

Inspection and Flexible Automation applications for the Automotive Industry



Torrevecchia Teatina (CH) – ITALY
www.visiondevice.com

member of:



**INNOVAZIONE
AUTOMOTIVE**

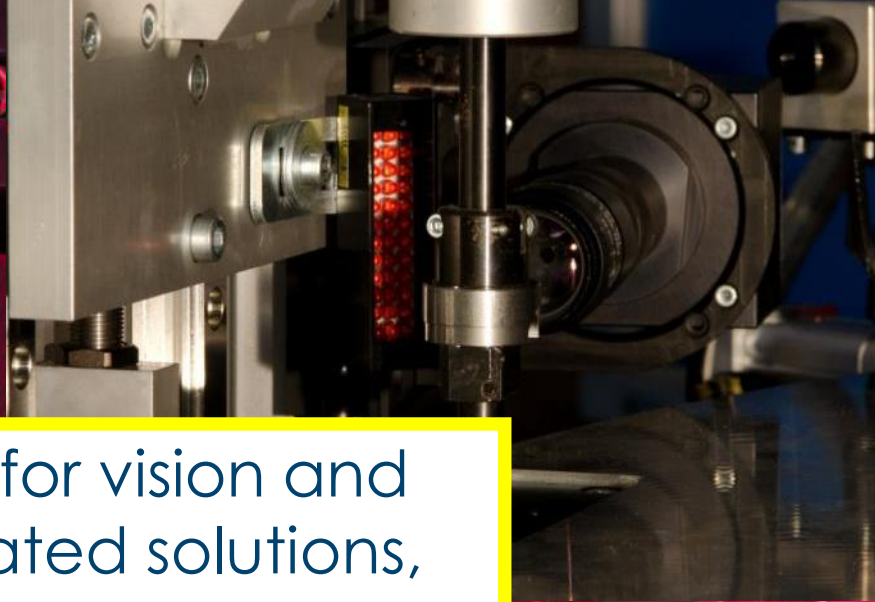


AGIRE

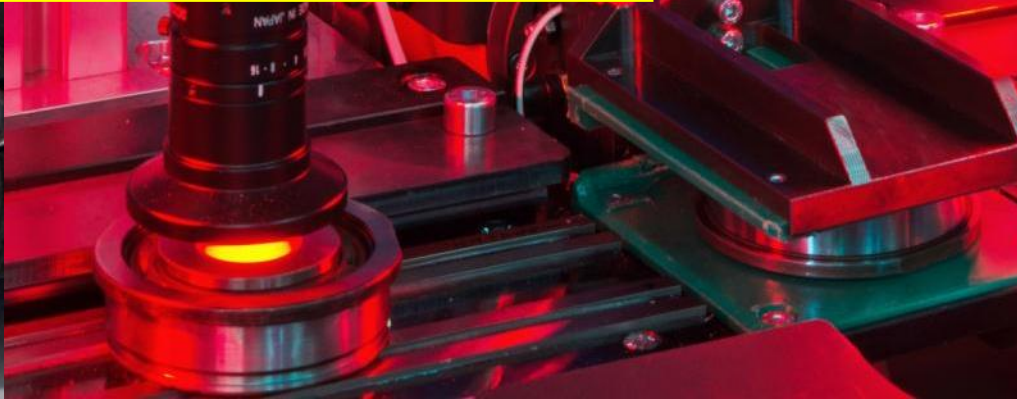
Agroindustria Ricerca Ecosostenibilità



MINISTERO DELL'ISTRUZIONE
DELL'UNIVERSITÀ E RICERCA



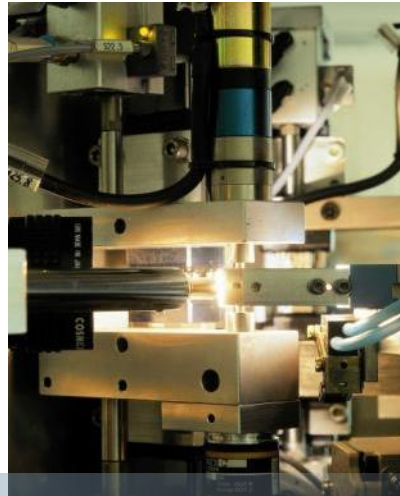
A single company for vision and mechanical integrated solutions, with more than 30 years experience



VISION DEVICE is a small
but very specialized company
that, since 1988
(and since 1982
its founding members)

work exclusively in the
design and production of
industrial MACHINE
VISION applications

for automated inspection
and flexible production



MAIN APPLICATION FIELDS are:

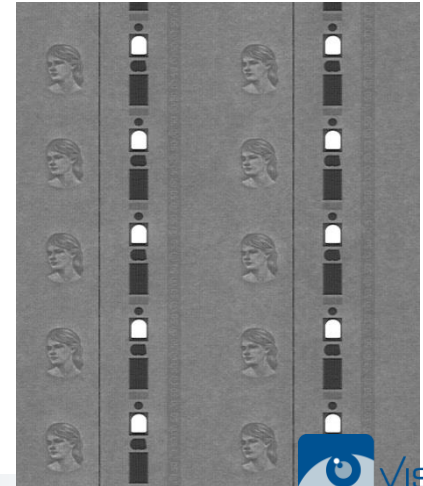
- Automotive industry
- Converting industry
- Food & Pharma industry
- Steel and Energy industry
- Research



Certified by the Ministry of University
and Research, as a
"Highly Qualified Research Laboratory"



MINISTERO DELL'ISTRUZIONE
DELL'UNIVERSITA' E RICERCA



Certified Quality System
complies with the ISO-9001
standards from 2000



Inner Ring inspection

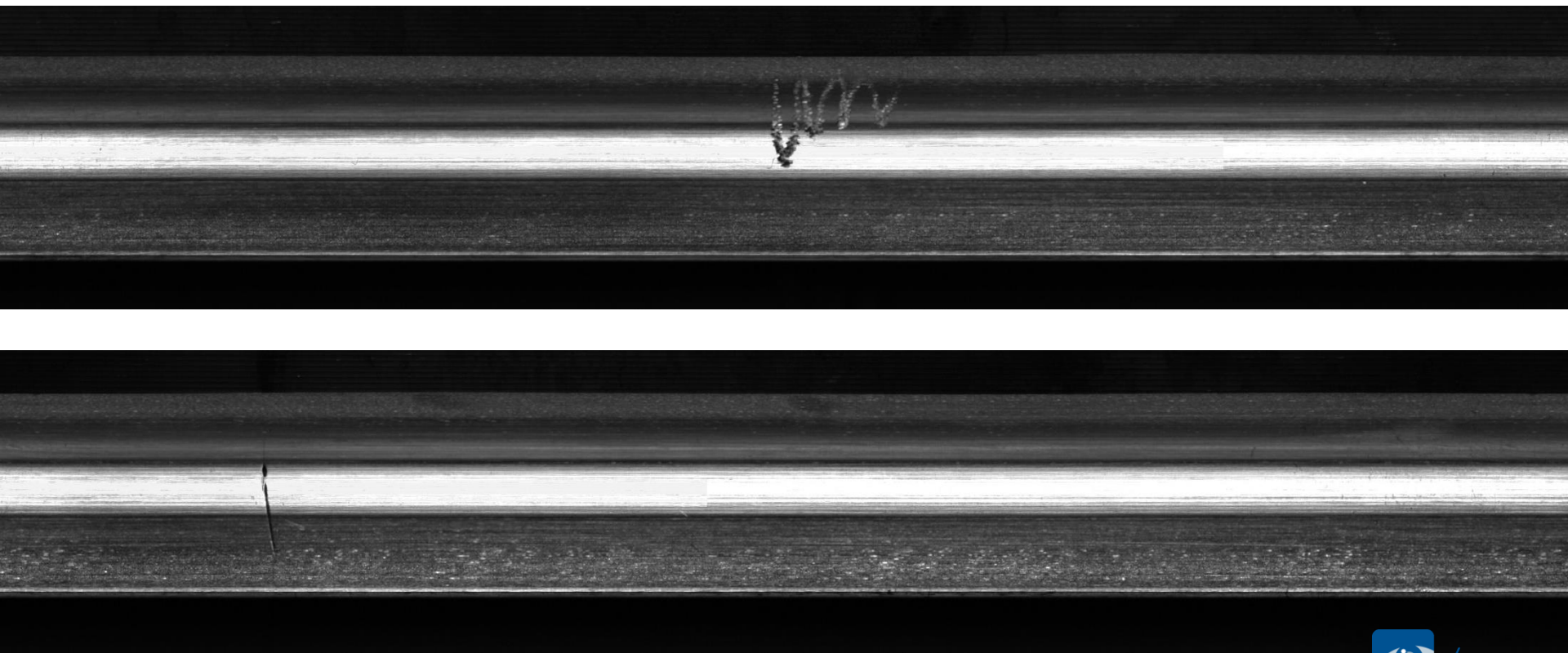


Inner Ring inspection



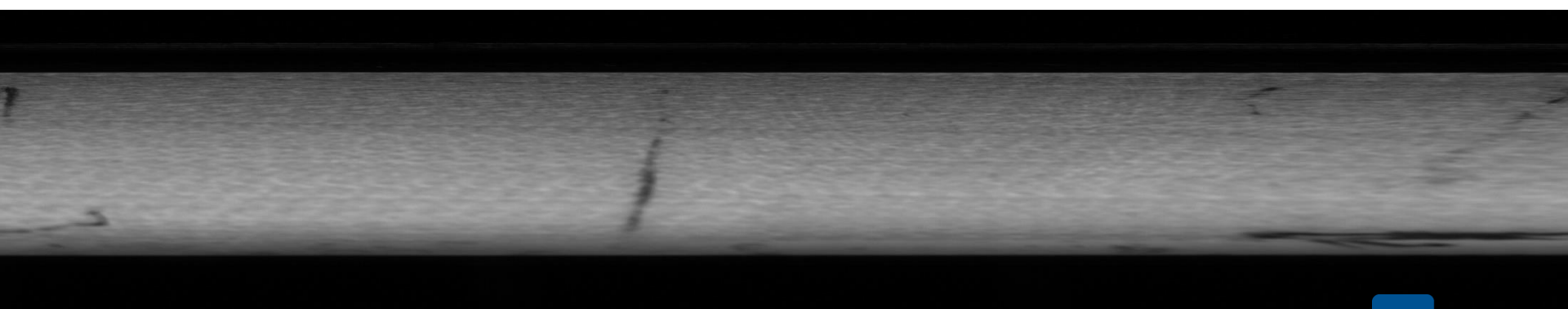
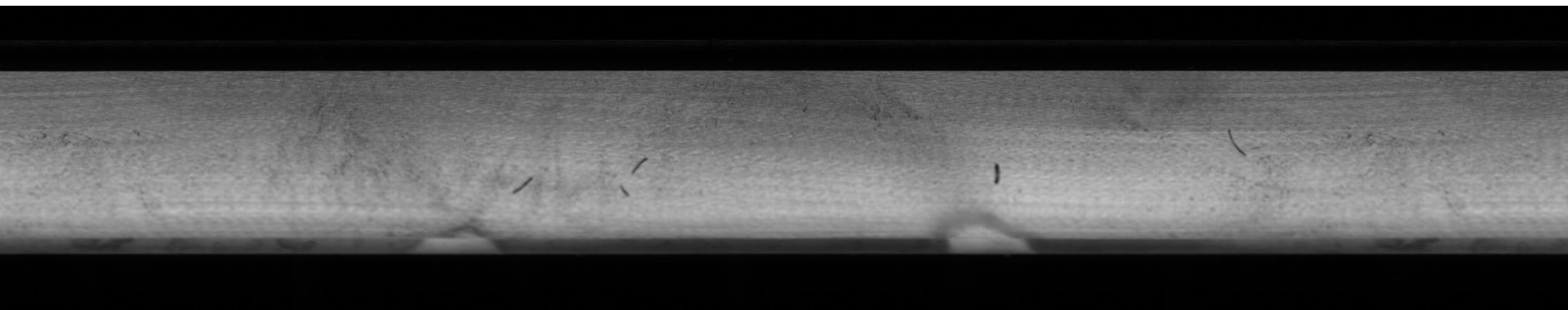
Inner Ring inspection

External surfaces



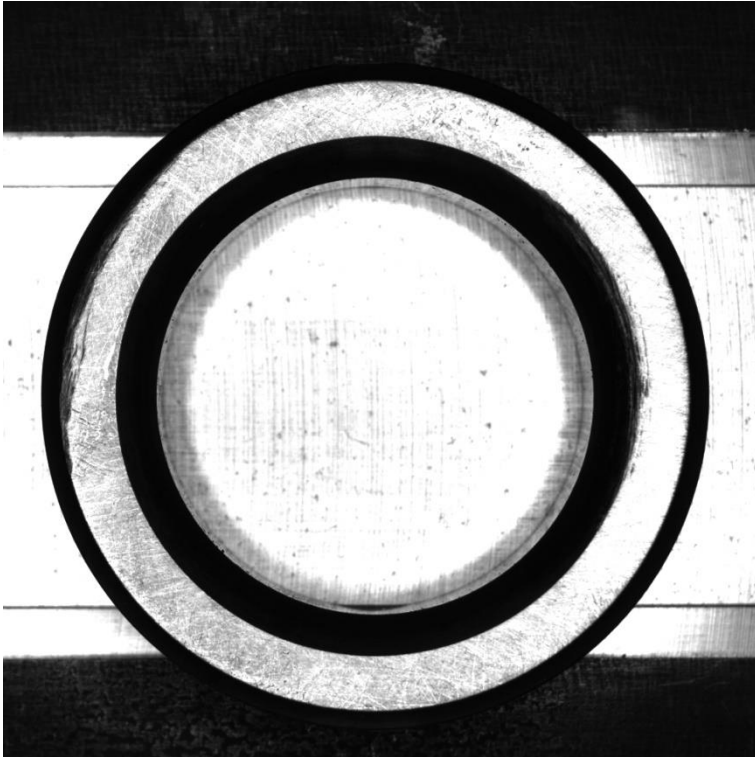
Inner Ring inspection

Internal surface



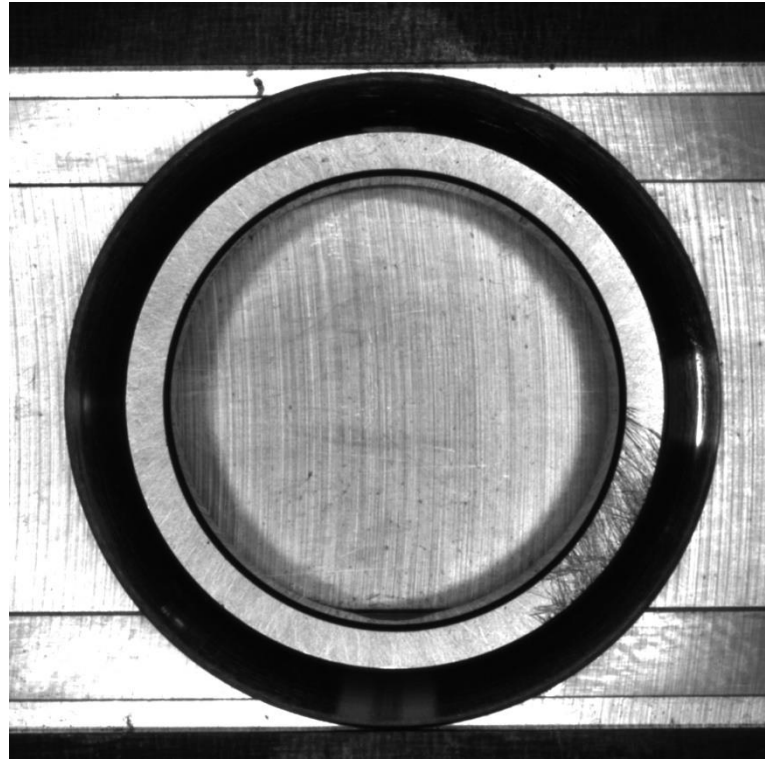
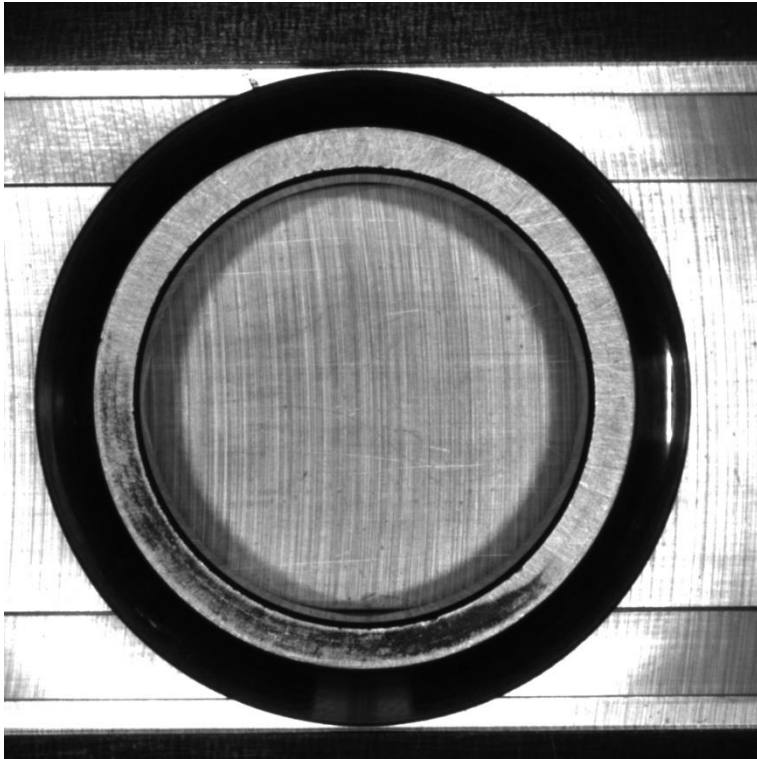
Inner Ring inspection

Upper surface



Inner Ring inspection

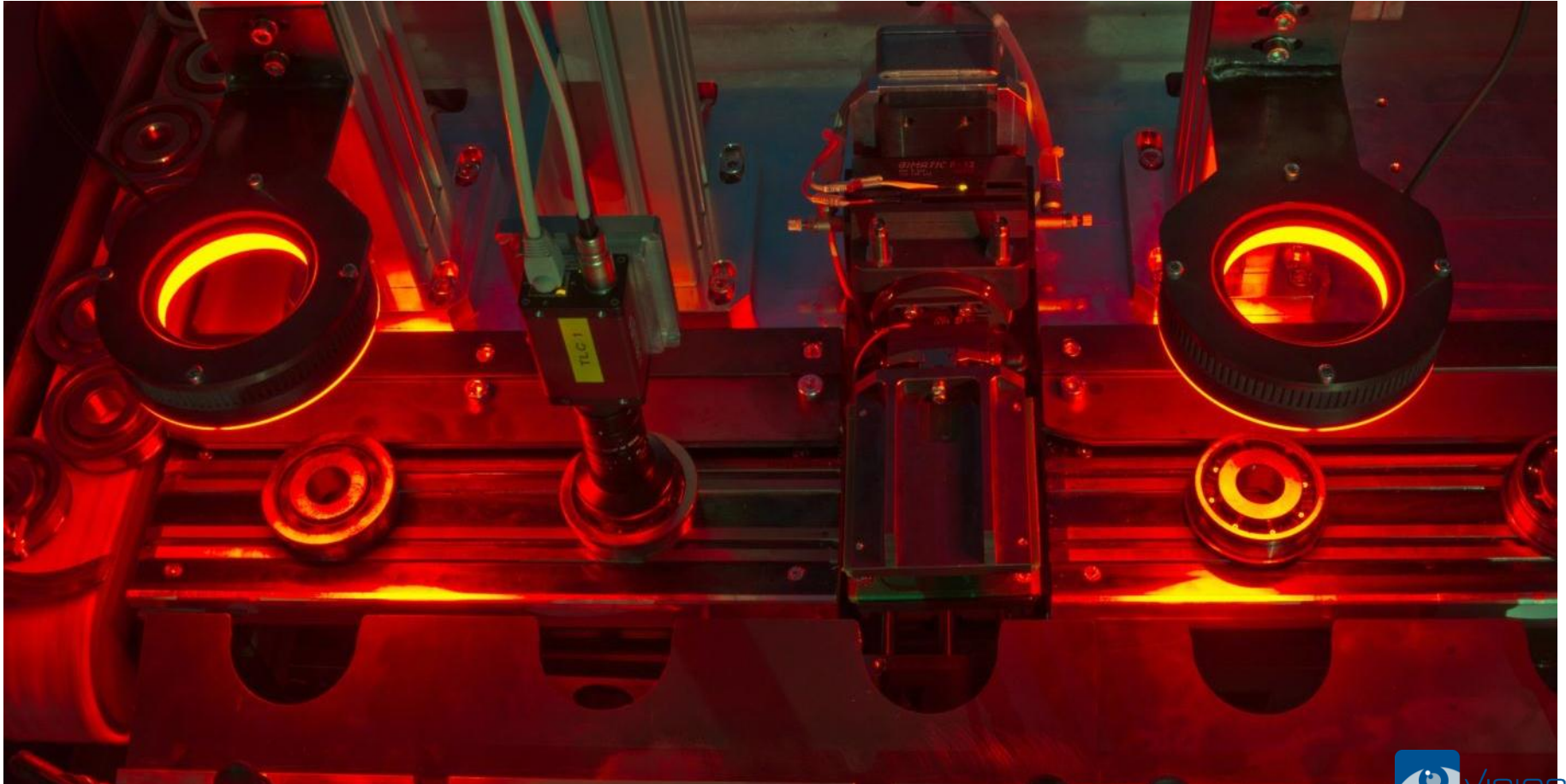
Lower surface



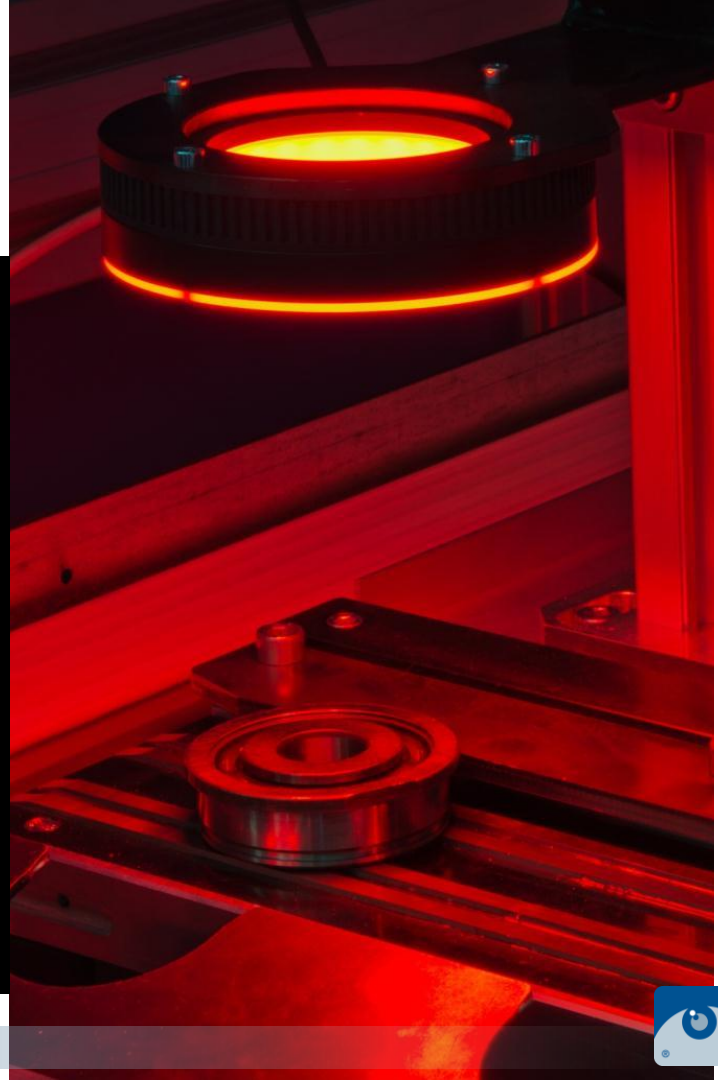
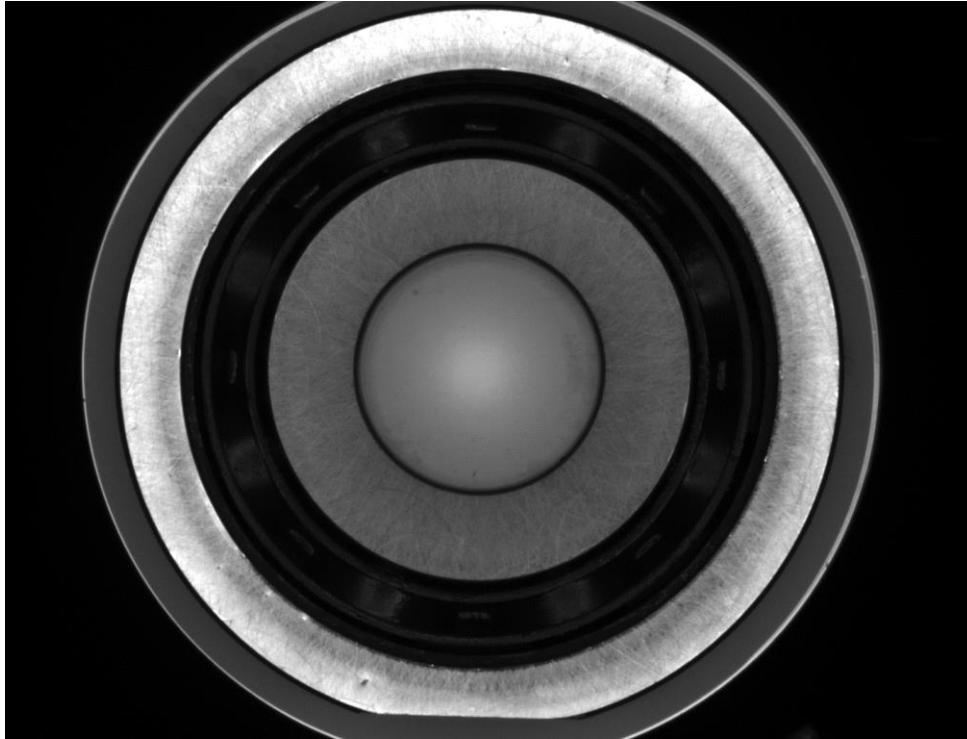
Beering inspection



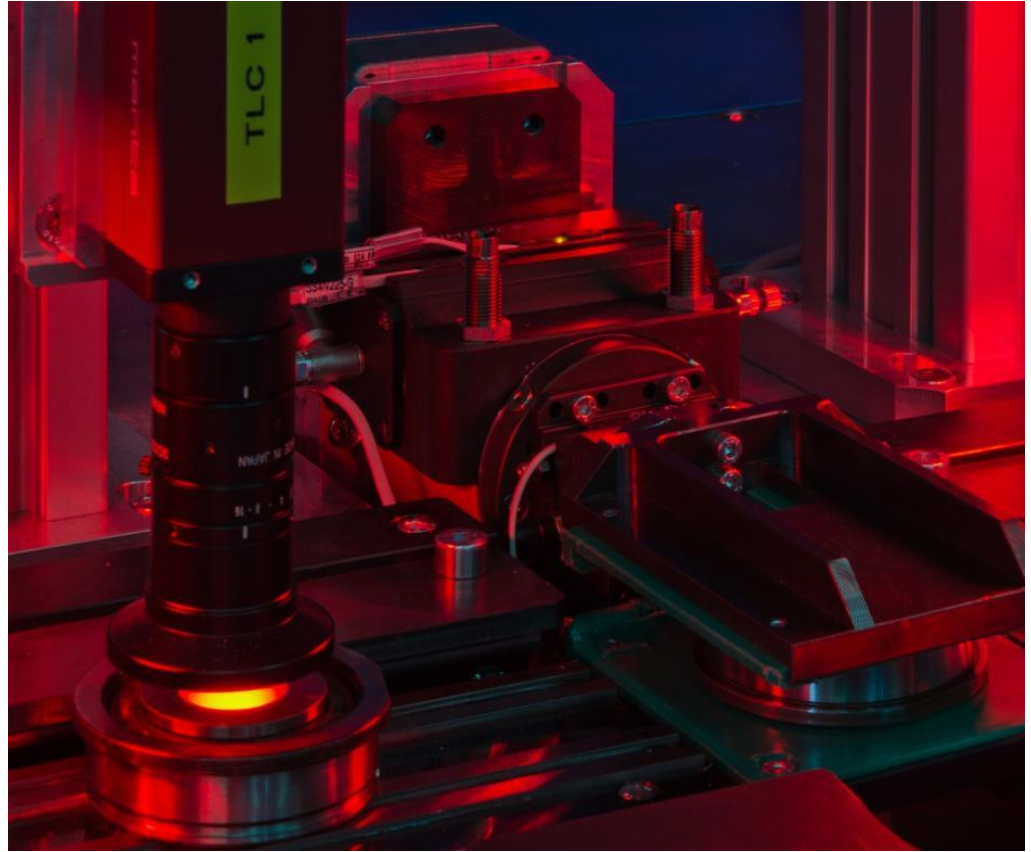
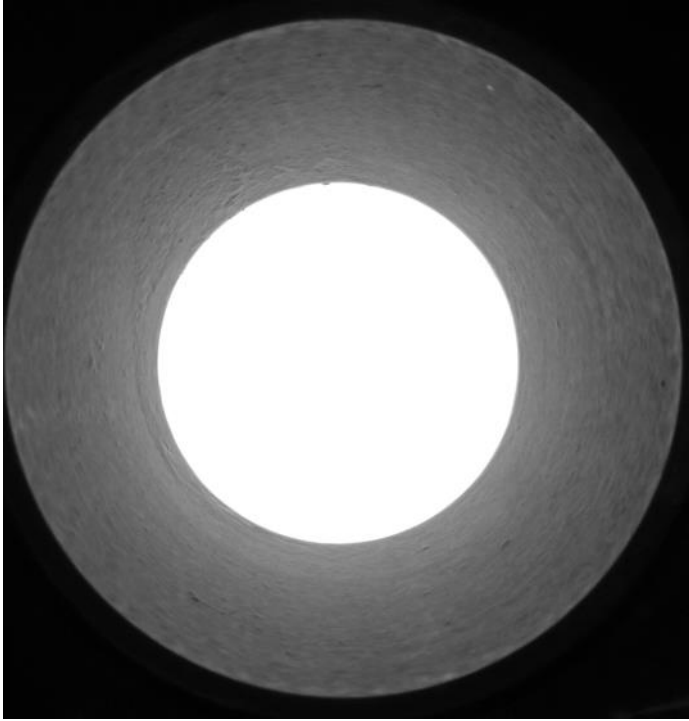
Beering inspection



Beering inspection



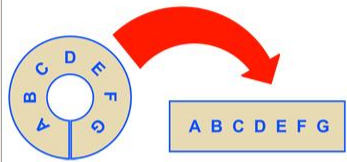
Beering inspection





"DEWARP" - Impostazioni

Tipo di Dewarp
CORONA CIRCOLARE



Viste Virtuali

- Vista 1 (V) - "Acq" [.....]
- Vista 2 (V) [...s]Paolo
- Vista 3 (V)
- Vista 4 (V)

Ingressi

Orientamento: ORIZZONTALE

Angolo iniziale: 0.00 ° ON C

Angolo Finale: 360.00 ° ON C

Coeff. Ingrandimento: 1.0000 I.g. ON C

Raggio Automatico Bordo Automatico

Raggio: 50.00 I.g. ON C

Bordi di riferimento: 0.00 I.g. ON C

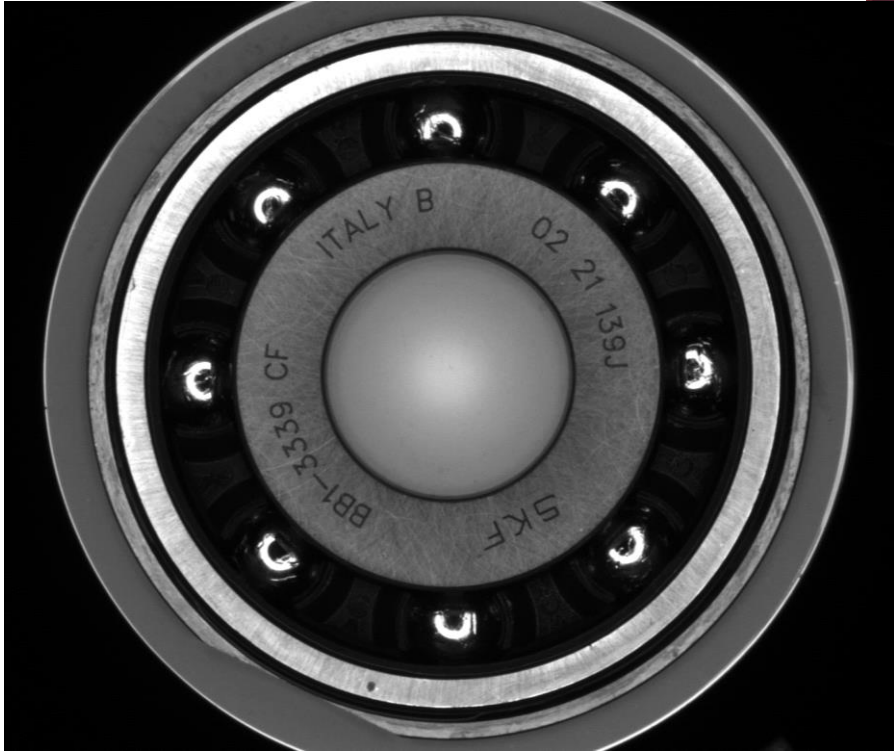
Test OK Annulla

tempi Info

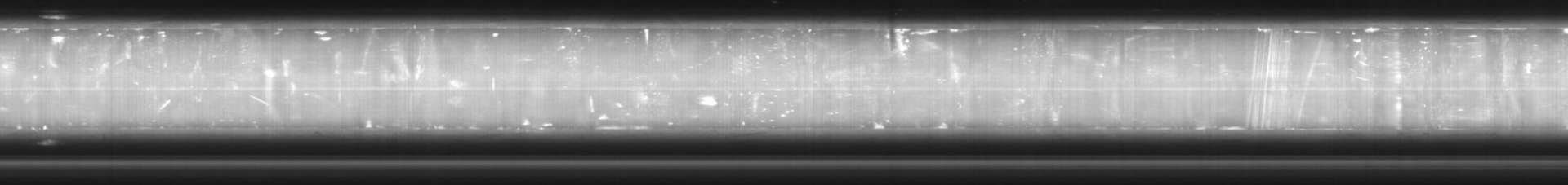
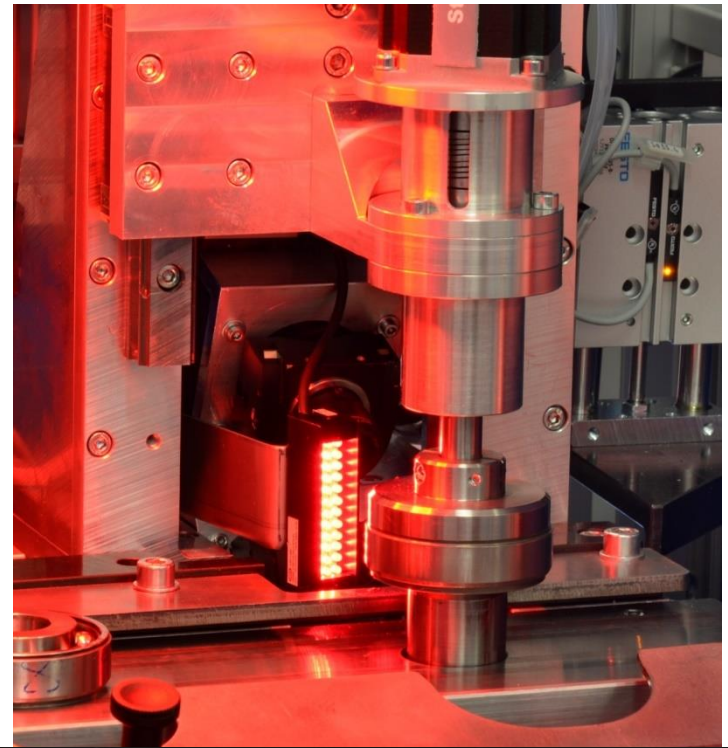
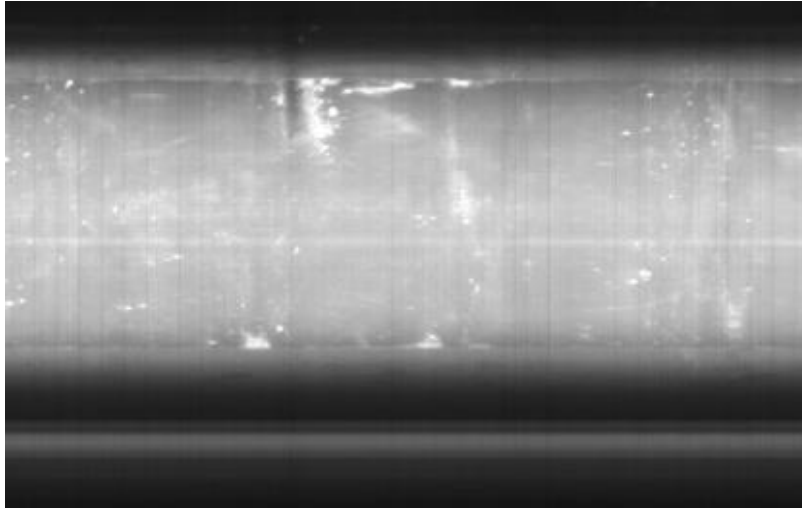
Mostra Scarto

R	Lim. ...	Lim. ...
OK		
OK	0.0000	10000
OK	0.0000	10000
OK	0.0000	100
UN		

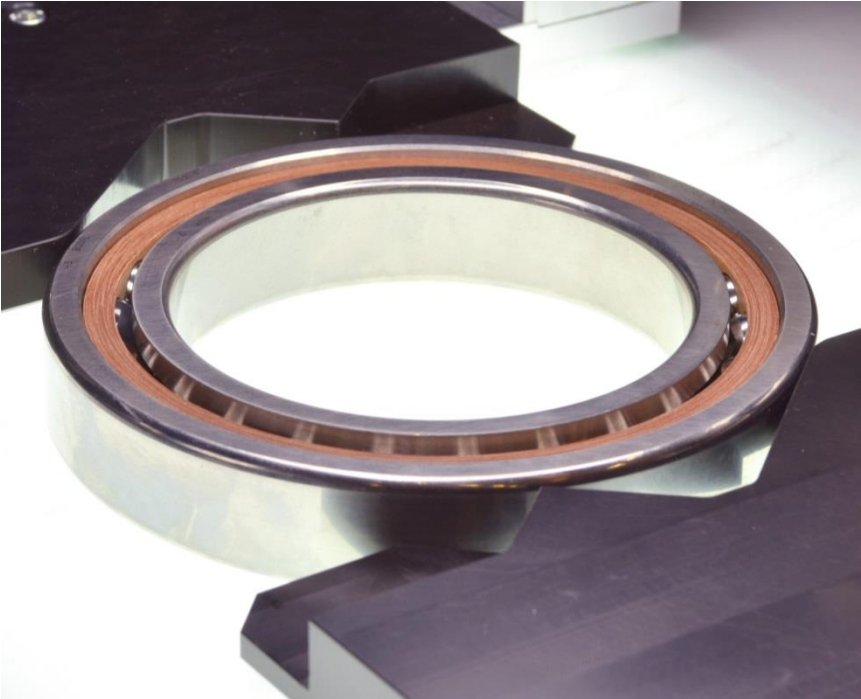
Beering inspection



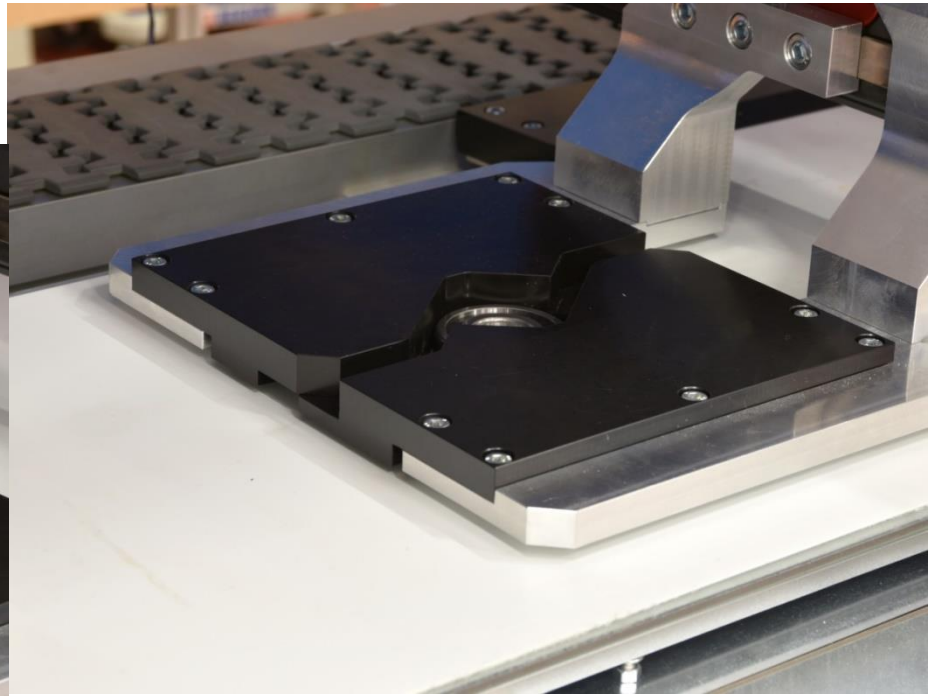
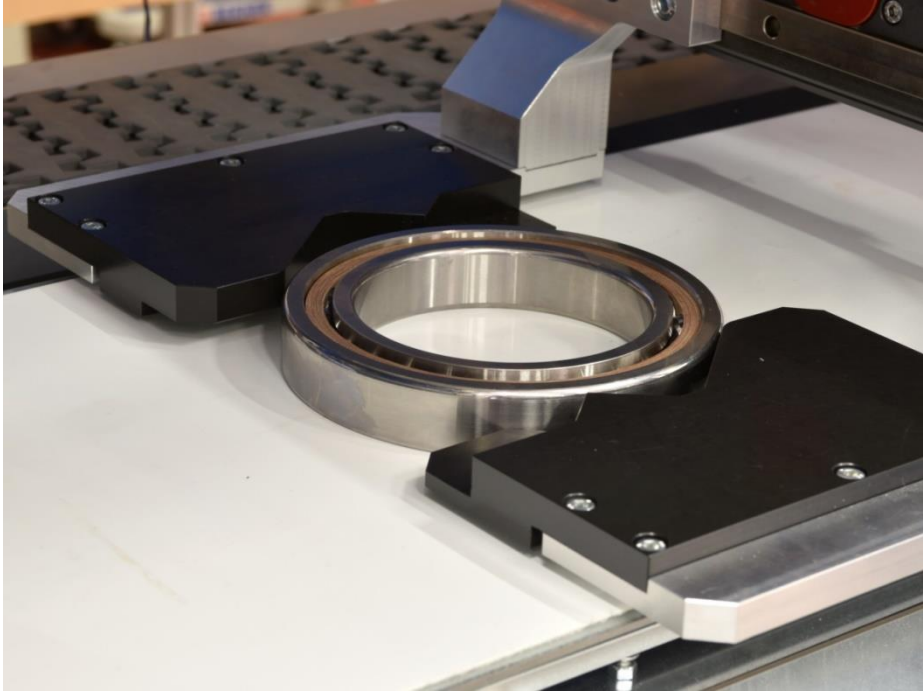
Beering inspection



Special Beering inspection



Special Bearing inspection



Automatical adjusting for different diameter:
both **mechanically...**

Special Bearing inspection

The screenshot displays a vision inspection software interface with multiple windows. The main window shows a large bearing image with a green bounding box and a yellow circle. A smaller window shows a zoomed-in view of the bearing's inner ring. A table window on the right lists inspection parameters and results.

Nome	Val	Ri	Lim.	Lim.
larghezza esterna	489	OK	0.0000	10000
altezza esterna	489	OK	0.0000	10000
cerchio1	1278	OK	0.0000	10000
cerchio2	1832	OK	0.0000	10000
larghezza interna	209	OK	0.0000	10000
altezza interna	210	OK	0.0000	10000
diametro esterno	479.00	OK	0.0000	10000.00
diametro interno	219.00	OK	0.0000	10000.00
raggio esterno	239.50	OK	0.0000	10000.00
raggio interno	109.50	OK	0.0000	10000.00
altezza intermedia	130.00	OK	0.0000	10000.00
altezza area dewarp	112.00	OK	0.0000	10000.00
Y_inizio	0.00	OK	0.0000	10000.00
Altezza	0.00	OK	0.0000	10000.00
inizio sfera	736.62	OK	0.0000	10000.00
fine sfera	896.93	OK	0.0000	10000.00
dimensione sfera	99.41	OK	0.0000	10000.00
Risultato Allineamento				
Tempo di Elaborazione	30	OK	0.0000	10000
Tempo Ciclo	206	OK	0.0000	10000
Scopi Consecutivi	0	OK	0.0000	100
Data e Ora	05-02-2014 16:04			

Automatical adjusting for different diameter:
... and **software**

Cam Follower inspection

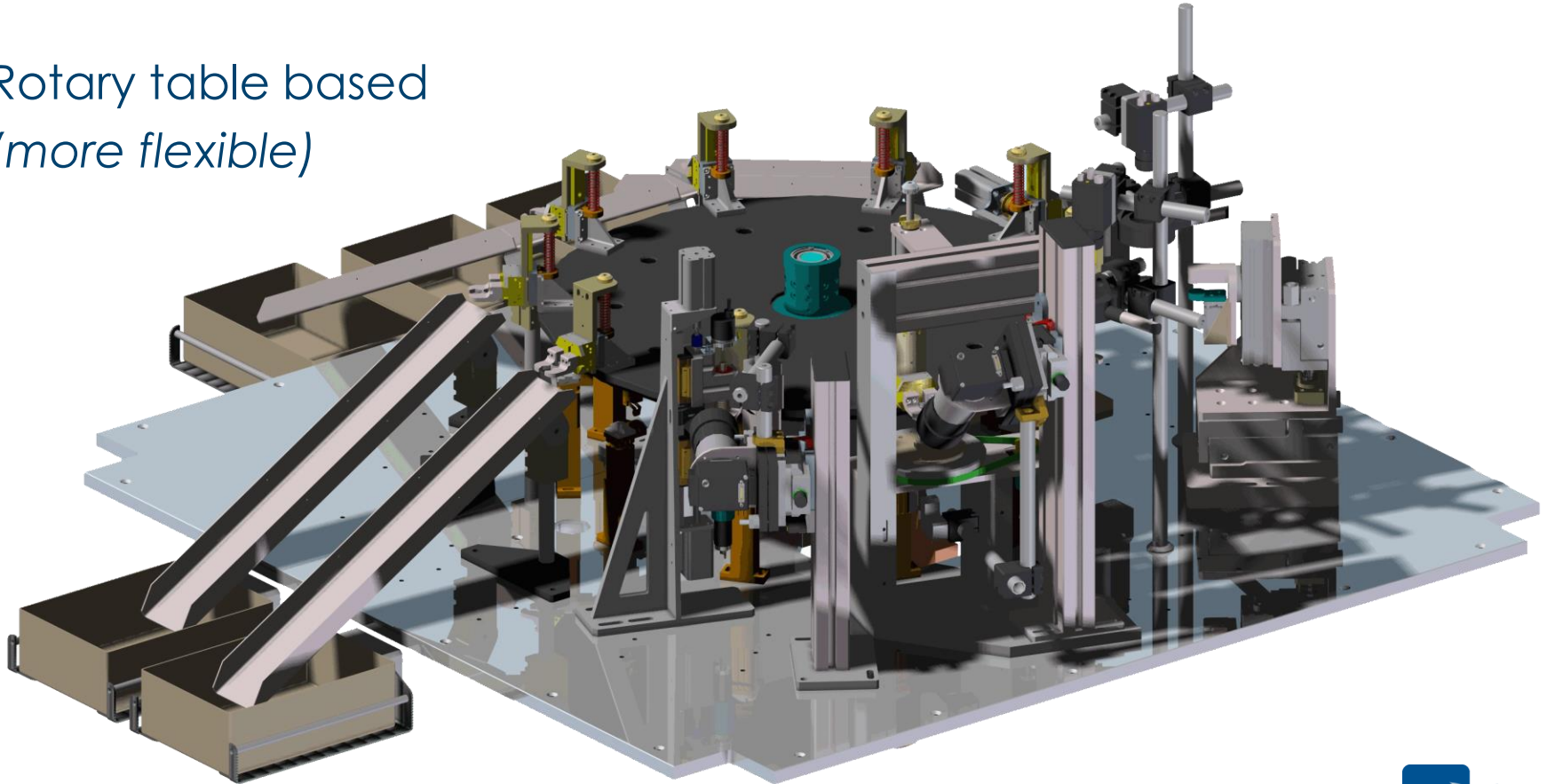
First generation machines



Cam Follower inspection

First generation machines

Rotary table based
(more flexible)



Cam Follower inspection



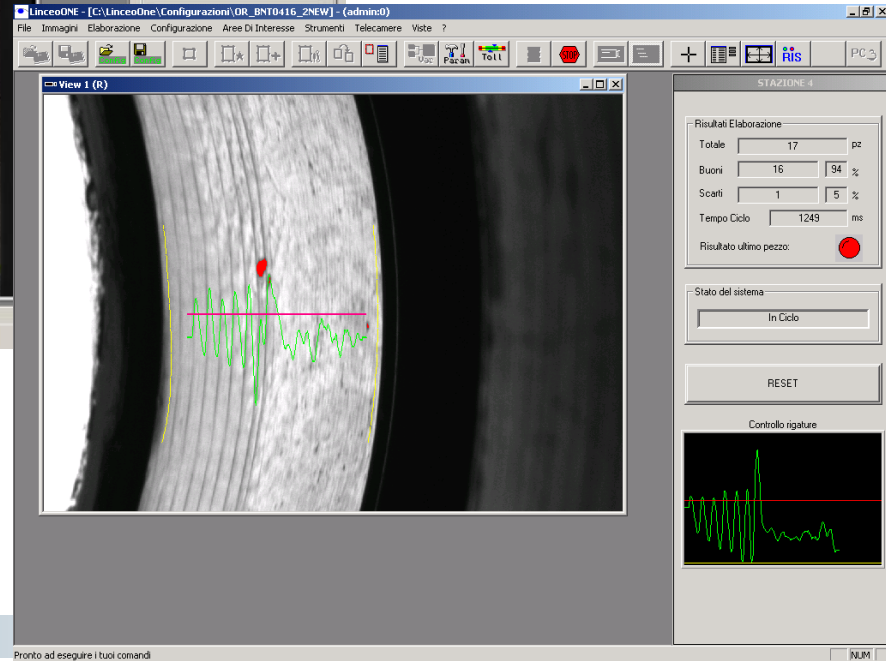
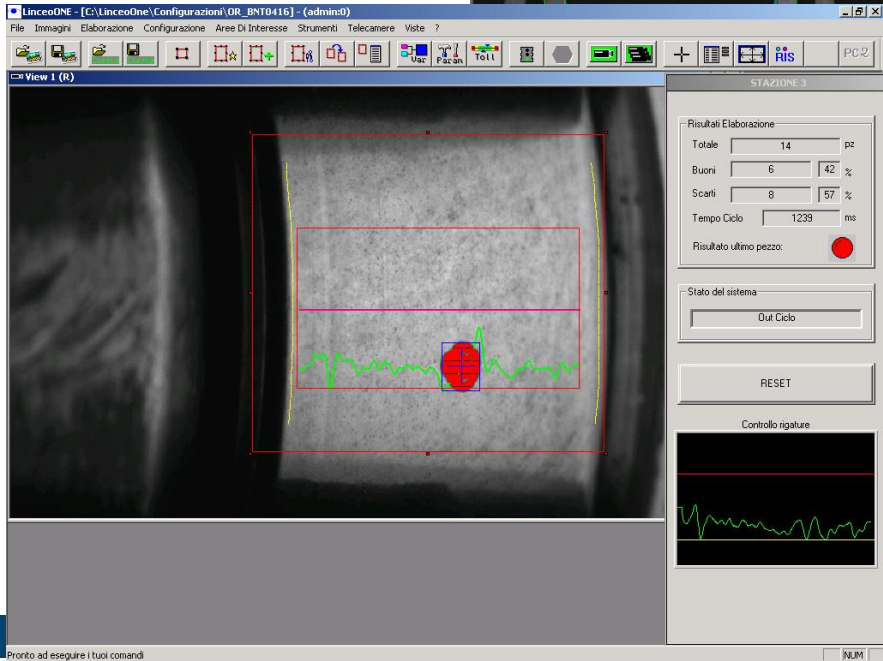
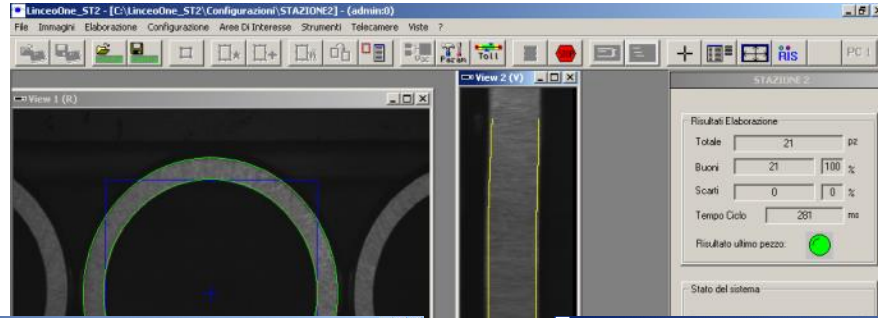
Second generation machines



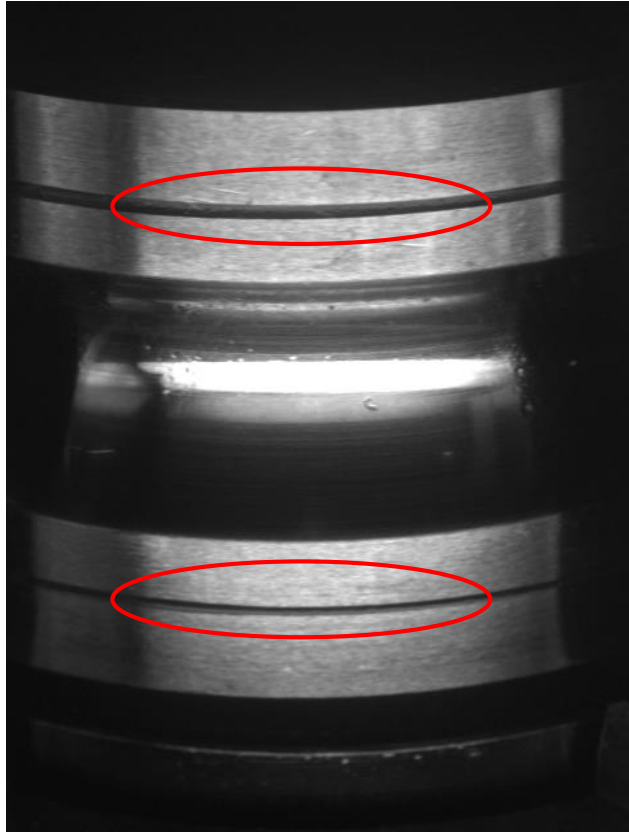


Cam Follower inspection

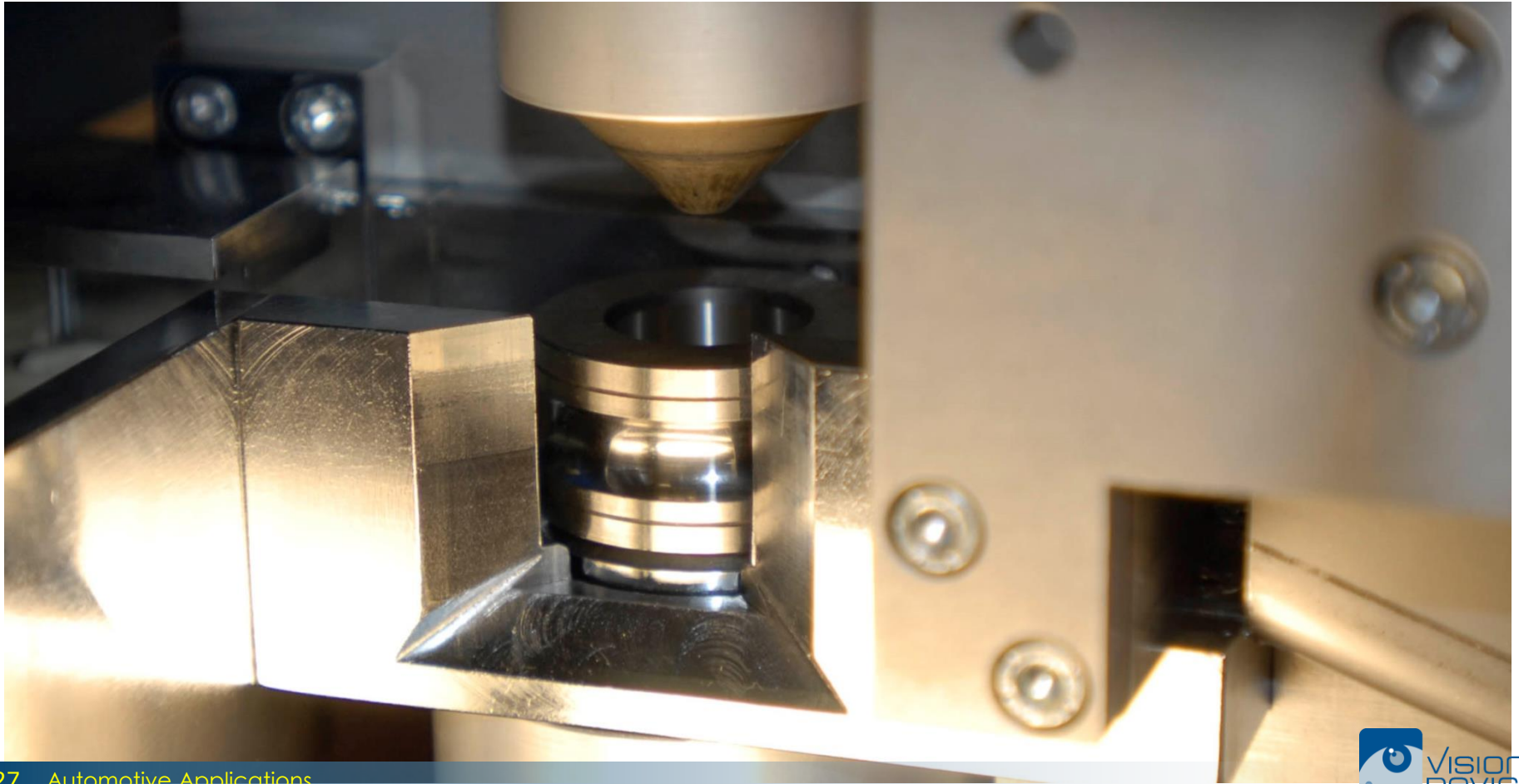
Second generation machines



Inner ring inspection



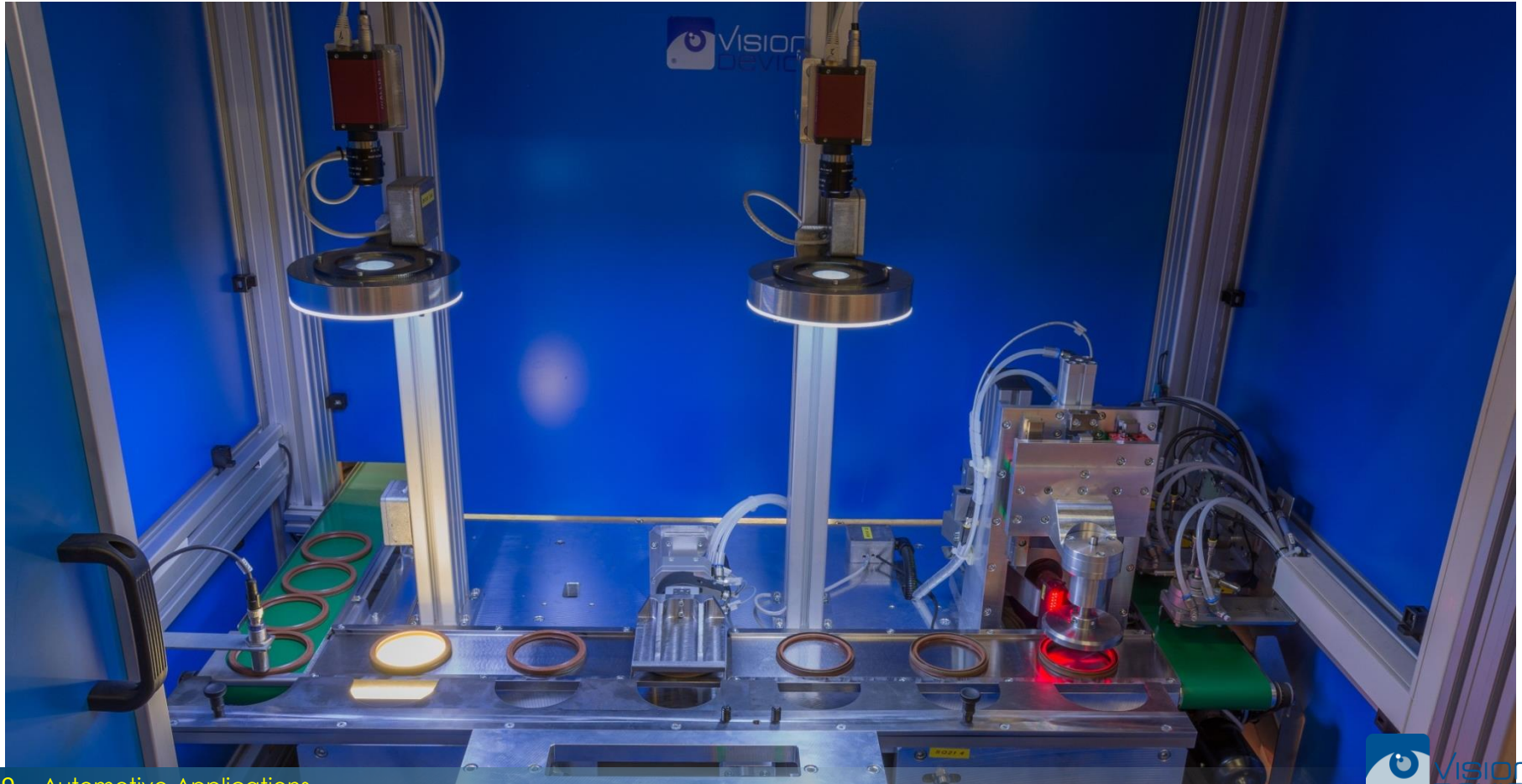
Inner ring inspection



CO1 Seal inspection



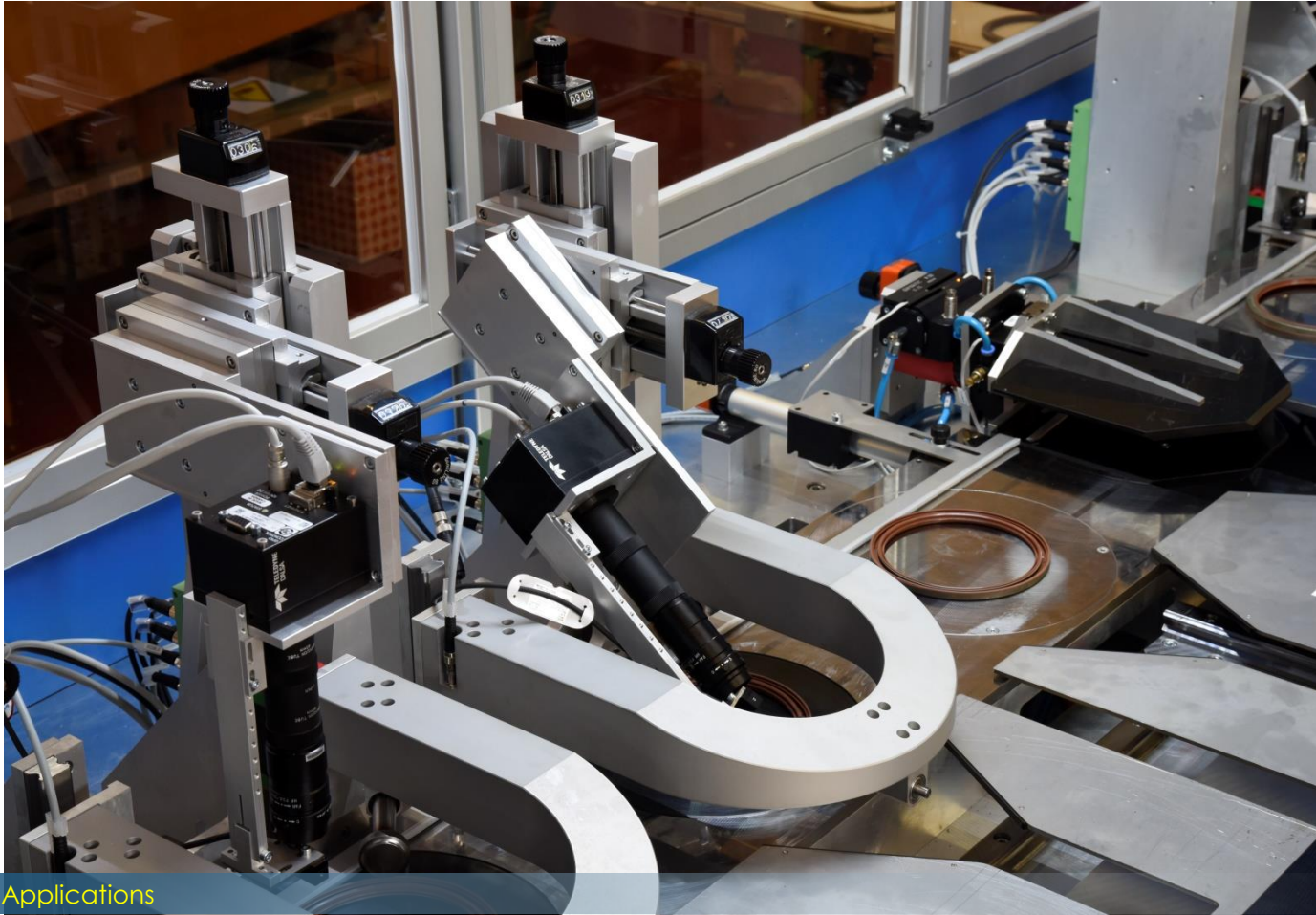
CO1 Seal inspection



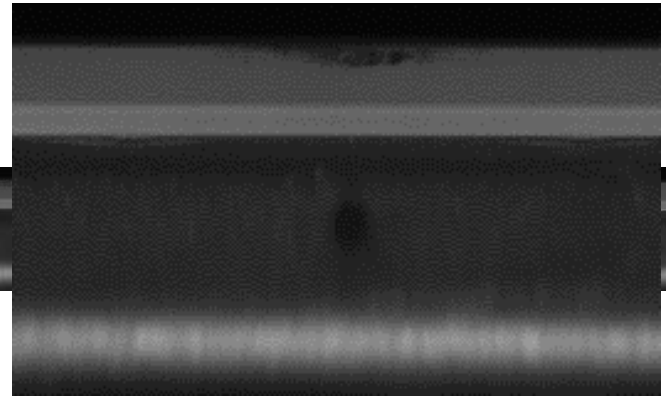
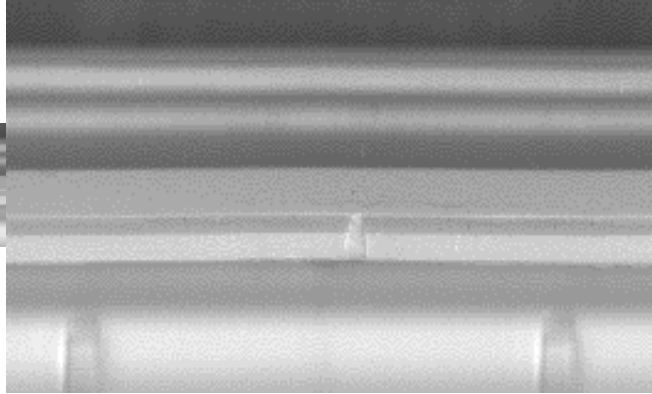
HBU-THU Seal inspection



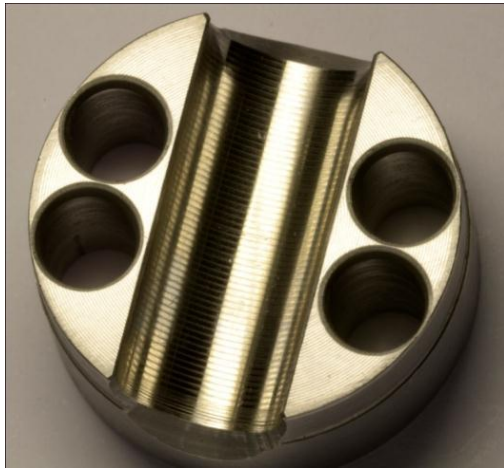
HBU-THU Seal inspection



HBU-THU Seal inspection



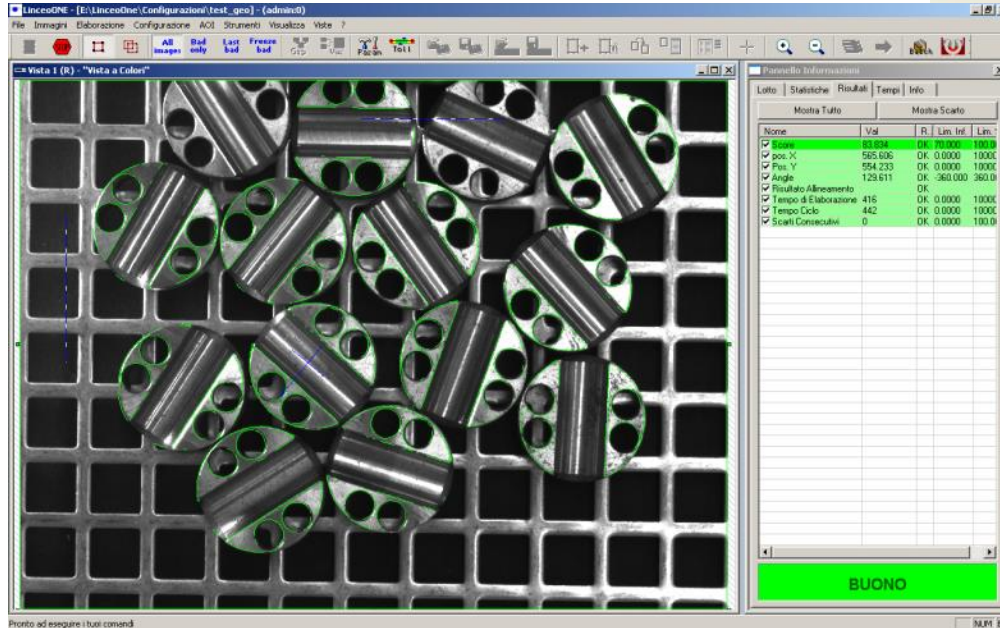
Inspection of brake pump components



Inspection of brake pump components

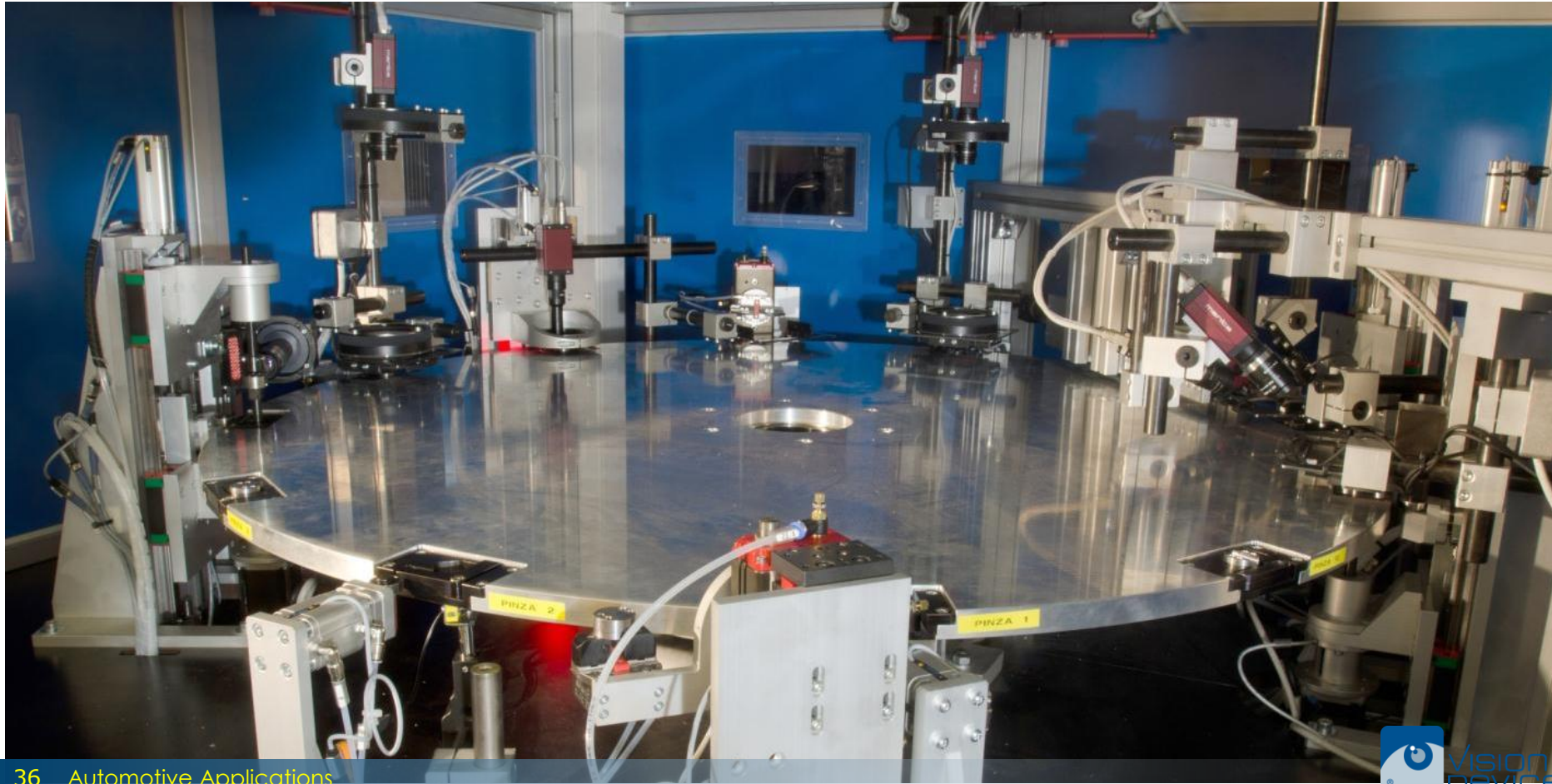


Inspection of brake pump components

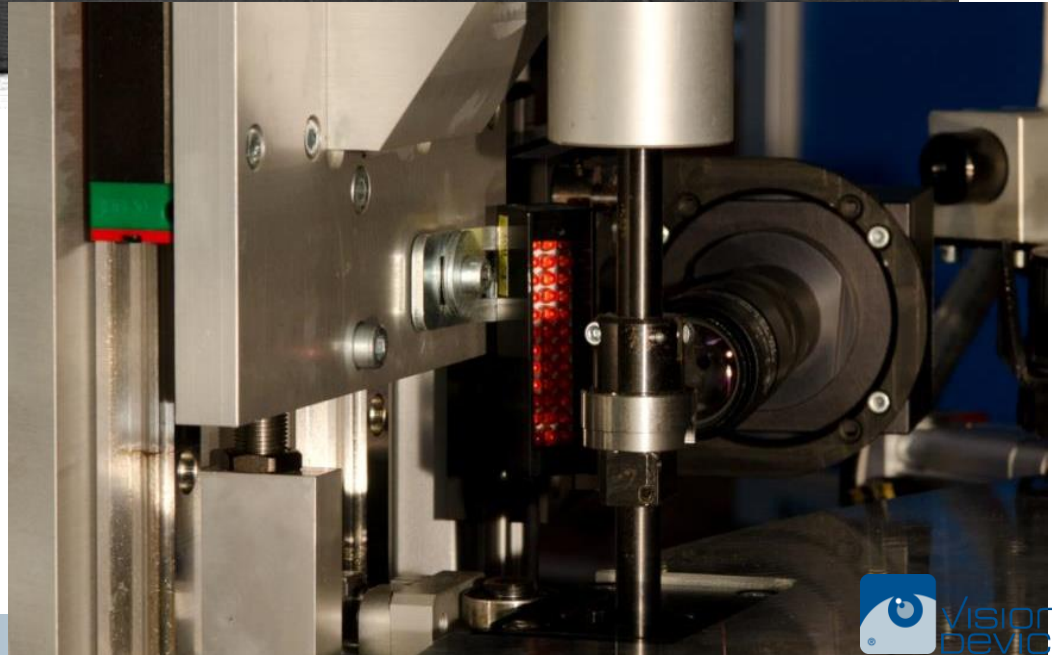
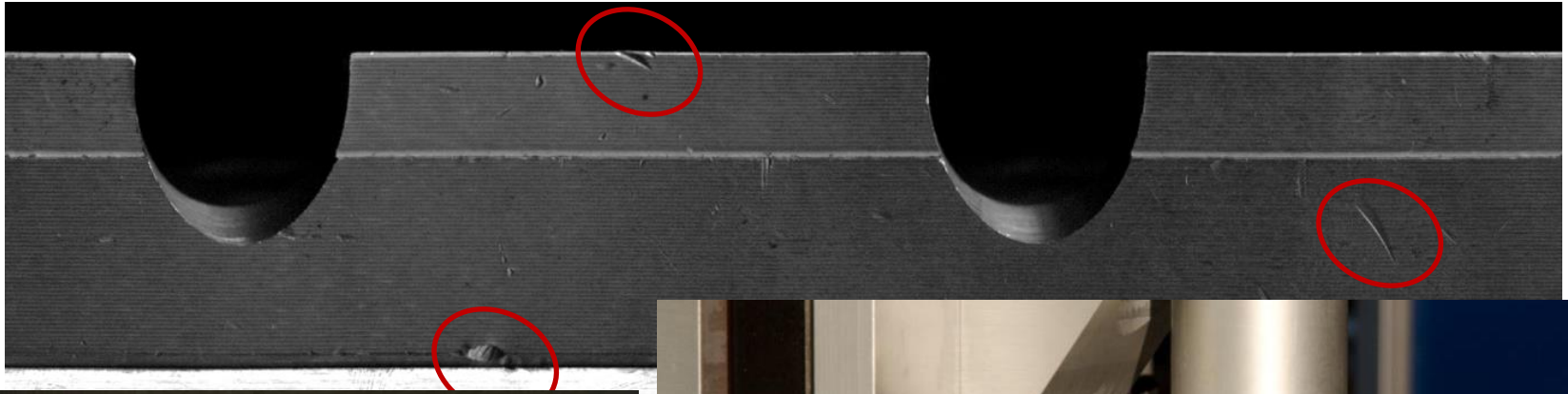


Vision guidance for robot picking, in a very difficult scene

Inspection of brake pump components



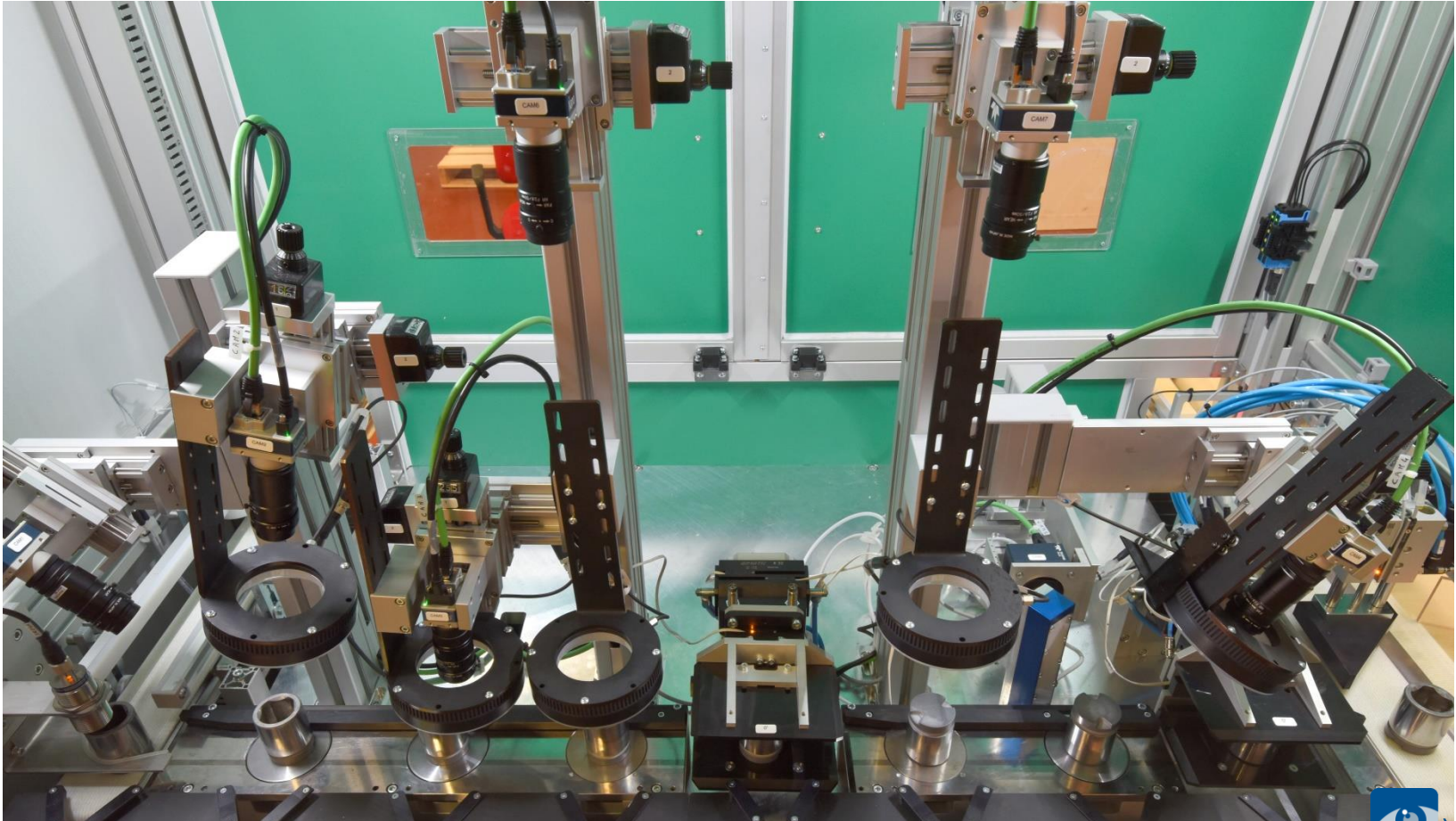
Inspection of brake pump components



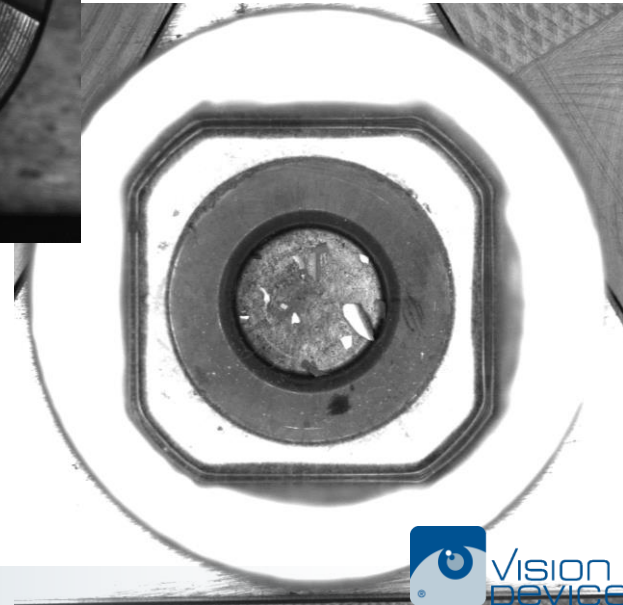
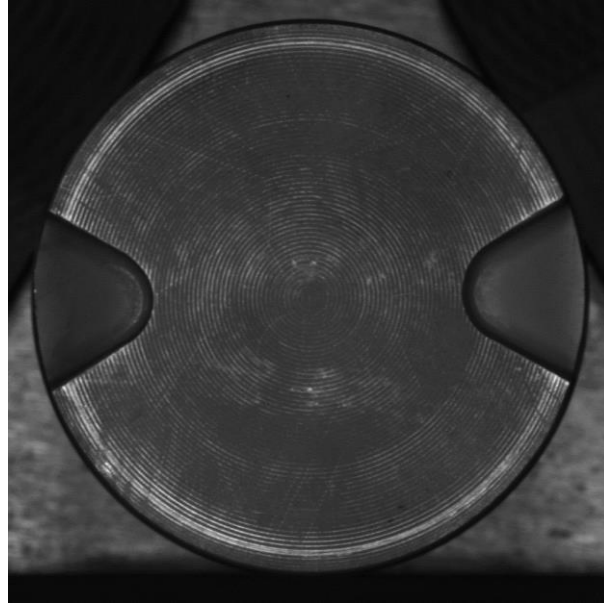
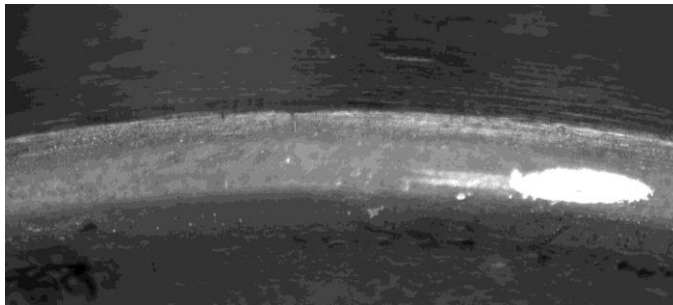
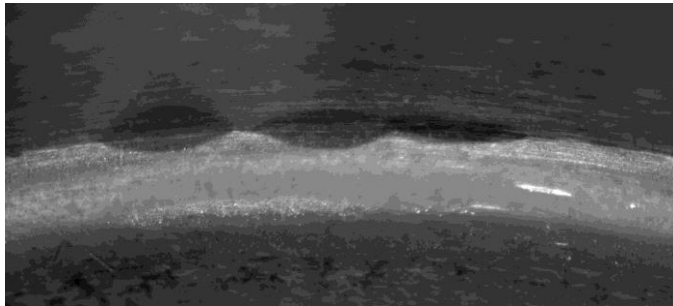
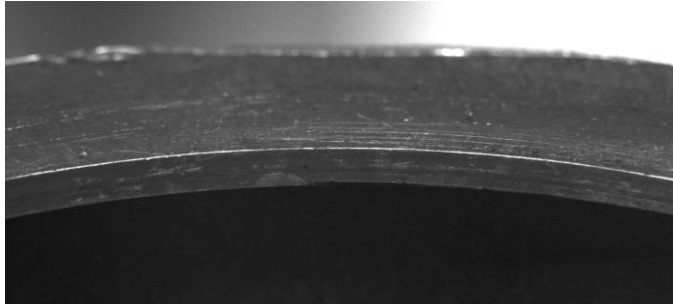
Inspection of brake pump components



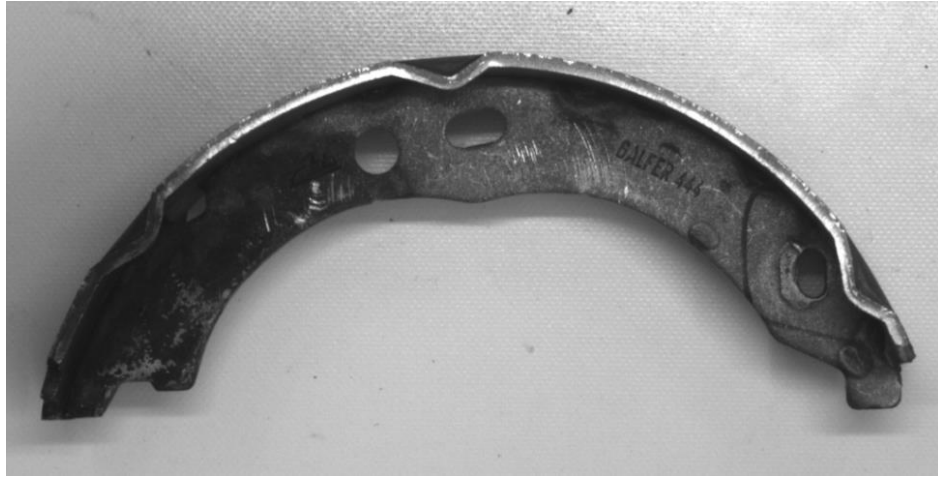
Inspection of brake pump components



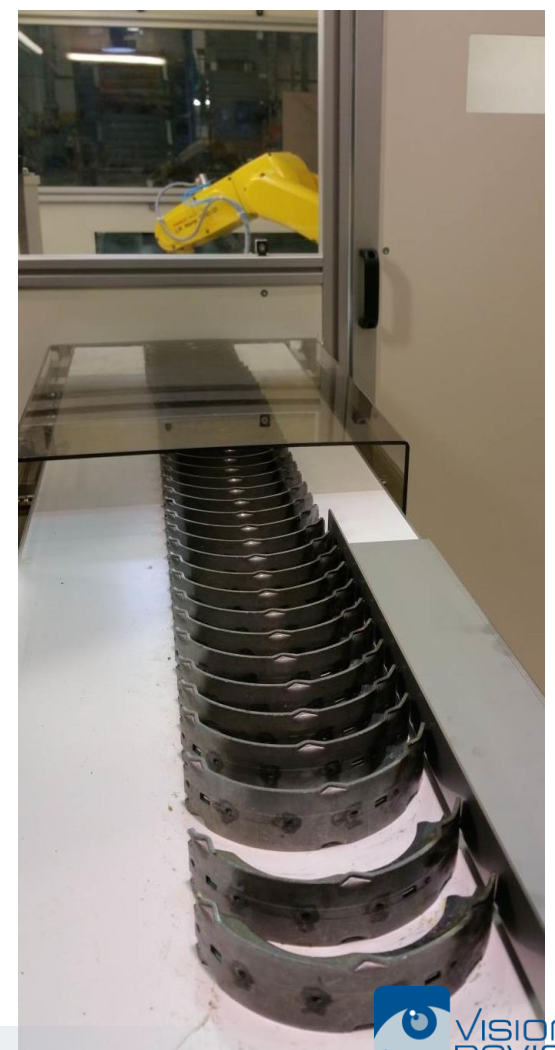
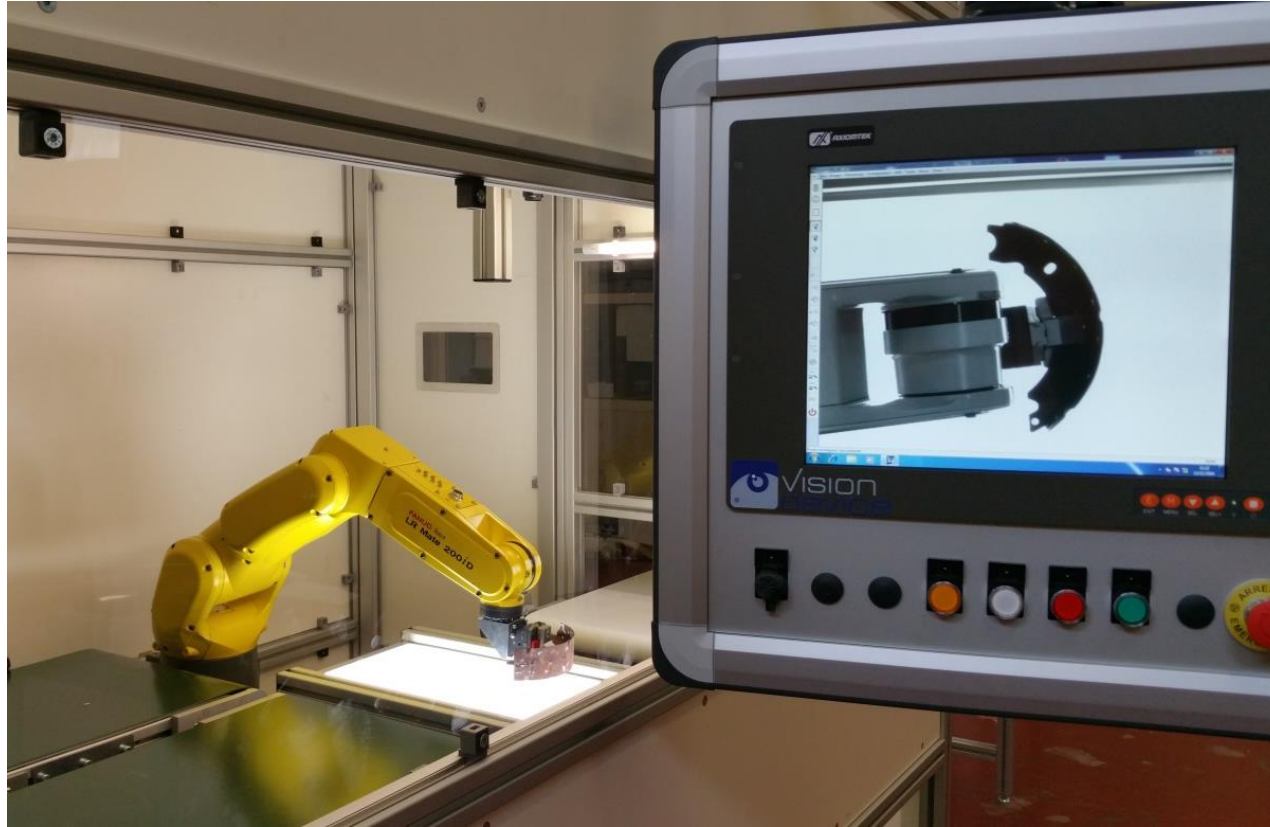
Inspection of brake pump components



Brake component inspection



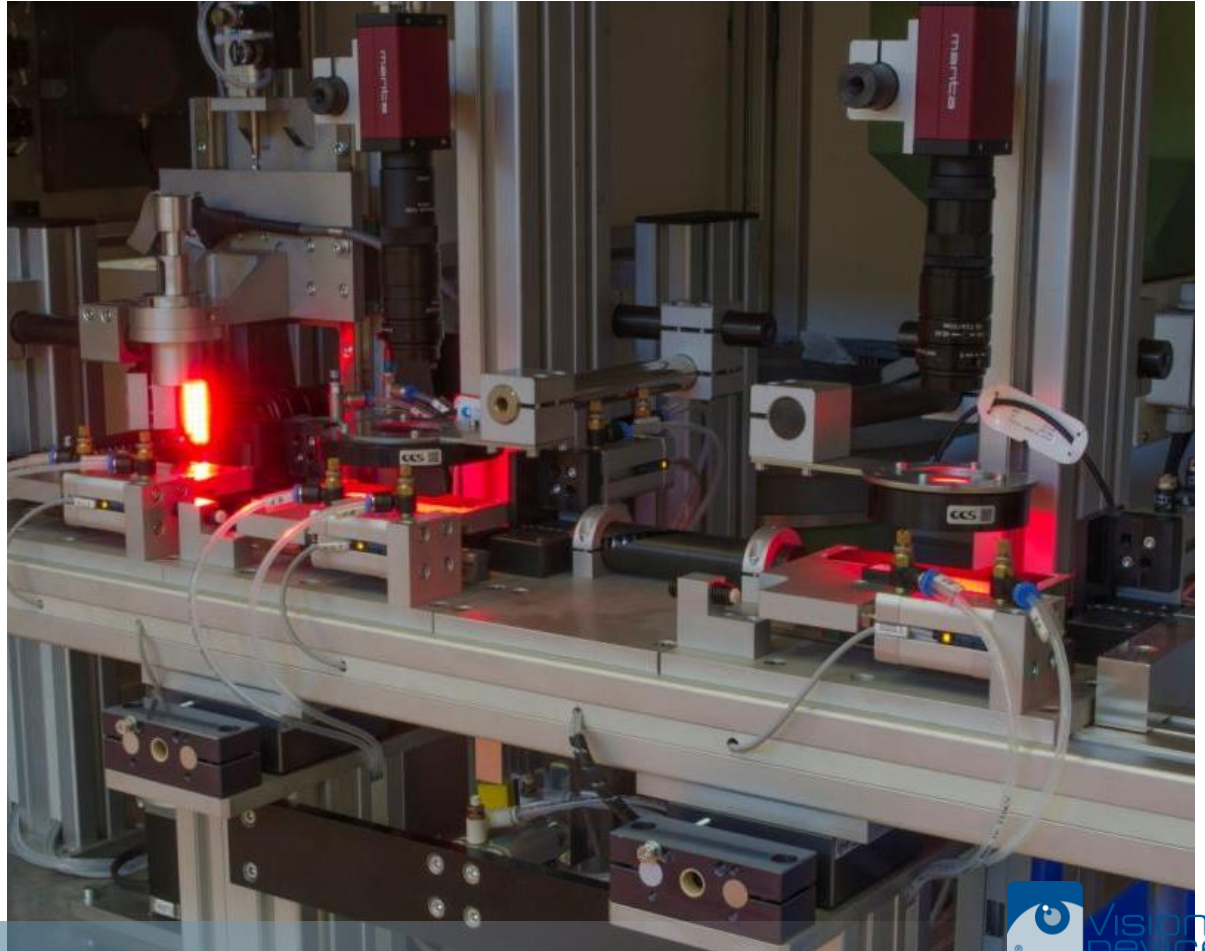
Brake component inspection



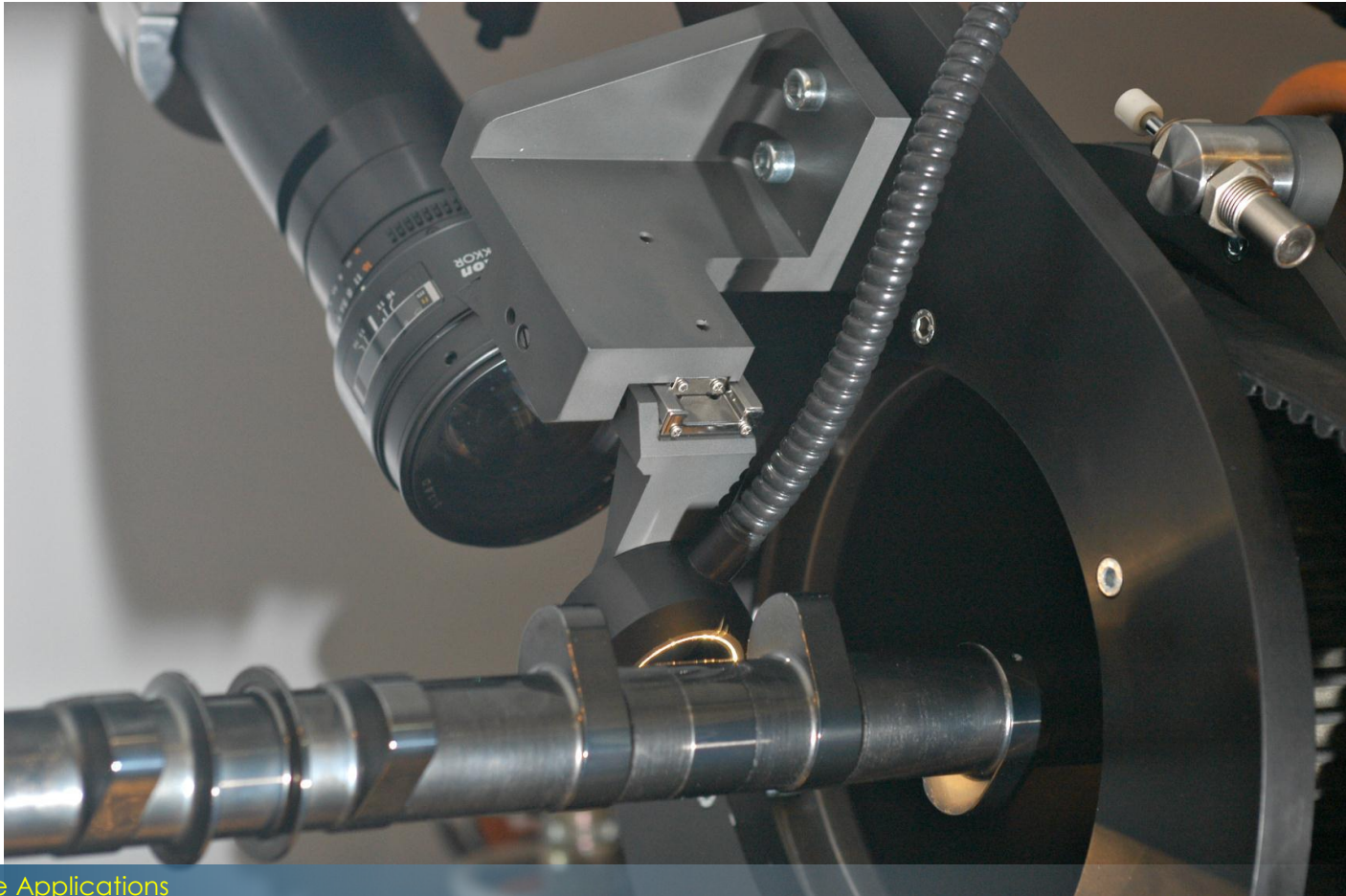
Brake component inspection



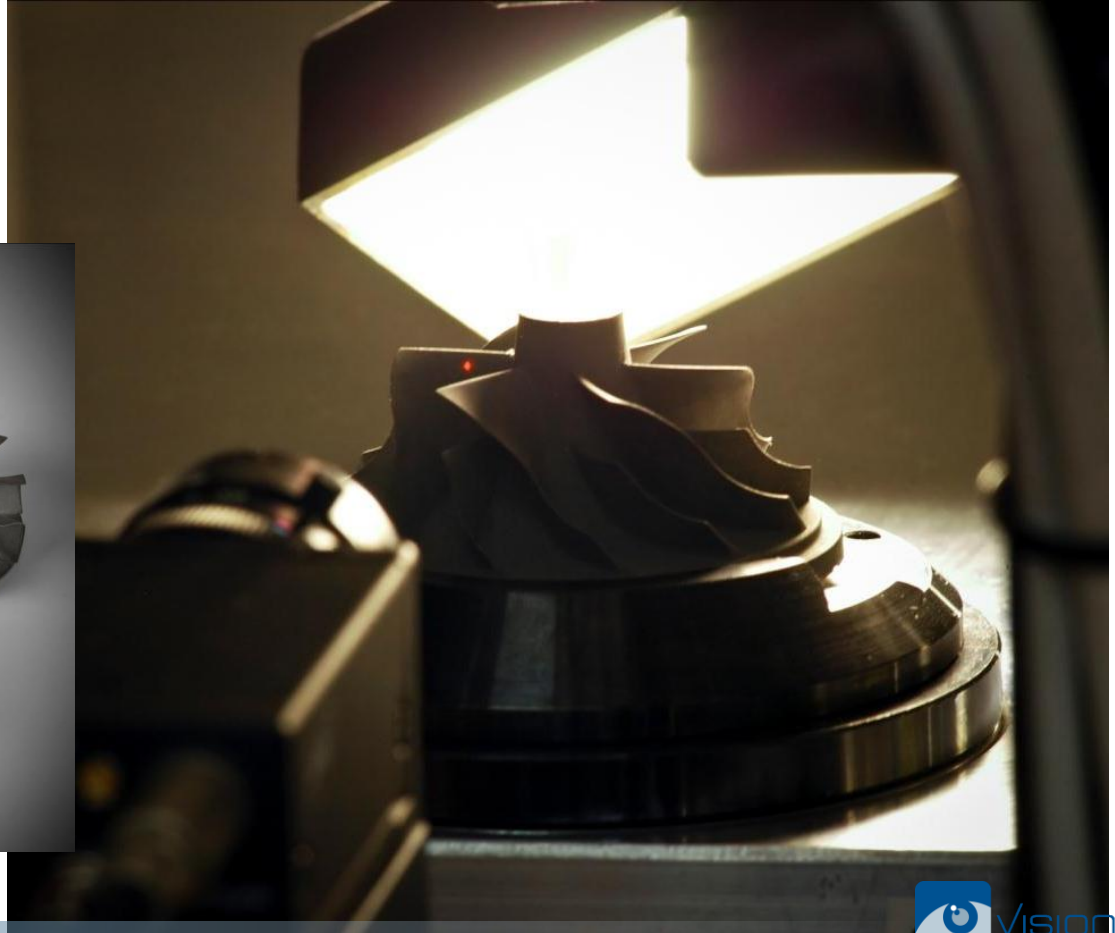
Inspection of fuel injector components



F1 components very accurate inspection



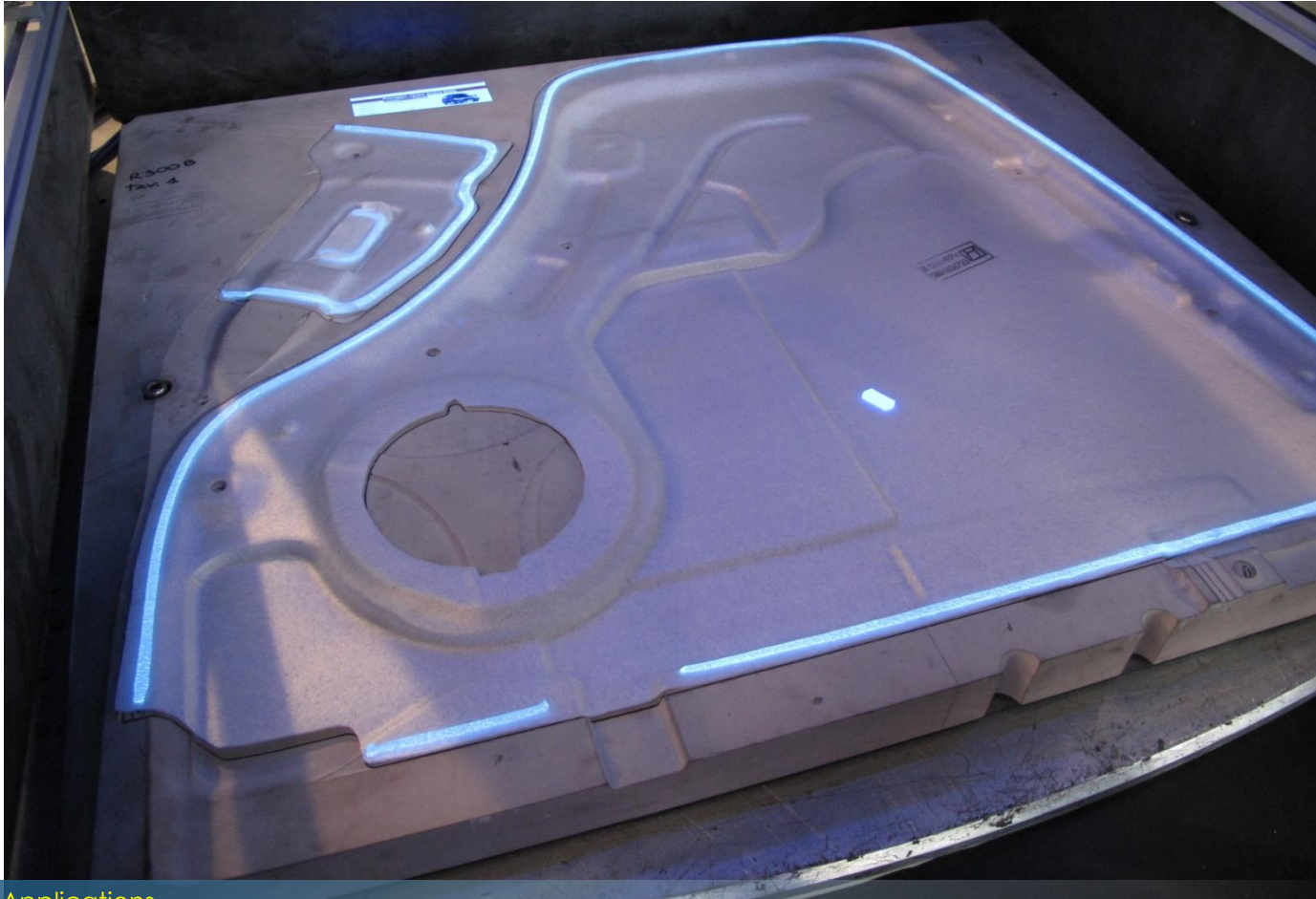
Automotive turbine Inspection



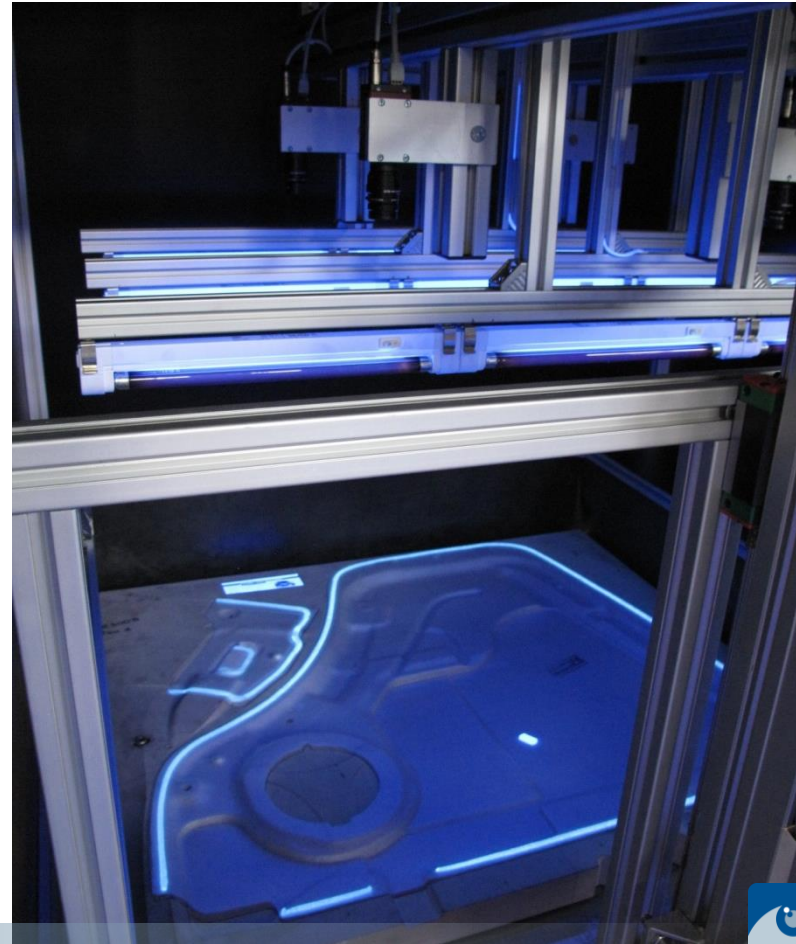
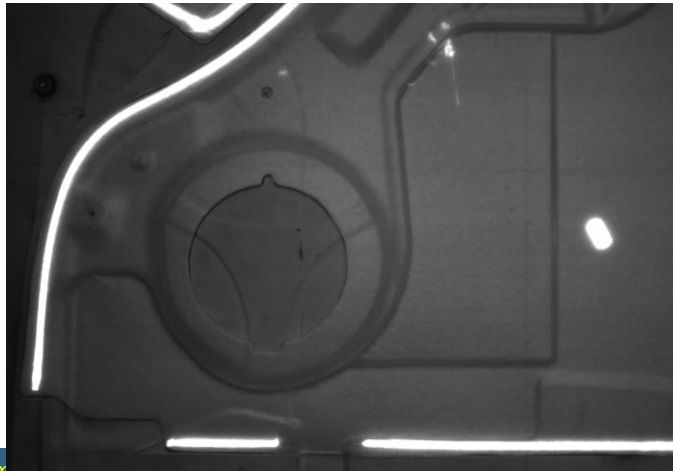
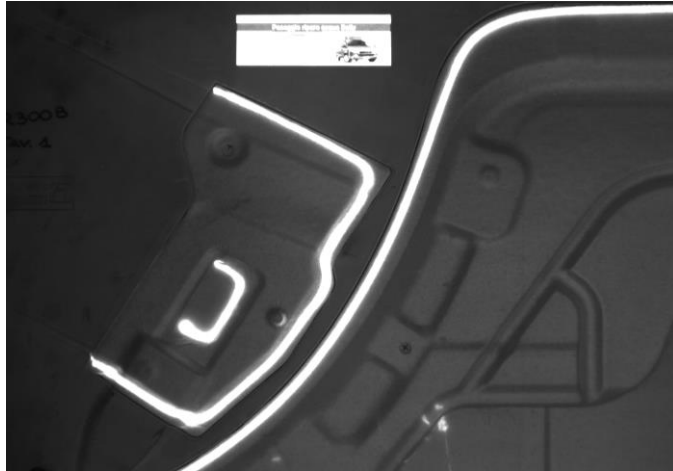
Automotive turbine Inspection



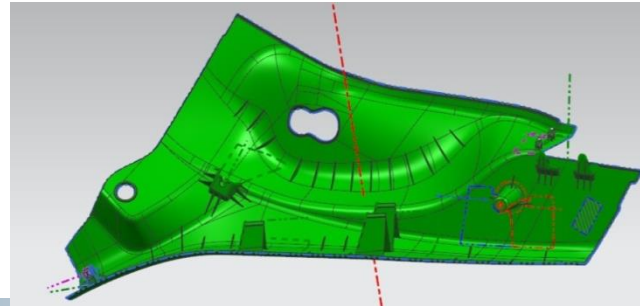
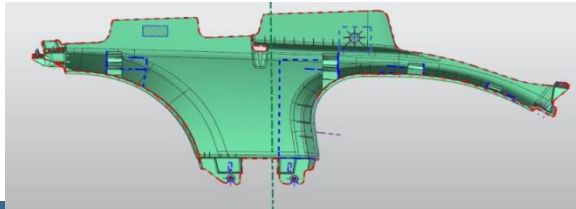
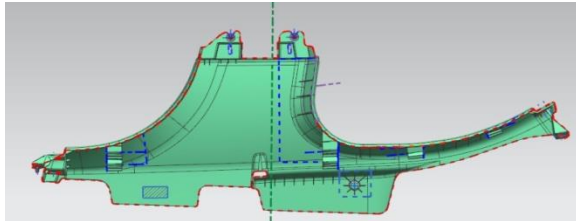
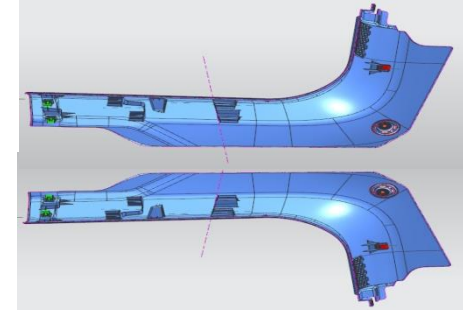
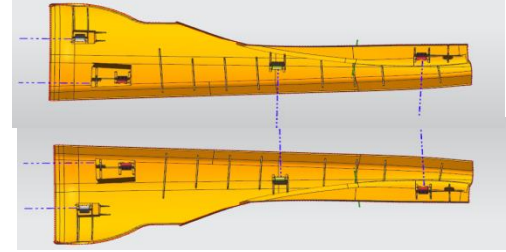
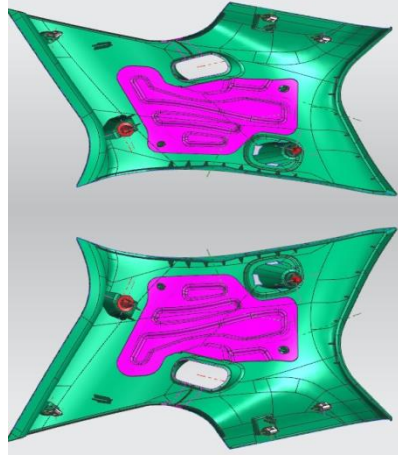
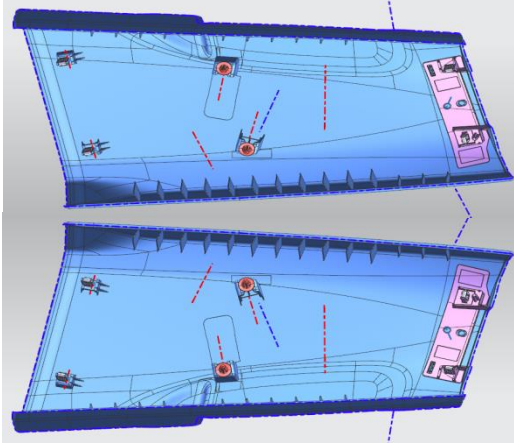
Automotive Door Component Inspection (cord glue)



Automotive Door Component Inspection (cord glue)



Automotive Door Component Inspection (assembly)



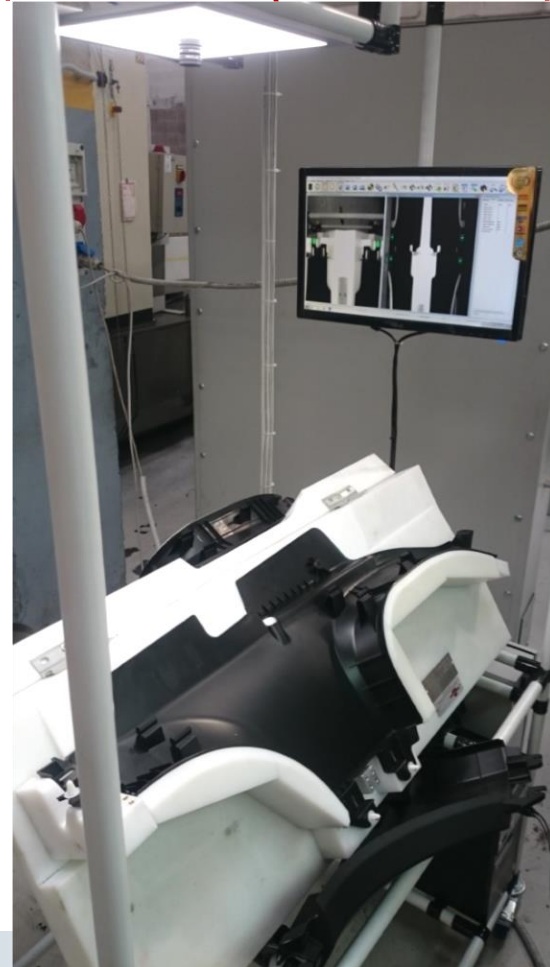
Automotive Door Component Inspection (assembly)

The screenshot displays a vision inspection software interface with two camera views and a data table. The top view shows a white automotive door component with green markers. The bottom view shows the same component from a different angle. The data table on the right lists inspection parameters and their status.

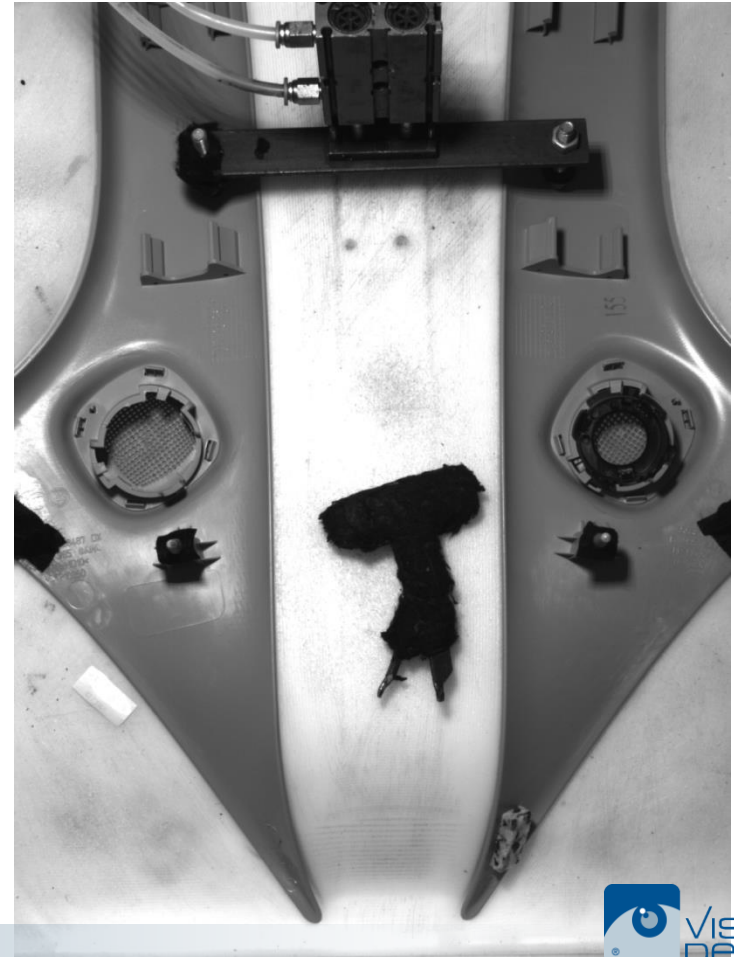
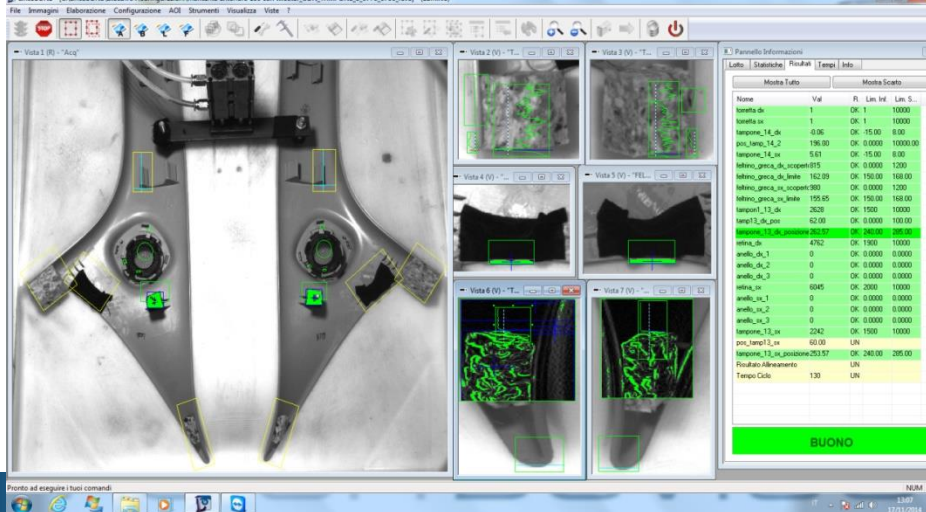
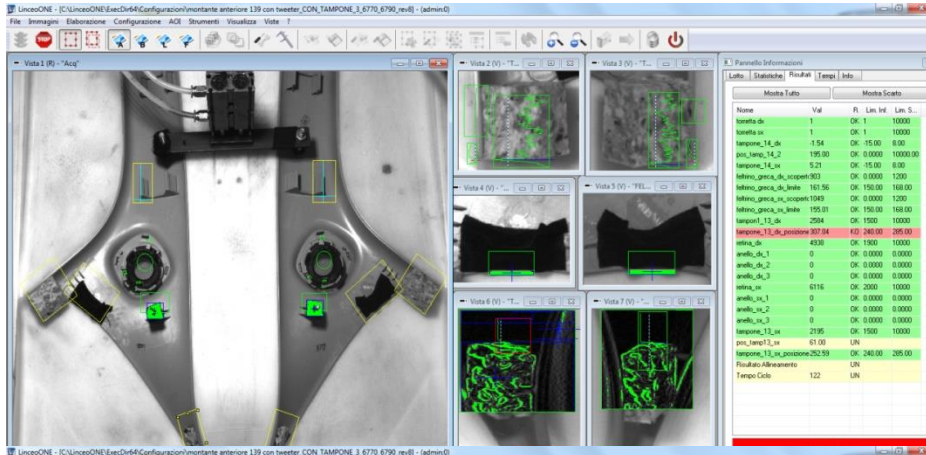
Name	Quant	Scout	Insolite
posh_wa_w	0	0	0
posh_wa_w-1	0	0	0
posh_wa_w-2	0	0	0
posh_wa_wb	0	0	0
posh_wa_wb-1	0	0	0
posh_wa_wb-2	0	0	0
Posizione Insieme	45027	4	0
Tempo di Elaborazione	45027	0	0
Tempo Ciclo	45027	2	0
Scatol. Conoscenza	45027	0	0
Dist. Data Time	0	0	45027

Name	Val	Fl.	Lim Inf	Lim Sup
posh_wa_w	1	OK	1	1
posh_wa_w-1	1	OK	1	1
posh_wa_w-2	1	OK	1	1
posh_wa_wb	1	OK	1	1
posh_wa_wb-1	1	OK	1	1
posh_wa_wb-2	1	OK	1	1

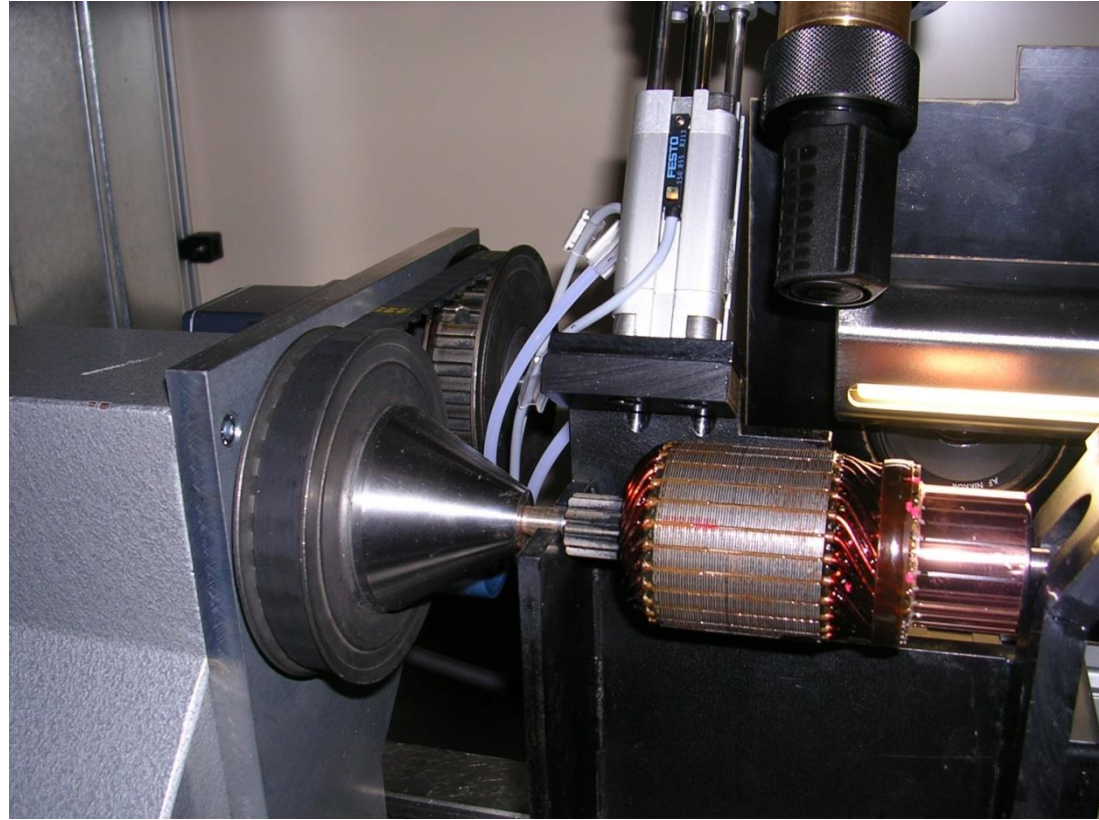
BUONO



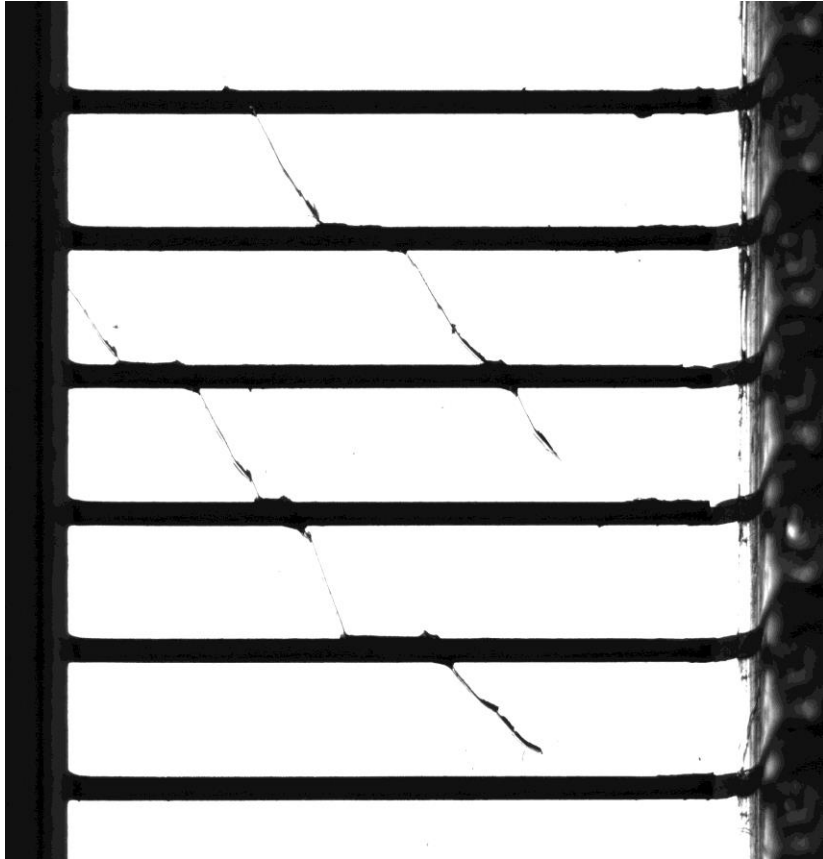
Automotive Door Component Inspection (assembly)



Automotive Electric Rotors Inspection



Automotive Electric Rotors Inspection



Assembly and Inspection Bench

