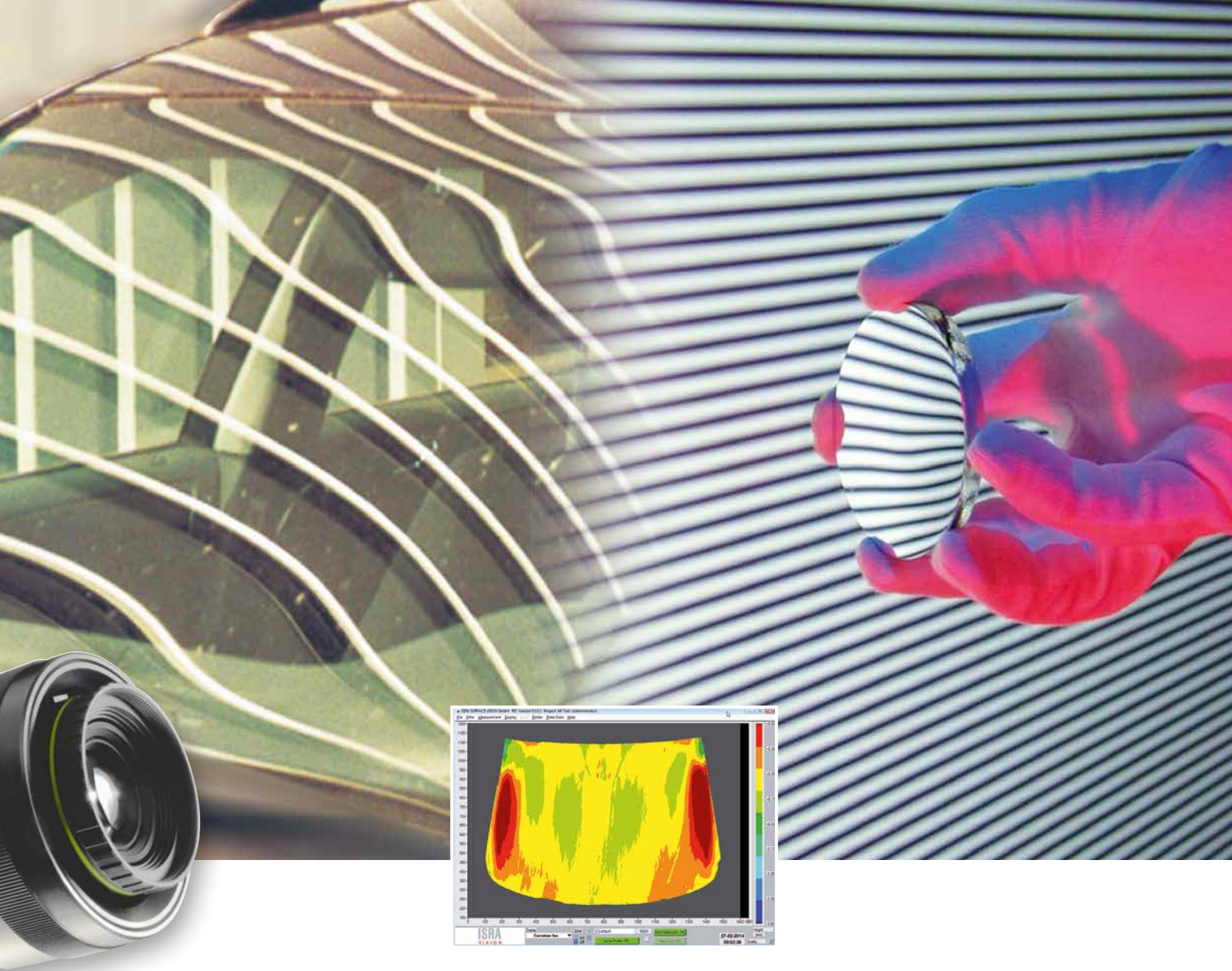




Objective Judgement For Esthetic Properties

SCREENSCAN-Reflected Distortion

In-line 3D Measurement



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For brilliant automotive screens

Today the visual appearance of automobiles is – beside all other technical and functional facts – a decisive emotional selling factor. The complexity of the shapes is growing and also the demands for esthetics of automotive glass. Thus a reliable judgement of the reflected distortion is getting more and more important.

Control technology

In the past only subjective, statistic visual off-line evaluations of the appearance in reflection have been possible by human operators, including all typical disadvantages such as:

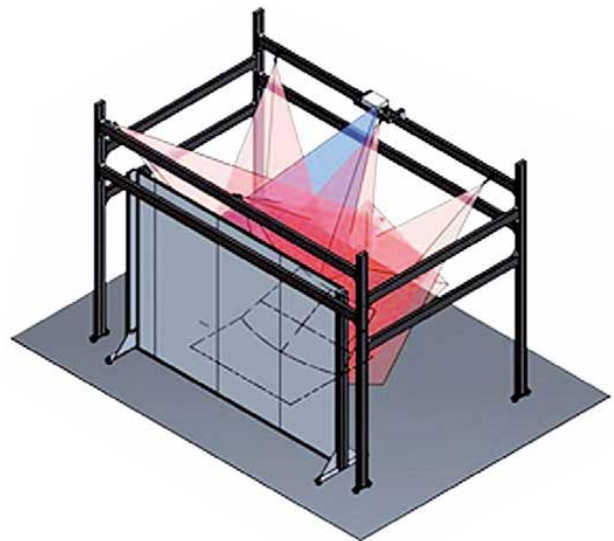
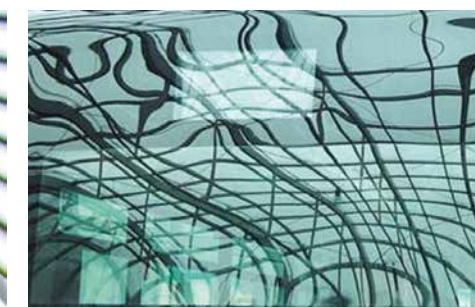
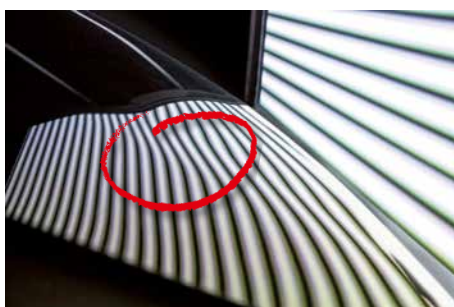
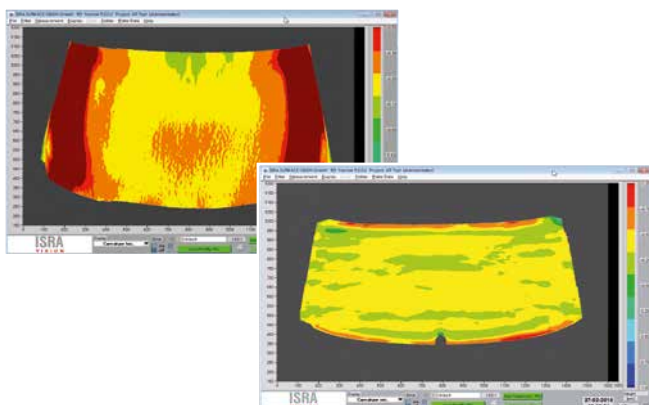
- non-reliable subjective judgements
- no repeatable results
- no really efficient inspection and control

As of today fully automated measurements of specular, reflecting free-form surfaces such as windshields is a challenging task especially in-process.

The solution: reliable 3D gauging with innovative technology of the reflected distortion of the complete surface even in-line. 100% in-line objective judgement is now available.

Benefits

- Precision under production conditions
- Reliable, objective and repeatable measurement results in diopter
- Production process optimization
- Fast and precise data acquisition
- Creating new orders by meeting quality requirements of world leading carmakers, like VW - PV 8203



Attractive

Reliable.
Repeatable.
Quantifiable.

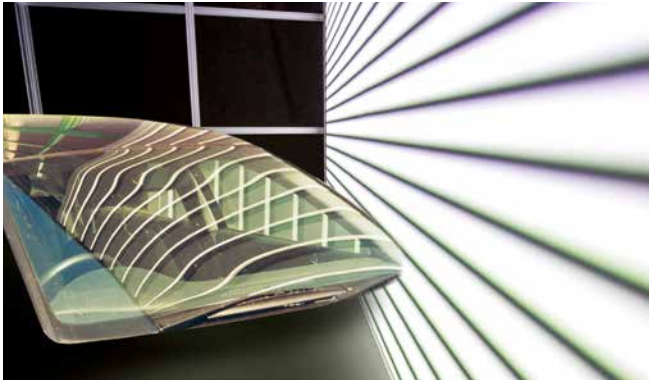


Attractive



In-line 3D measurement
Complete & within
cycle-time

Get Objective, Repeatable and Quantified Results



No complaints
due to irregularities



Consistent high quality

Immediate results
for optimization and analysis

Principle

The measurement of the reflected distortion is based on the deflectometry method which does not measure the local height of a surface, but the local gradient. Measuring the local gradient instead of the height is very advantageous because the curvature data can be calculated very fast, easily and with highest accuracy. The complete object is measured within typical cycle times including calculation of the complete object data. A further advantage is, that the positioning of the measuring object has no relevant influence on the measurement results.

Features

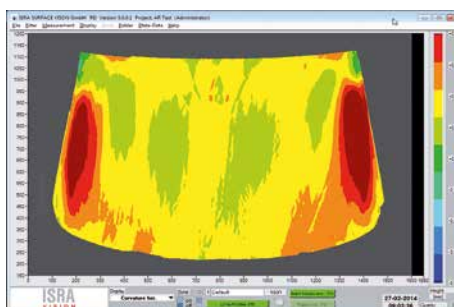
- 100% in-line quality control on production lines
- Real-time target performance verification to CAD data
- Evaluation versus free definable critical values
- Special regions of interest definable
- Measurements within production cycle-time
- Non-contact optical 3D-measurement
- Statistics and analysis tools for process optimization

Applications

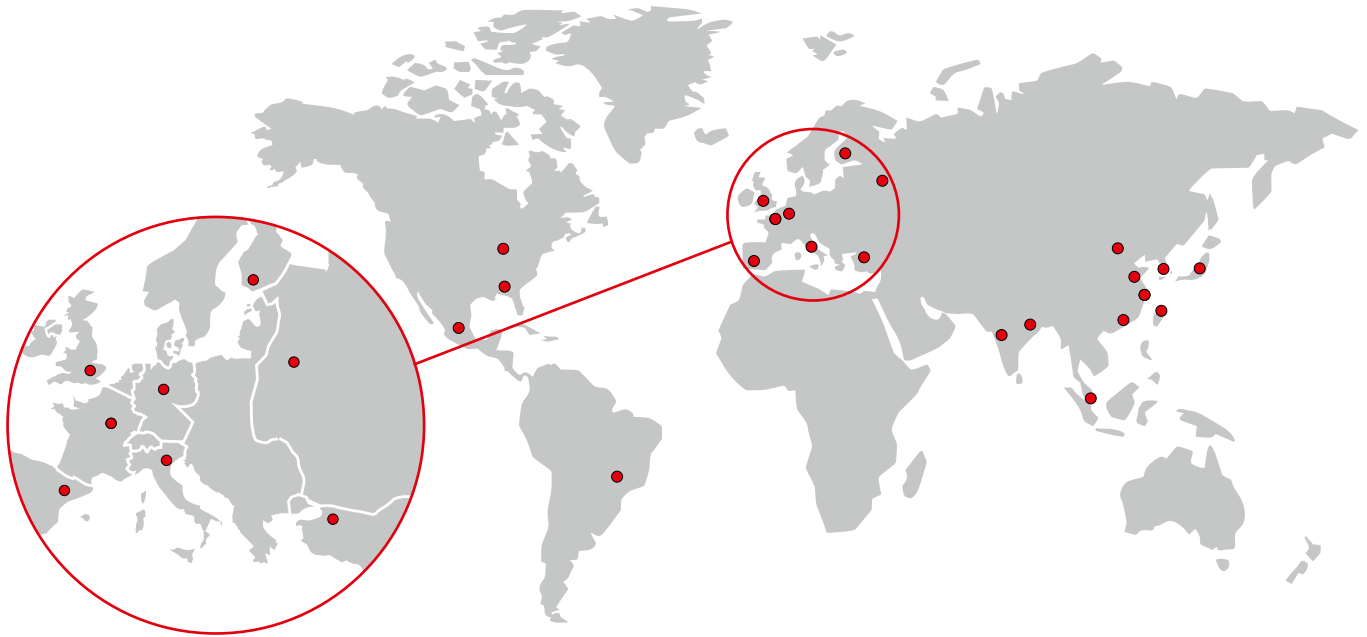
- Windshields
- Back lites
- Side lites
- Sunroofs
- Other ...



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