

ZEISS ABIS

Surface Inspection

Efficient. Objective. Fatigue-free.



High-Quality Surfaces in Automotive Production



Do you and your team get involved on a daily basis in order to guarantee a flawless appearance of your products?

Do you invest a lot of time and resources to ensure the required quality?

The assessment of appearance-dependent surface characteristics by visual inspection is very subjective. Many different opinions lead to difficult discussions at the interfaces between customer and supplier.

Conventional surface inspection

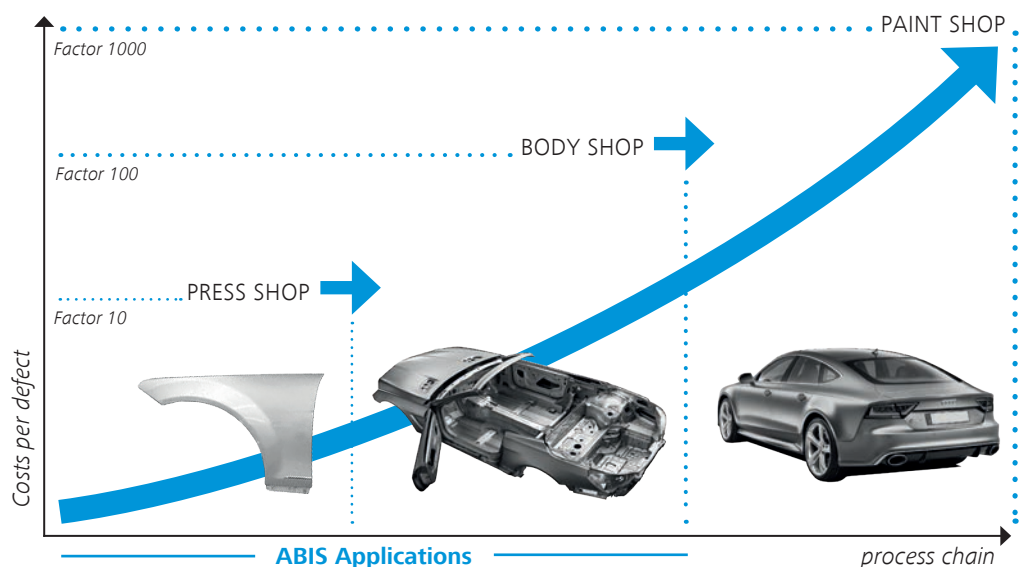
The reliability of manual visual inspection depends heavily on the concentration and focus of the personnel. To make matters worse, many surface

characteristics are not visible to the human eye. An alternative is to work on the surface with grinding stones, palpate with gloves or mirroring after applying oil or film - all very time-con-

suming and subjective. This leads to frequent complaints and cost-intensive sorting and reworking.



Significant cost increase for the subsequent correction of surface defects in the course of the process chain.

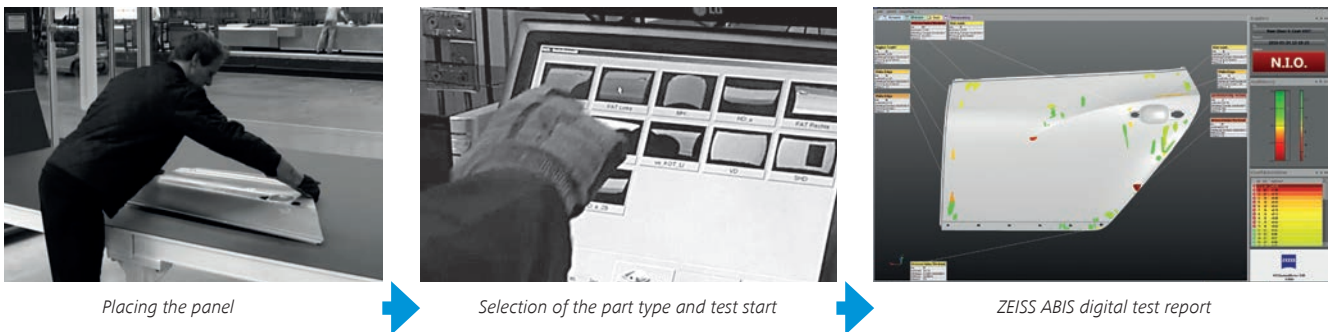


ZEISS ABIS

Automated. Optical. Customized.

ZEISS ABIS is the tailor-made solution for surface inspection in the press shop and car body construction. The optical 3D sensor is moved by a robot over the parts to be inspected, and the ABIS software recognizes surface features and evaluates them according to the specifications of your corporate standard. After only a few seconds you will receive a digital test report.

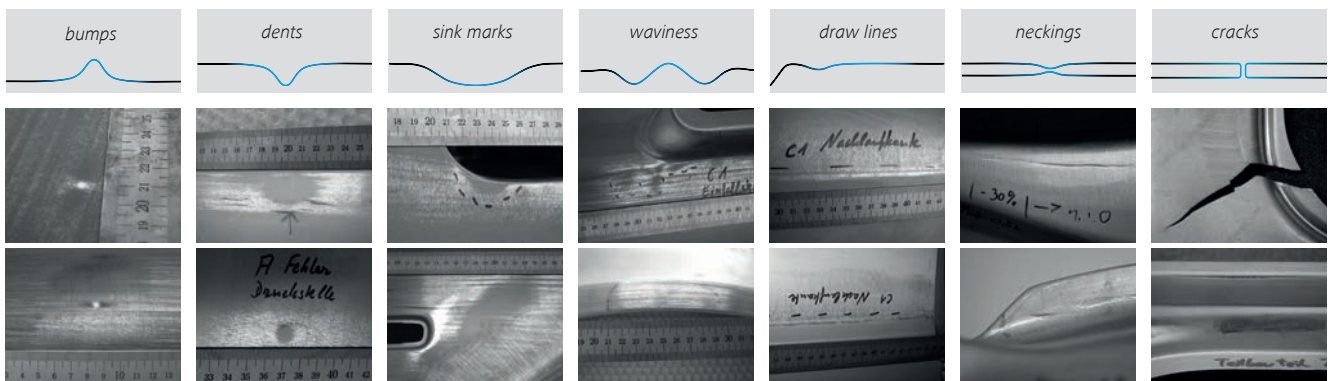
Inspect your sheet metal panels quickly, easily and objectively with ZEISS ABIS:



Use ZEISS ABIS to identify and evaluate a wide range of defect types:

Appearance-dependent defects bumps, dents, sink marks, waviness, draw lines

Safety-relevant defects neckings and cracks



With ZEISS ABIS, your production will become more transparent and safer.

The system, which is designed for industrial use, easily inspects moving components and is therefore ideally suited for inline use.

ZEISS ABIS is designed for the harsh industrial environment and delivers consistently objective results - quickly and efficiently.



ZEISS ABIS

Objective inspection technology for flawless surface quality in automotive production

1

Short inspection times

ZEISS ABIS inspects your components in just a few seconds. You detect faults earlier and inspect more components in the same time.

Reduce your testing times by up to **95%**

2

Early defect detection

ZEISS ABIS detects surface defects early and directly at the point of origin. In this way you avoid cost-intensive reworking in downstream process steps and losses in the value-added chain.

Objective evaluation

ZEISS ABIS evaluates with constant reliability on the basis of your digital limit sample. You thus introduce a uniform standard; different opinions and discussions in shift operation are avoided.



ZEISS ABIS - Features

- Robust** Industrial components (24/7 use), wide temperature range, shockproof sensor, insensitive to vibrations and ambient light conditions)
- Economical** Reduces follow-up costs. No special unit foundation, no clamping fixtures necessary, no component preparation.
- Flexible** Can be used atline and inline, in the press shop and body shop.
- Fast** Extremely fast image acquisition, evaluation and visualization in the production cycle. Inspection in continuous motion with up to 5 m/s.
- Automated** Automatic detection and classification of customer-relevant surface characteristics (in comparison to the limit sample).
- Customizable** Categorization of surface defects can be adapted to corporate standards.
- Complete** Detects almost all surface defects that can occur in the press shop.

7

Digital documentation

ZEISS ABIS supplies the test results in digital form and stores them in a database.

This enables you to provide your customers with proof of quality at any time - and always in comparison with the defined limit sample.

8

3

Easy operation

ZEISS ABIS is very easy to operate. You receive the digital test report at the touch of a button. The operator does not need any special skills in surface inspection. This saves you time-consuming qualification measures and allows you to deploy your personnel more efficiently.

4

Fatigue-free testing

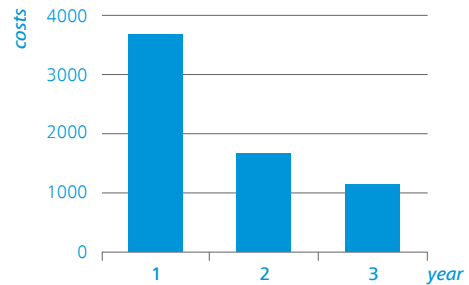
ZEISS ABIS works permanently, reliably and fatigue-free. All system components are designed for industrial 24/7 operation. This increases your system availability. The number and duration of Q-stops, on the other hand, are reduced.

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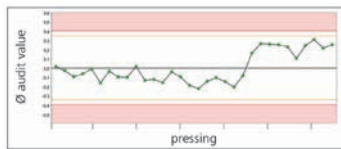
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Economical and resource-saving

ZEISS ABIS is economical. Significantly reduce the scope of manual visual inspection and reduce rework through early defect detection and automatic sorting. Reduce the number of complaints and rejects. This enables you to quickly achieve the return on investment.



Cost savings per year up to **45%**



Process control

The ZEISS PiWeb software brings transparency to your surface quality data. This enables you to compare data between departments, plants and across the entire process chain. Optimize your production systems with real-time trend analyses and short control loops.

9

Worldwide service

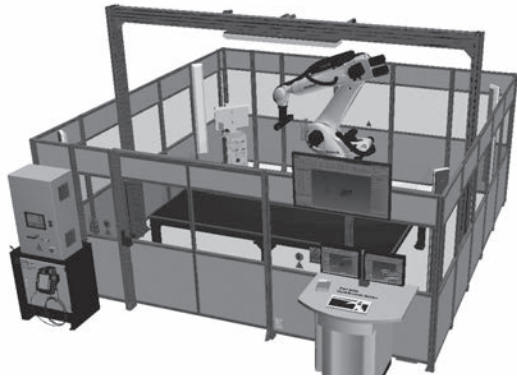
ZEISS offers comprehensive services to help you get the most out of your system: training and support, services, maintenance concepts.



ZEISS ABIS

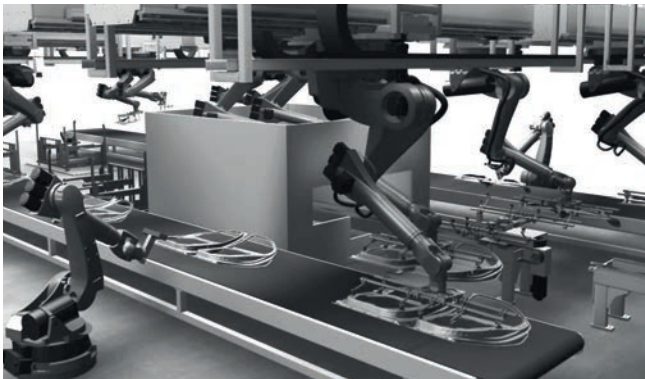
Products and System Configurations

ZEISS ABIS is available in a wide range of system configurations, tailor-made for your application. Whether in the press shop or body shop, whether inline or atline, ZEISS offers you the optimum solution for efficient surface inspection.



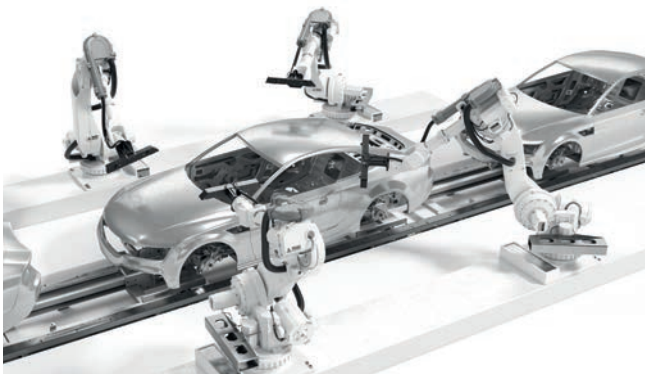
ZEISS ABIS atline inspection cell

ZEISS ABIS atline is an automatic testing station with manual part feed, which we supply turnkey. The robotic cell is ideally suited for accompanying production monitoring, even directly at the line.



ZEISS ABIS inline for the press shop

We offer a tailor-made integration package for inline inspection in the press shop. In addition to lightning-fast data acquisition, the high-performance software enables evaluation of the data and visualization of the inspection results at the outfeed conveyor in the production cycle.



ZEISS ABIS inline for the body shop

For inline inspection in the body shop, ZEISS multi-sensor integration packages are optimally adapted to your production processes. We support your corporate standards both with regard to system integration and surface evaluation.

Complete inline process control with ZEISS solutions

ZEISS offers sensors for surface inspection, geometry and feature measurement as well as for recording gap dimensions and flushness. This enables you to carry out a comprehensive inspection of your products and closed quality control loops throughout the entire process chain.

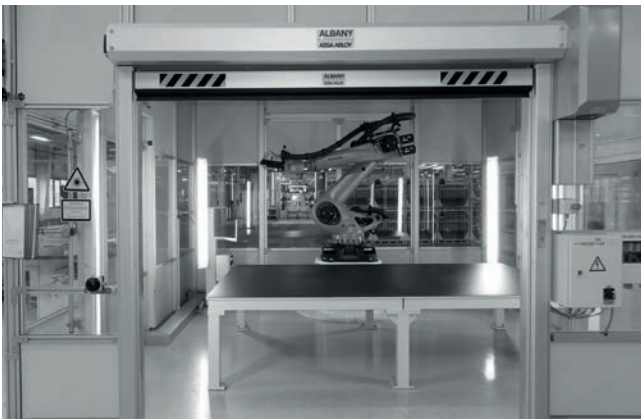
ZEISS ABIS

References and Testimonials

„The optical surface inspection system must be ready to run day and night. It now replaces the whetstone formerly used by the QA staff. This means that more parts can now be inspected and recorded objectively in the same time.“

[Uwe Walcher](#)

[General Project Manager for all surface inspection units at Audi AG Ingolstadt](#)



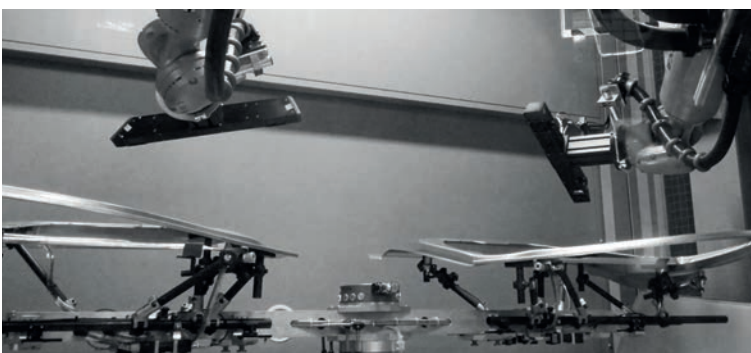
ZEISS ABIS atline at Volkswagen Emden

„Quality assurance and customer satisfaction are top priorities at TOWER Automotive. The Zwickau plant is the first press shop to use the ABIS II system for objective surface inspection of car body shell parts. This allows the surface quality of complex shaped shell parts to be very quickly and clearly documented for the customer at each pressing.“

[Dietmar Leichsenring](#)

[Manager Equipment & Facility Realisation Europe
TOWER Automotive](#)

ZEISS ABIS inline in the press shop at Daimler Bremen



References

AGCO Fendt, Asbach-Bäumenheim / Germany
Audi, Ingolstadt - Neckarsulm / Germany
BBA, Shenyang / China
BBAC, Beijing / China
BMW, Dingolfing (I + II) / Germany
BMW, München - Leipzig - Regensburg / Germany
Boeing, St. Louis / USA
Daimler, Bremen (1.21 + 1.11) / Germany
Daimler, Kuppenheim (6.390) / Germany
Daimler, Sindelfingen (5.321) / Germany
FCA Warren Stamping / USA
FAW Volkswagen, Changchun / China
General Motors, Flint - Lansing Grand River / USA
Gestamp Polska, Wrzesnia / Poland
Gestamp, Biskaia / Spain
G-TEKT, Shiga Plant / Japan
Honda Manufacturing, East Liberty / USA
Hyundai Motor Company, Ulsan / Korea
KIA Motors, Zilina / Slovakia
PSA Poissy/Fabricom Systemes, Besancon / France
PSA, Vigo / Spain
SCANIA, Oskarshamn / Sweden
SEAT, Martorell / Spain
SKODA AUTO a.s., Mladá Boleslav / Czech Rep.
Tower Automotive, Zwickau / Germany
TTS, Tokio / Japan
Volkswagen, Emden (I + II) / Germany
Volkswagen Sachsen, Zwickau / Germany
Volkswagen Slovakia, Bratislava / Slovakia
Zwick-Roell, Shanghai / China



Carl Zeiss
Optotechnik GmbH
Georg-Wiesböck-Ring 12
83115 Neubeuern
Germany

Phone: +49 8035 8704-0
Fax: +49 8035 1010
Email: optotechnik.metrology.de@zeiss.com
Internet: <http://optotechnik.zeiss.com>