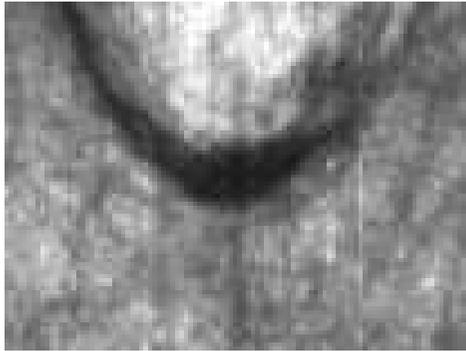


	<b>Mitarbeiter:</b>	<b>400</b>
<b>(15%)</b>	<b>F&amp;E:</b>	<b>60</b>
	<b>Umsatz:</b>	<b>75 Mio. €</b>
<b>(13%)</b>	<b>F&amp;E-Investitionen:</b>	<b>10 Mio. €</b>



The More You See...

# Typische Fehlertypen - Spinnvlies



Führende Hersteller verlassen sich auf ISRA

**ISRA**  
VISION



The More You See...

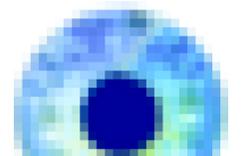
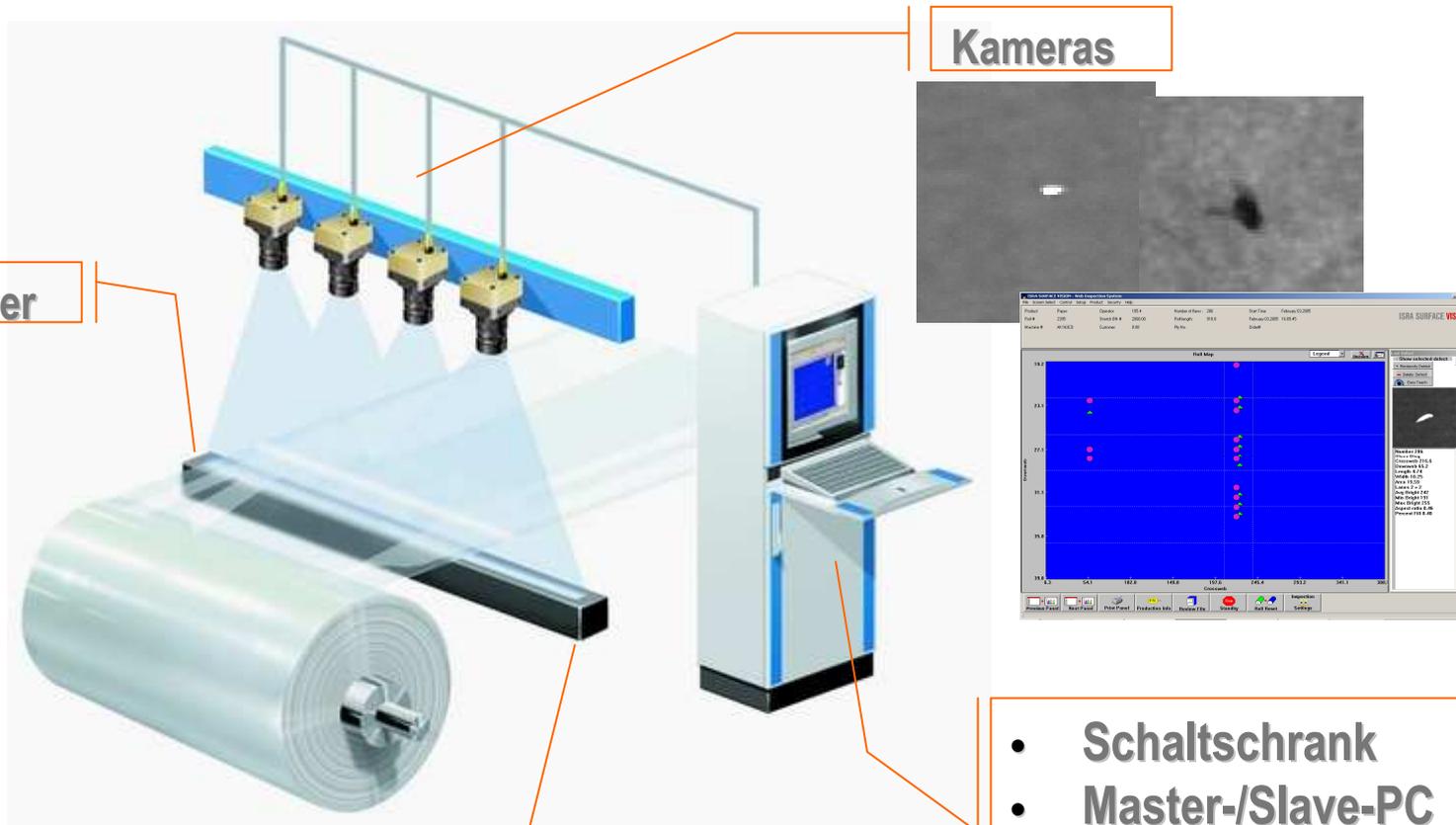
# Oberflächeninspektion - Systemarchitektur/-auslegung

Weggeber

Kameras

Beleuchtung

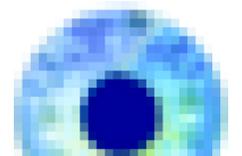
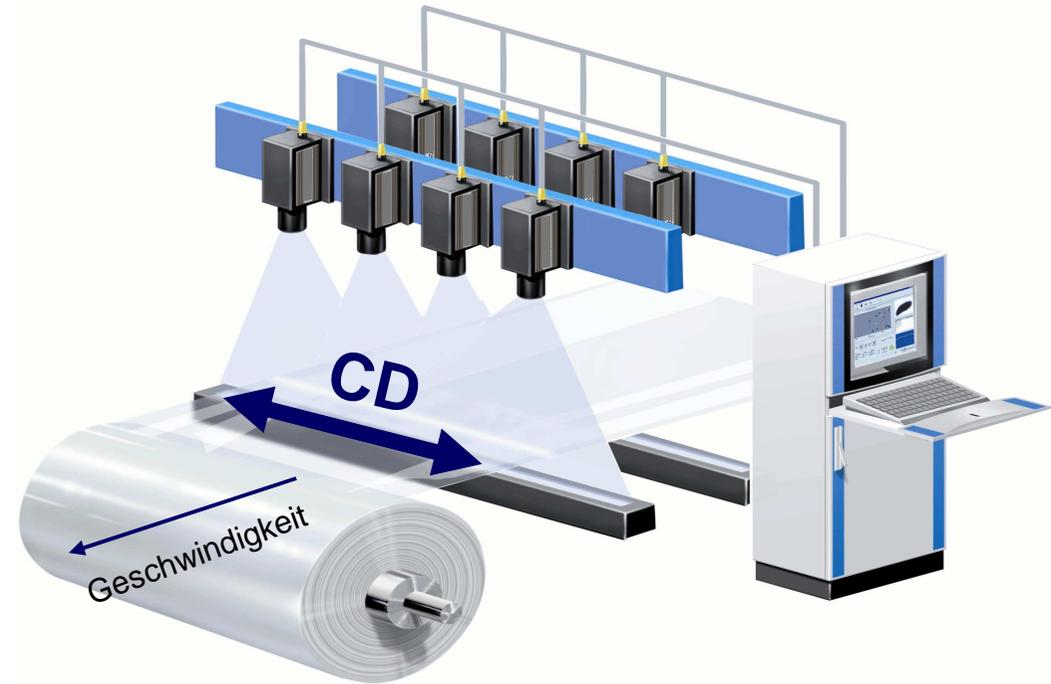
- Schaltschrank
- Master-/Slave-PC
- Datenbank
- Bedieneinheit



**CD: Cross Direction**

**Auflösung CD wird bestimmt von:**

- Bahnbreite in mm
- Anzahl der Kameras
- Bildpunkte je Kamera



## Beispiel Auflösung CD

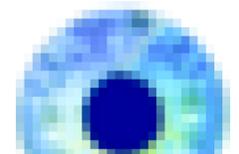
$$\text{Auflösung CD [mm]} = \frac{\text{Bahnbreite [mm]}}{(\text{Kamerazahl}) \times (\text{Bildpunkte je Kamera})}$$

### Beispiel:

**Bahnbreite: 2000 mm**

**Kameras: 2 Kameras mit jeweils 4096 Bildpunkten**

$$\text{Auflösung CD [mm]} = \frac{2000}{2 \times 4096} = \underline{\underline{0.24 \text{ mm}}}$$

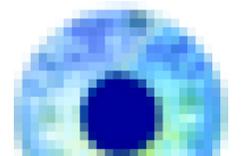
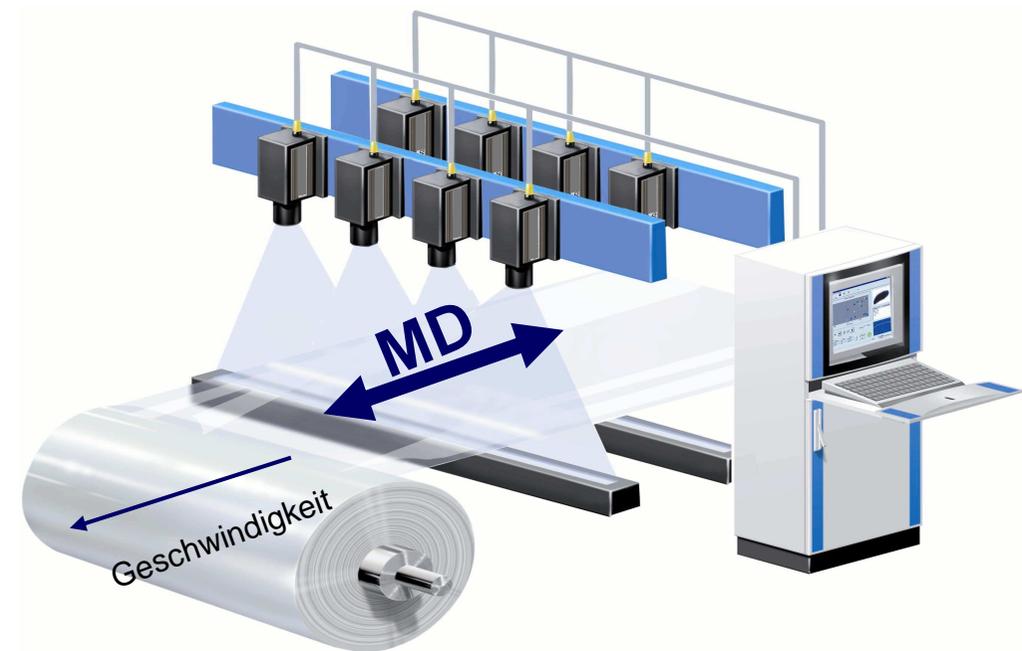


MD: Machine Direction of web

DW: Down Web

Auflösung MD / DW errechnet sich aus:

- Bahngeschwindigkeit [m/min]
- Pixelclock [MHz]
- Zeilenrate der Kamera [1/sec.]



## Beispiel: Auflösung MD / DW

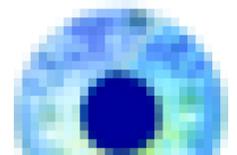
$$\text{Auflösung MD [mm]} = \frac{\text{Geschwindigkeit [m/min]} \times 1000}{60 \times \text{Zeilenrate [1/sec]}}$$

### Beispiel:

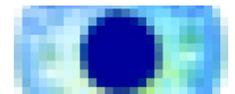
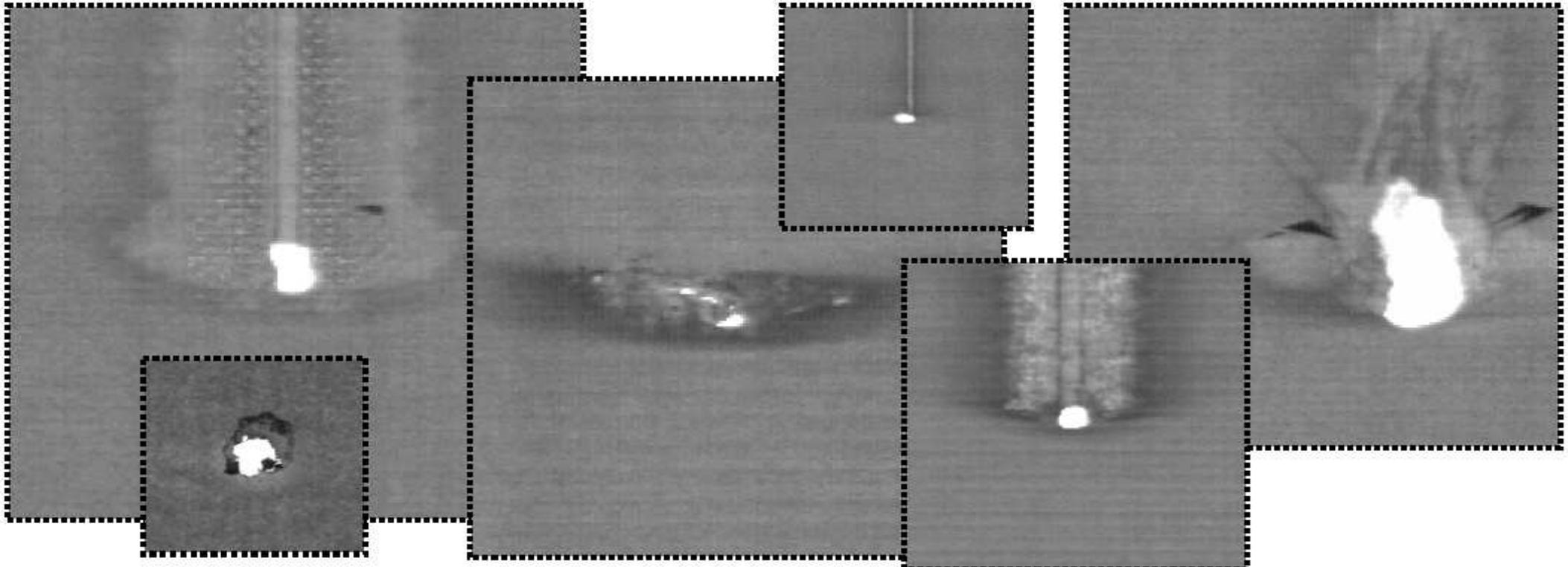
Geschwindigkeit: 200 m/min

Zeilenrate: 14.000 scans/ sec

$$\text{Auflösung MD [mm]} = \frac{200 \times 1000}{60 \times 14.000} = \underline{\underline{0.24 \text{ mm}}}$$



**Höchste Bildqualität = Hochwertige Klassifikation**



## ▶ Zeilenkameras

- 1024 / 2048 / 4096 / 8192 Pixel / ...
- S/W und Farbe
- bis zu 160 MHz
- Zeilenrate: 56 / 28 / 14 kHz

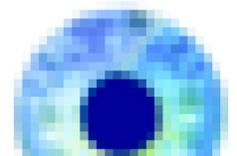
+ Serienprodukt



## Trend

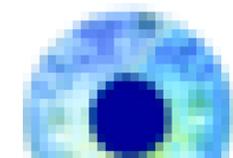
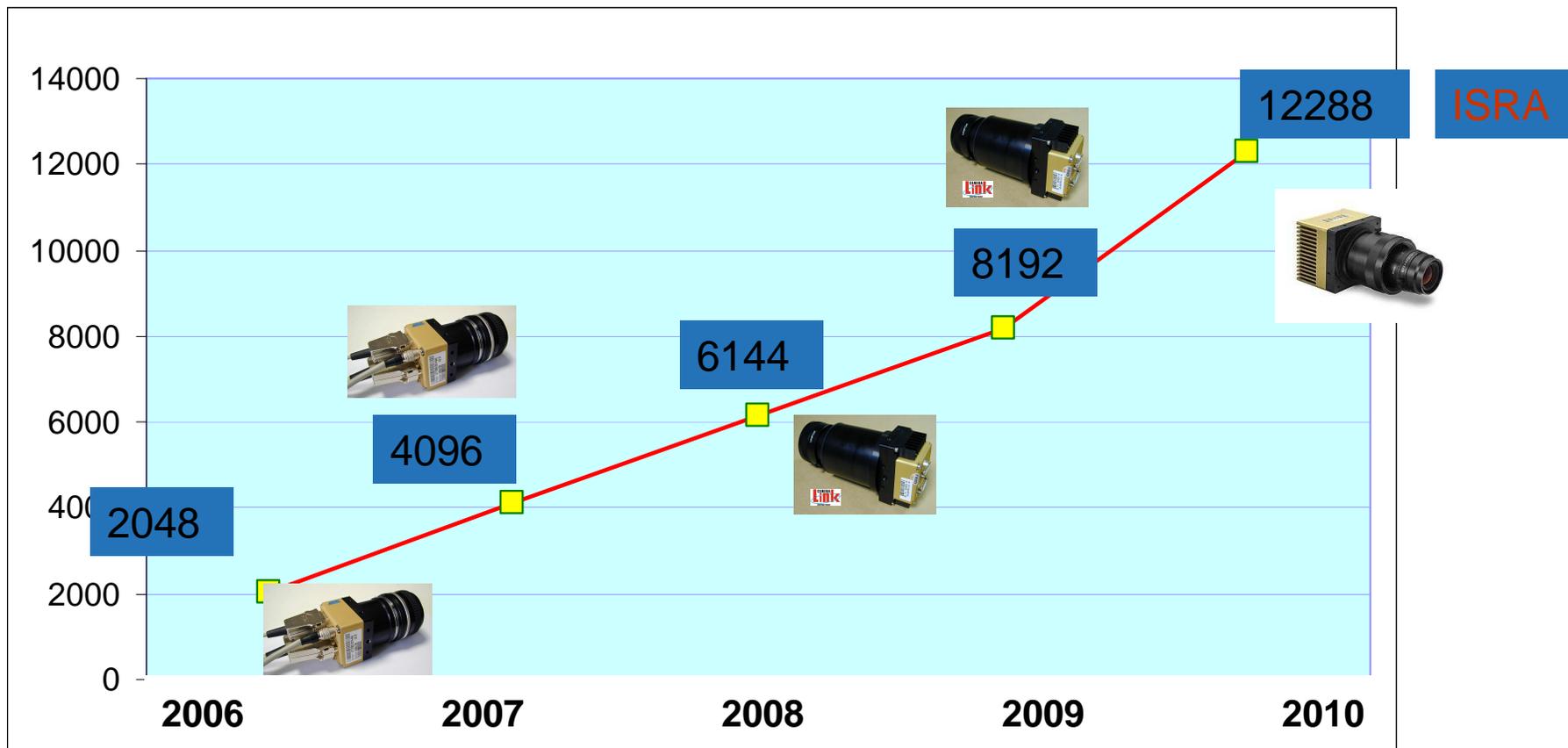
- mehr Bildpunkte je Kamera
- schnellere Kameras

**Folgen Sie dem Trend nicht blind!**



# ISRA Vision – Pixel

Kamera Pixel

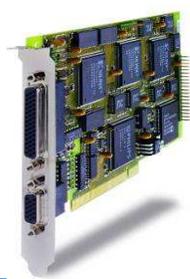
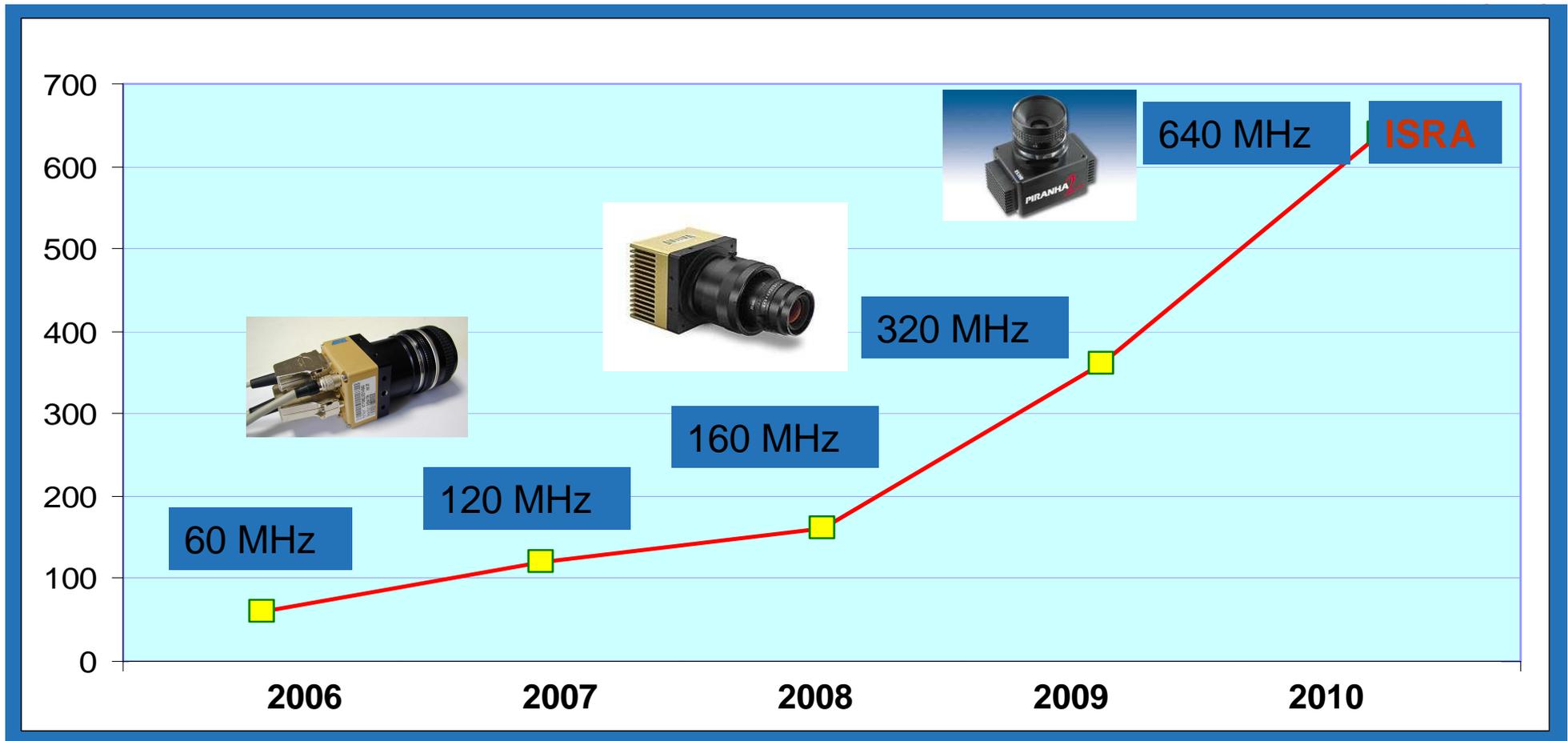


The More You See...

# ISRA Vision - Geschwindigkeit

# ISRA

Kamera / MHz



The More You See...



## SMASH WEB PROCESSOR

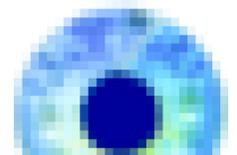
Oberflächeninspektion in Echtzeit

- ➔ 640 MByte/s data input
- ➔ Cameralink Schnittstelle, max. 640MByte / s
- ➔ Zeilen-/Flächenkameras
- ➔ S/W / Farbkameras
- ➔ Onboard Memory bis zu 2 GByte

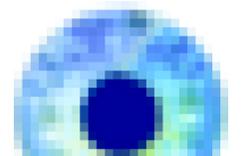
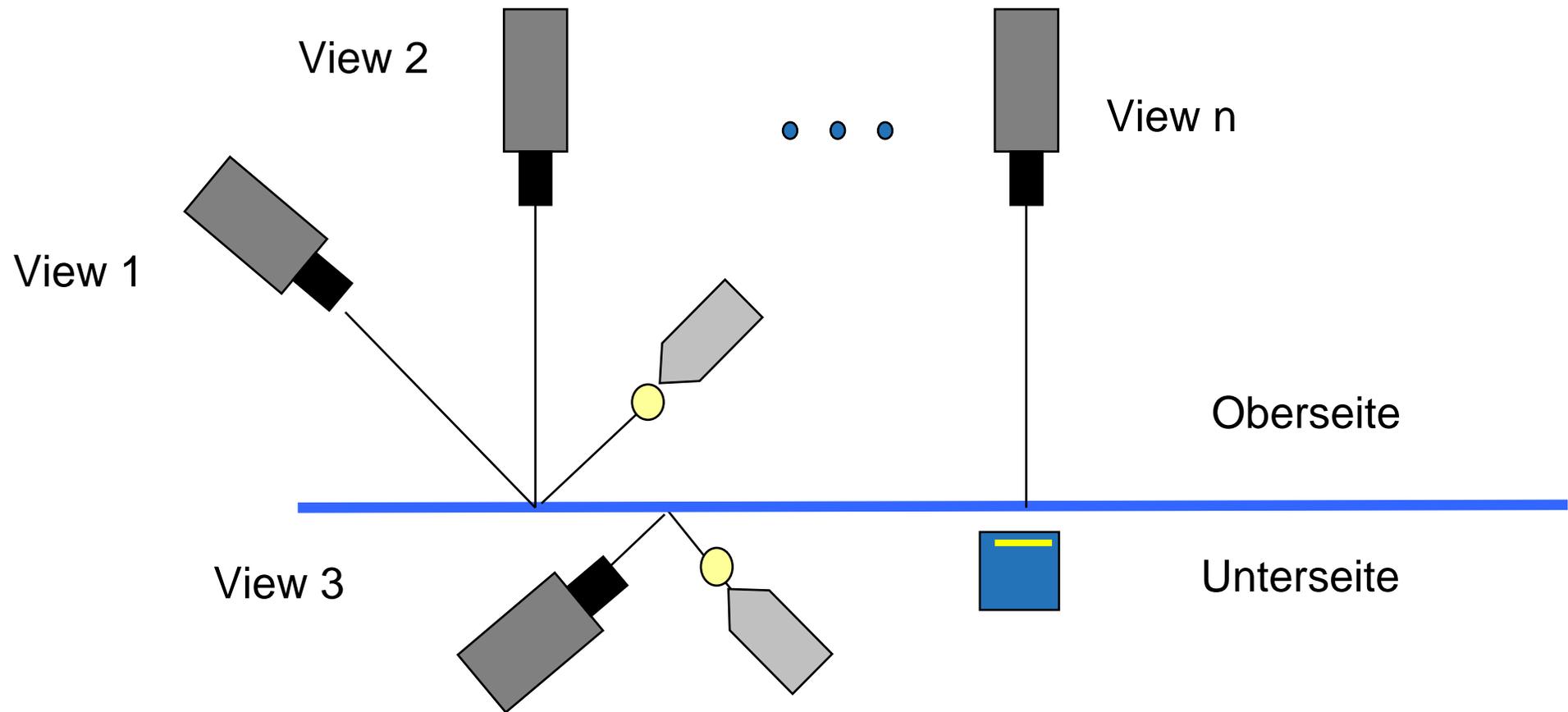
at 3 GByte/s internal data rate

# 1000m/min

Speed	600m/min	1000m/min	600m/min	1000m/min	1200m/min	
Resolution	0,27mmx0,27mm	0,27mmx0,46mm	0,27mmx0,14mm	0,27mmx0,27mm	0,27mmx0,28mm	
Camera Speed	160 MHz	160 MHz	320 MHz	320MHz	320 MHz	
Number of Pixel	4096	4096	4096	4096	4096	
Max. Scan Rate	36KHz	36KHz	70KHz	70KHz	70kHz	

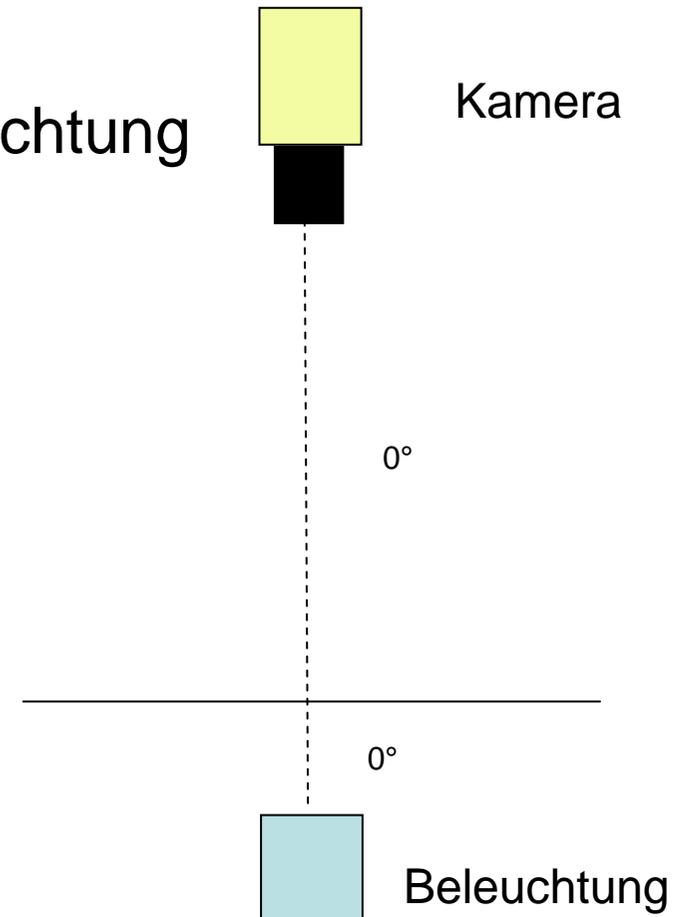


# Flexible Architektur



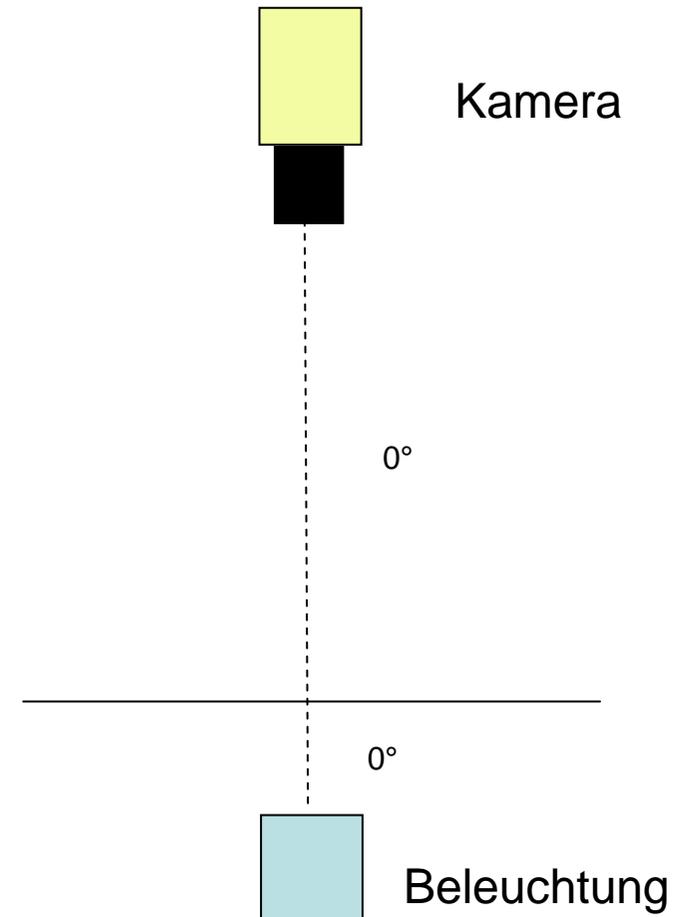
## ► Standard Konfiguration

- Transmission mit Fluoreszenzbeleuchtung
- 3 Kameras 4096 Pixel  
0,35mm x 0,4mm bei 850m/min



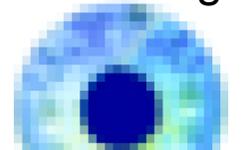
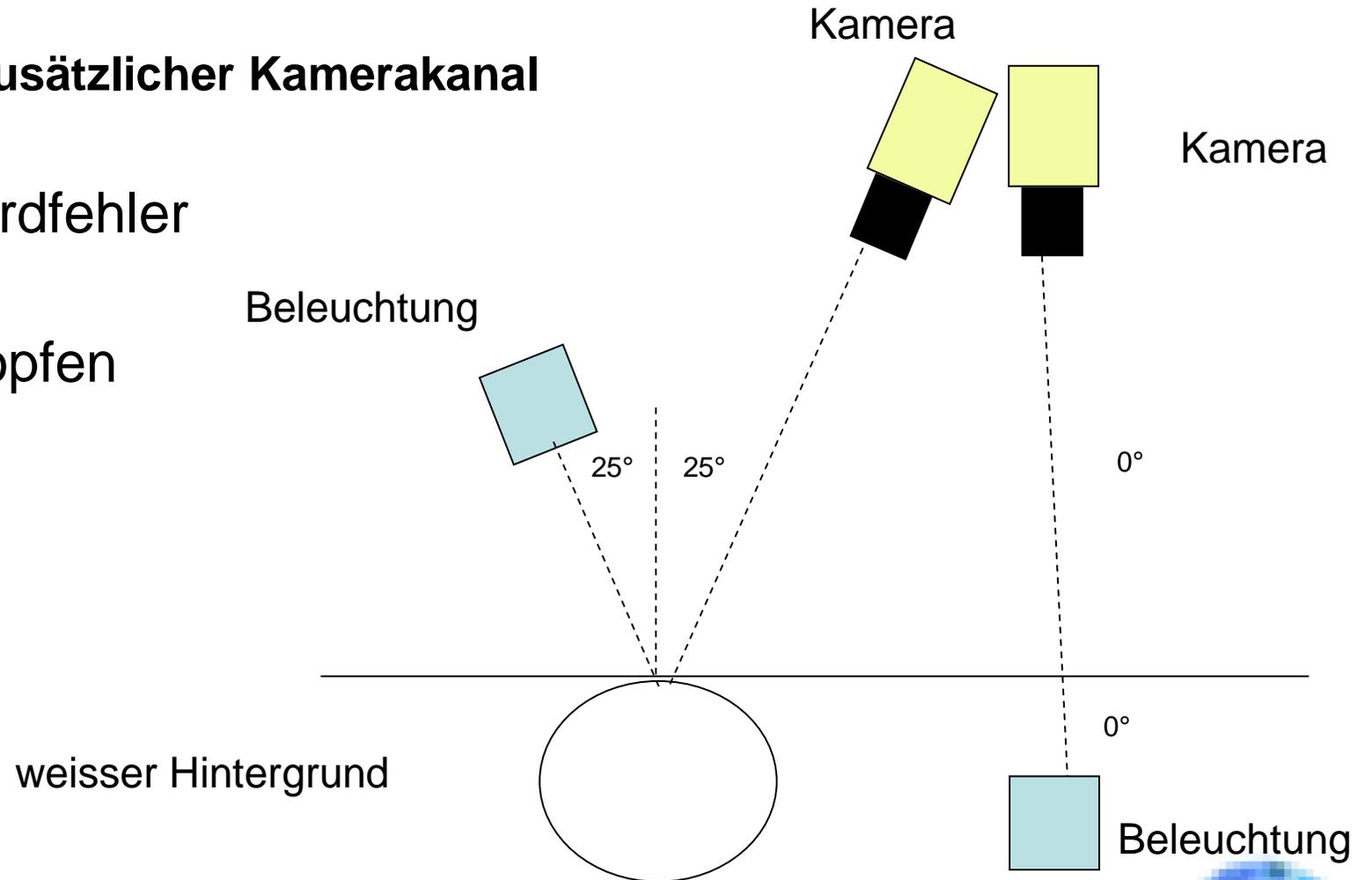
## ► Fehlertypen / Standardkonfiguration

- Dünnstellen
- Dickstellen
- Verschmutzungen
- Faserverhärtungen
- Insekten
- Löcher
- Fremdpartikel



## ► Fehlertypen / Zusätzlicher Kamerakanal

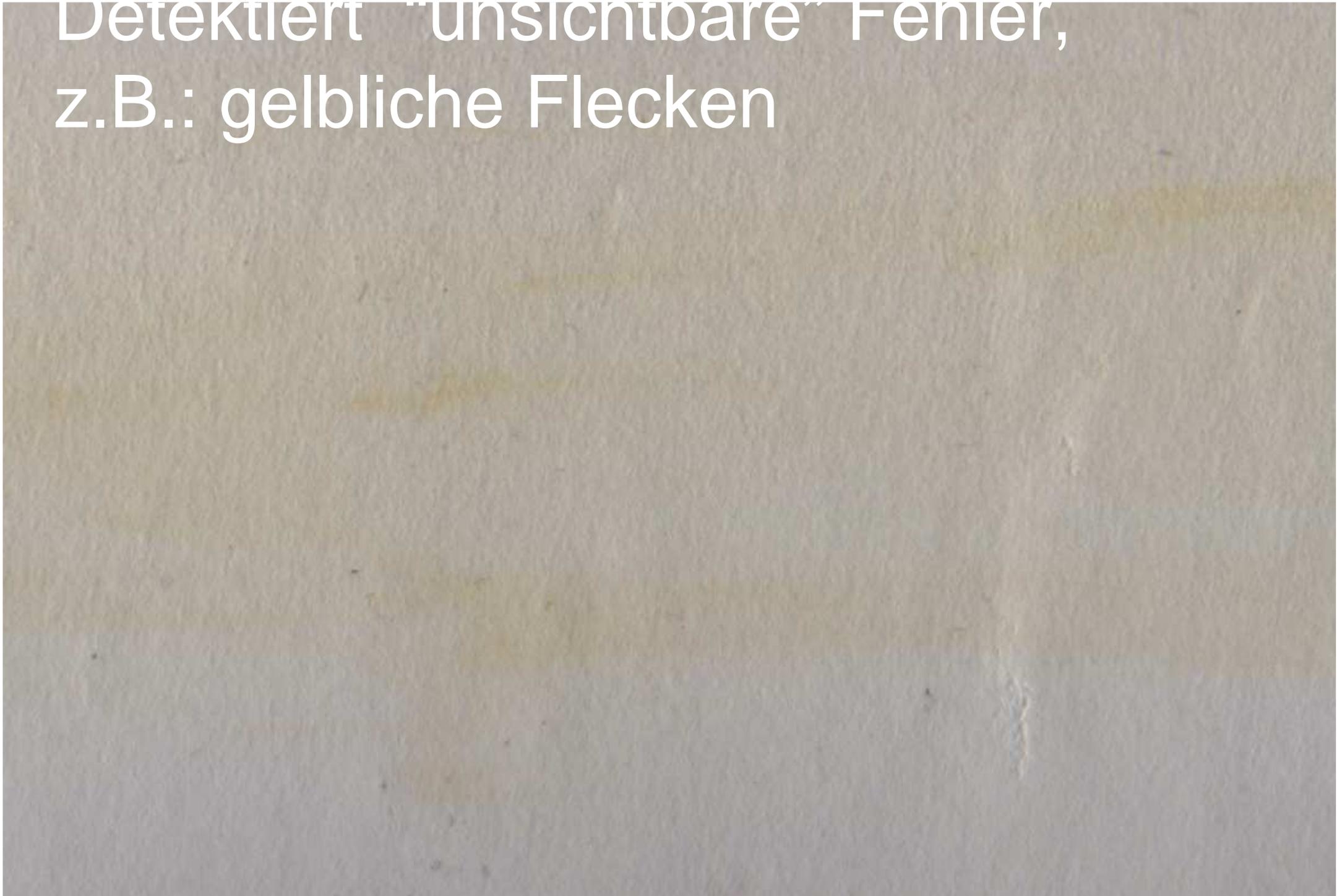
- Alle Standardfehler
- + z.B. Öltropfen





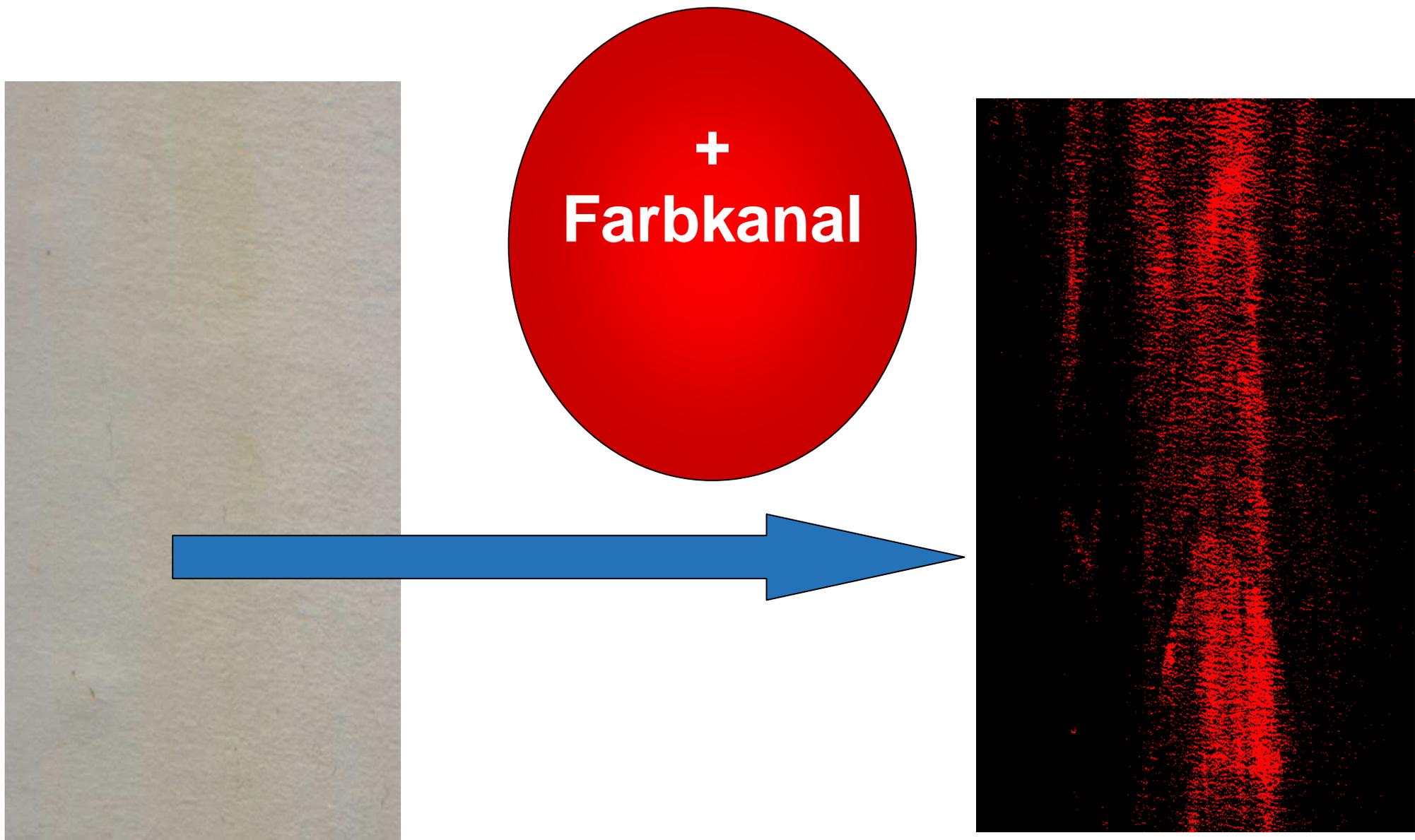
**NEUES Produkt für Oberflächeninspektion**

Detektiert "unsichtbare" Fehler,  
z.B.: gelbliche Flecken

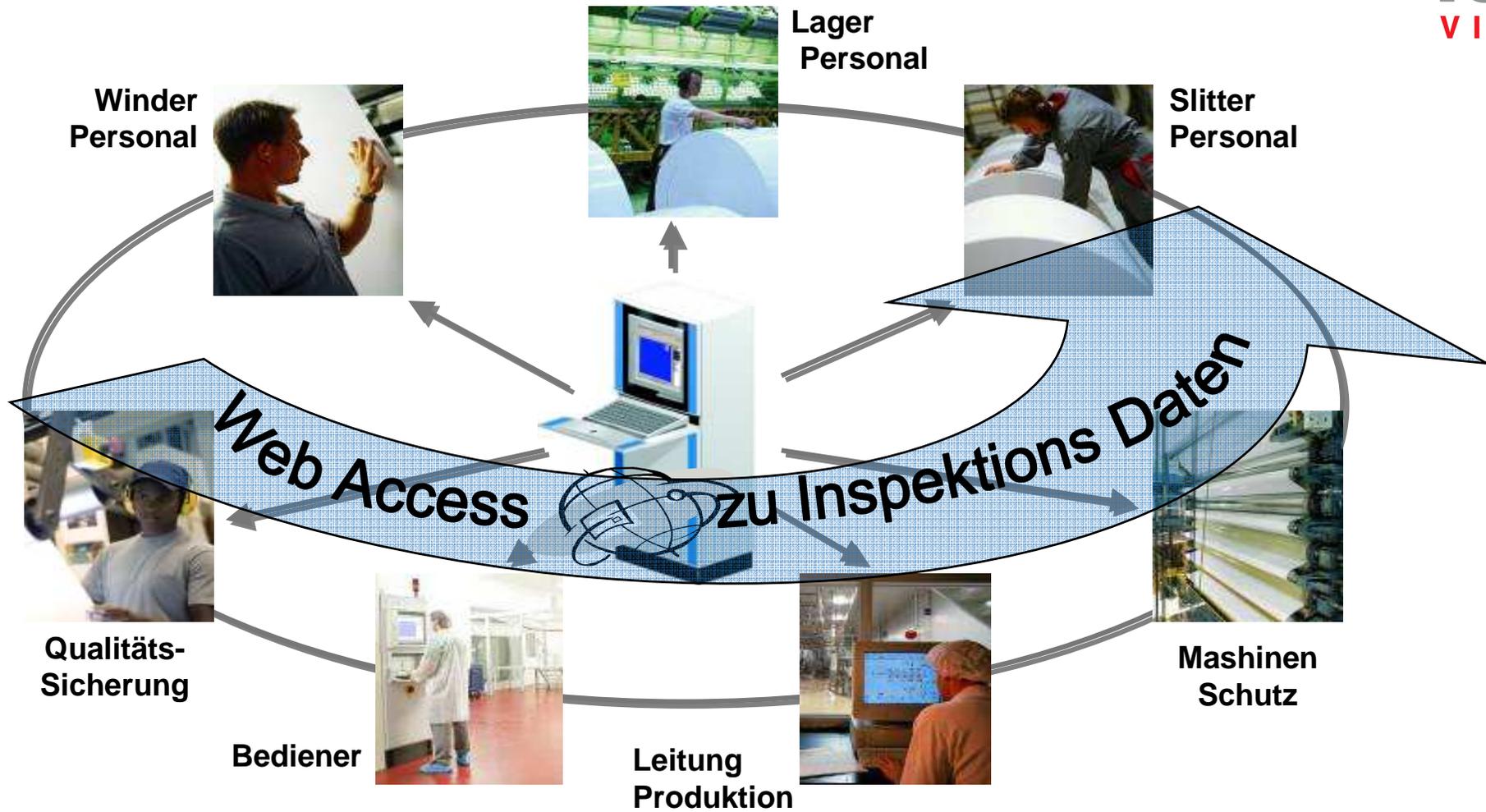


Detektiert “unsichtbare” Fehler  
mit COLORSCAN

# COLORSCAN - Detektiert "unsichtbare" Fehler



# NUTZER & BeNUTZERfreundlichkeit



- ➔ einfache Installation
- ➔ einfach zu lernen
- ➔ einfach zu bedienen



# Qualifizierte Entscheidungen auf der Basis von Echtzeit-Informationen

ISRA  
VISION

## ➤ Prozeßoptimierung durch optimale Datenverteilung

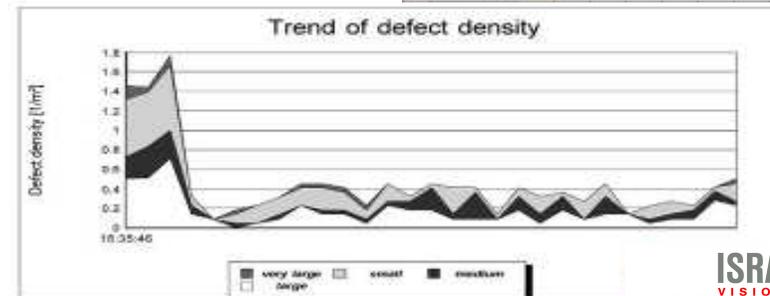
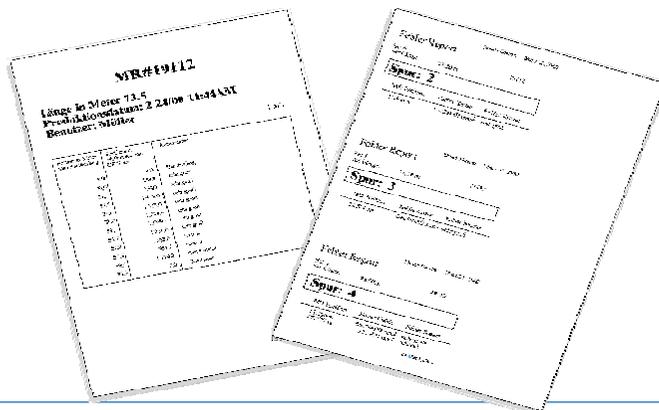
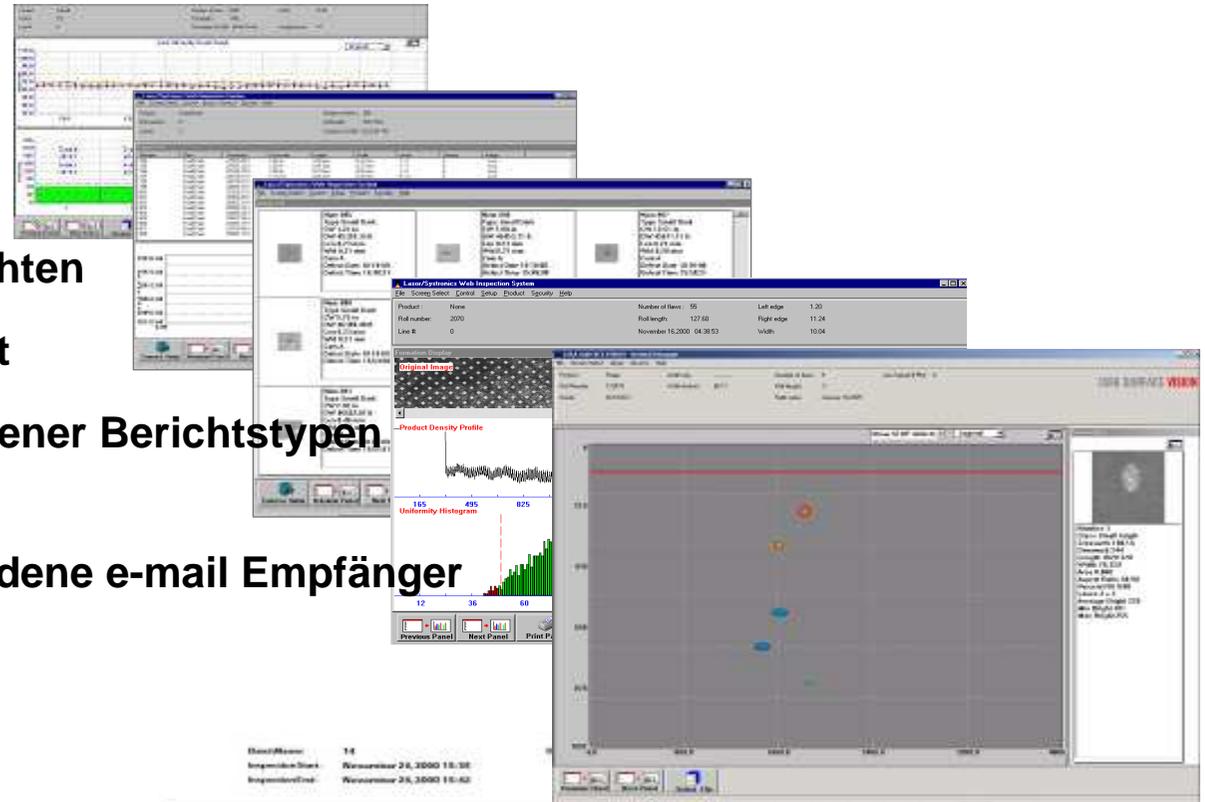
- Qualitätsleitung
- Accountmanager
- Produktionsplaner
- Linienmanager

## ➤ Erstellung von verschiedenen Berichten

## ➤ Berichte mit selbst gewähltem Inhalt

## ➤ Gleichzeitiges Versenden verschiedener Berichtstypen möglich

## ➤ Versenden der Berichte an verschiedene e-mail Empfänger oder Gruppen



ISRA  
VISION

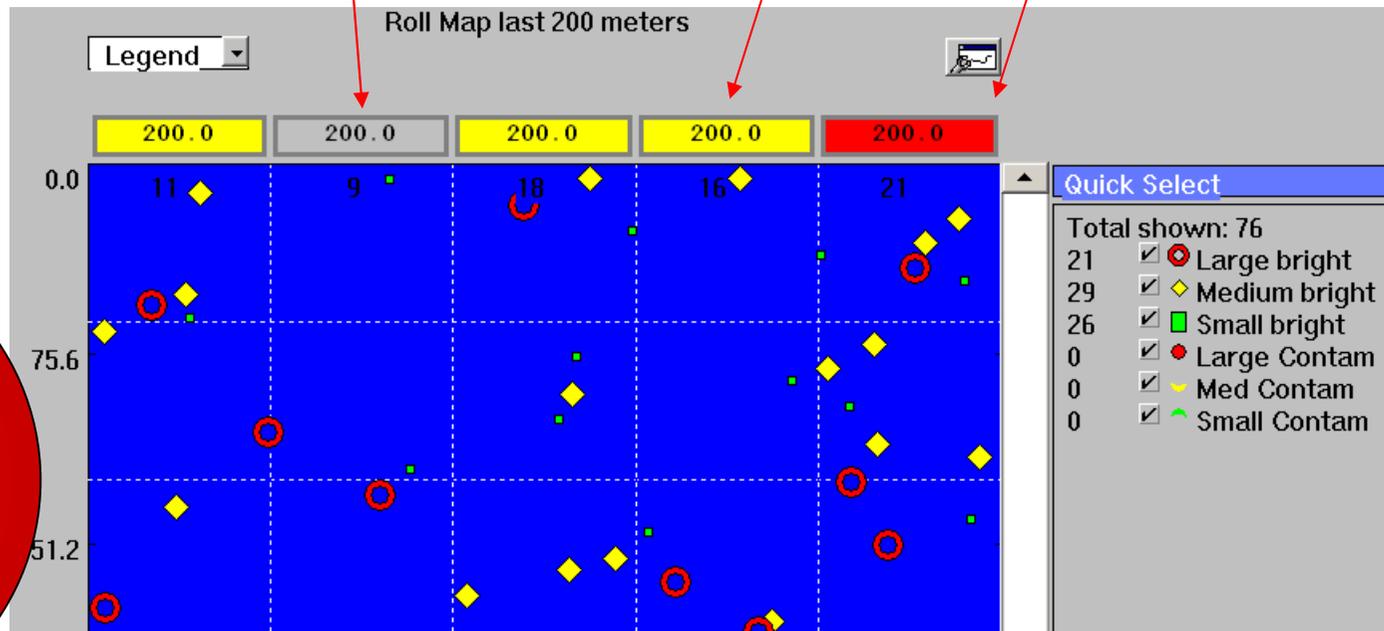
The More You See...

BEYOND  
INSPECTION

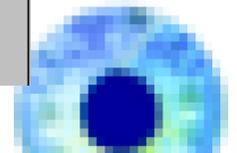
o.k.

critical

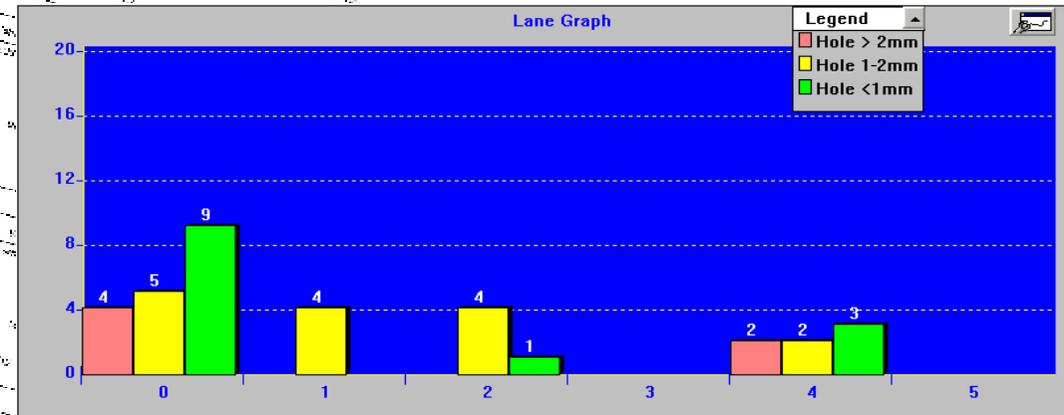
n.o.k.



**! NEU !**



# Re-Viewer – Schnittoptimierung

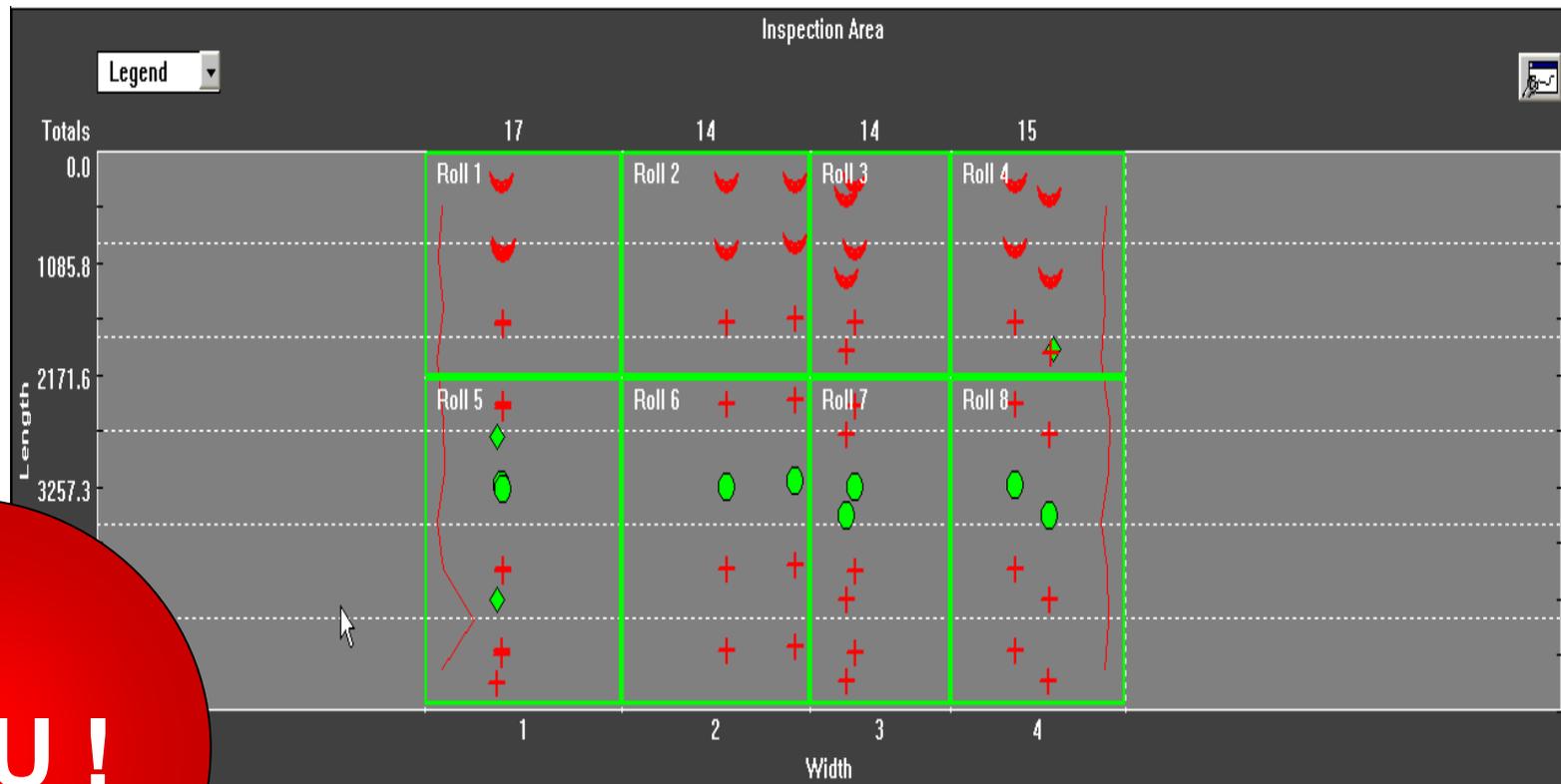


The More You See...

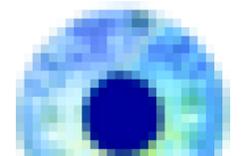
# Schnittoptimierung

ISRA  
VISION

BEYOND  
INSPECTION



**! NEU !**

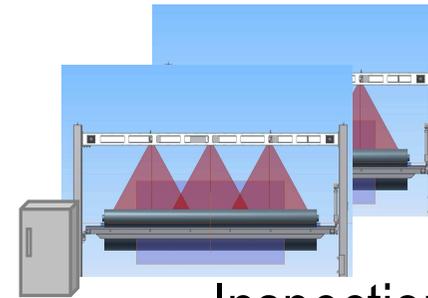


The More You See...

# Rewind Manager

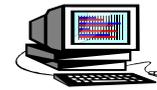
**ISRA**  
VISION

BEYOND  
INSPECTION



Inspection Systems

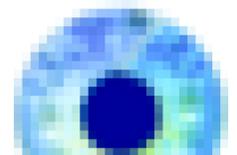
Rewind Manager



Rewind Controls



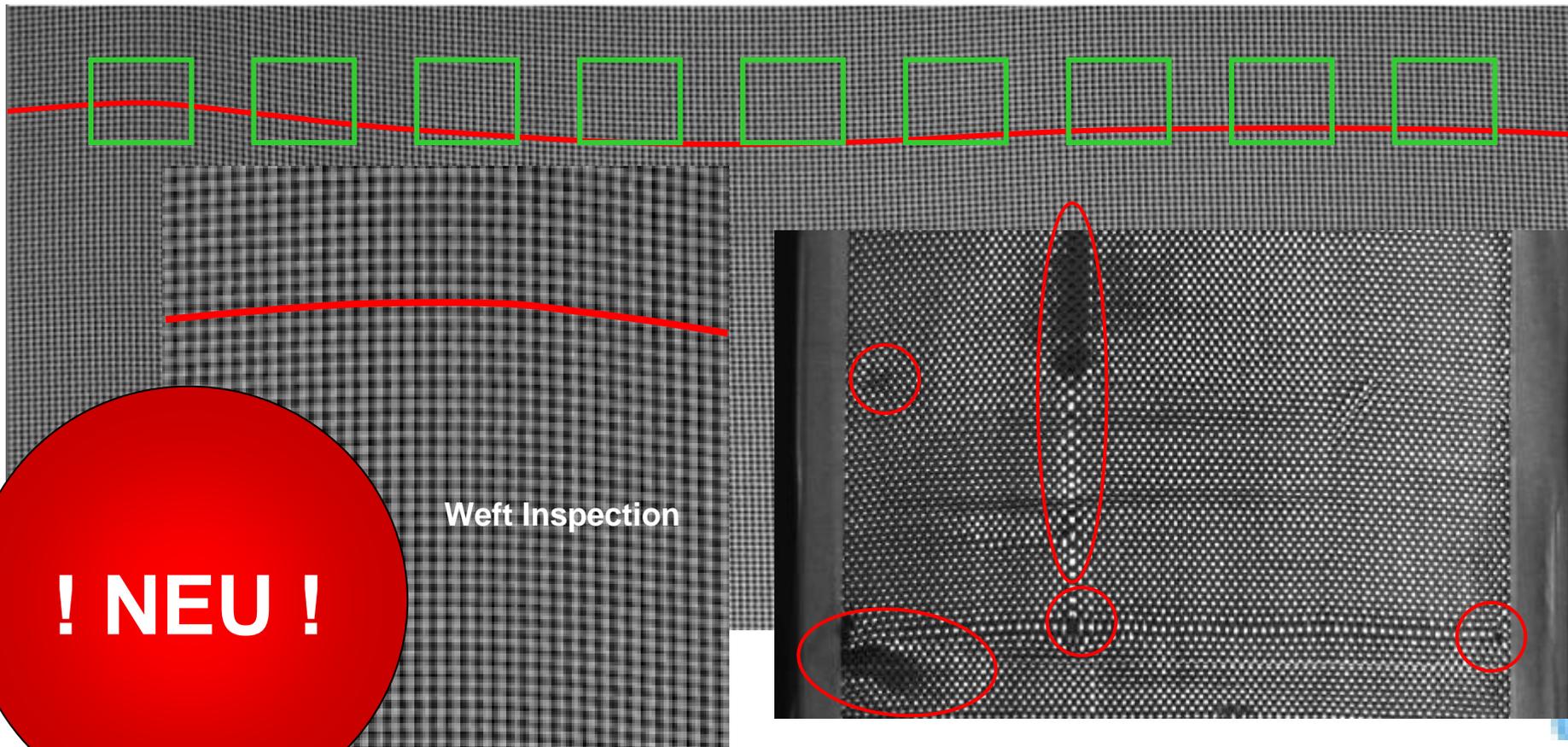
**! NEU !**



The More You See...

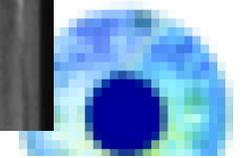
# Neue Anwendungen - PrePreg

BEYOND  
INSPECTION



**! NEU !**

Weft Inspection



The More You See...

**BEYOND  
INSPECTION**

