



STRUCINSPECT
Infrastructure Lifecycle Hub

How Inspections gain Efficiency using AI

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THE WAY WE LOOK AT INFRASTRUCTUREhas fundamentally changed



Benefit from high-value digital data!



STRUCINSPECT Infrastructure Lifecycle hub

one product – many solutions



Benefit from high-value digital data!

DIGITALIZATION

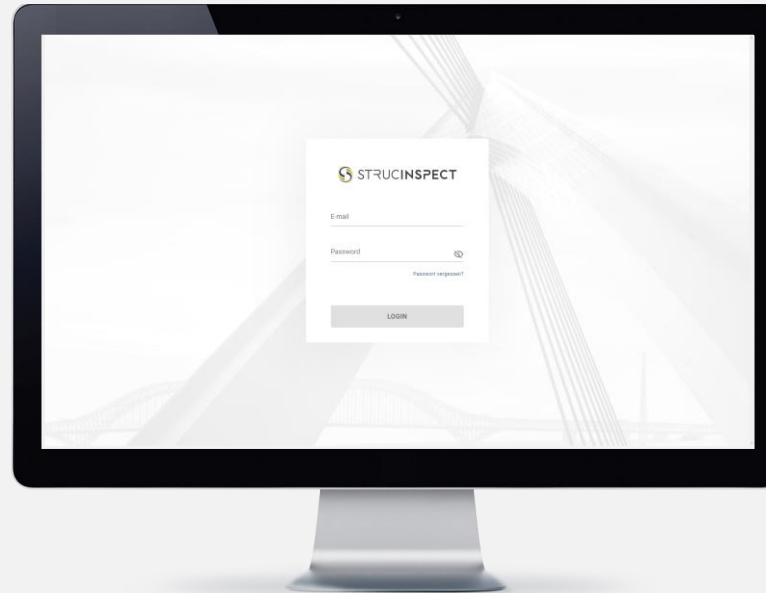
„use of digital technologies to improve business operations and create new value for customers“

AUTOMATION

„using technology to automate tasks that would otherwise require human intervention and manual processing“

STANDARDIZATION

„ensuring quality, consistency, compatibility, interoperability“



Interoperability with existing Systems & Services



Easy **collaboration** with Engineers and Data Capturer



User friendly **interface** & top performance



Ensuring **data security** & data ownership

BRIDGES – from inspection to digital twin

full documentation & 3D model



Benefit from high-value digital data!

SOLUTION HIGHLIGHTS

Automated Defect Tracking

AI digitizes and links defect images with previous documentations



Defect Mapping

Documented defects are precisely mapped and clearly displayed on the 3D model

Documentation and Assessment on-site

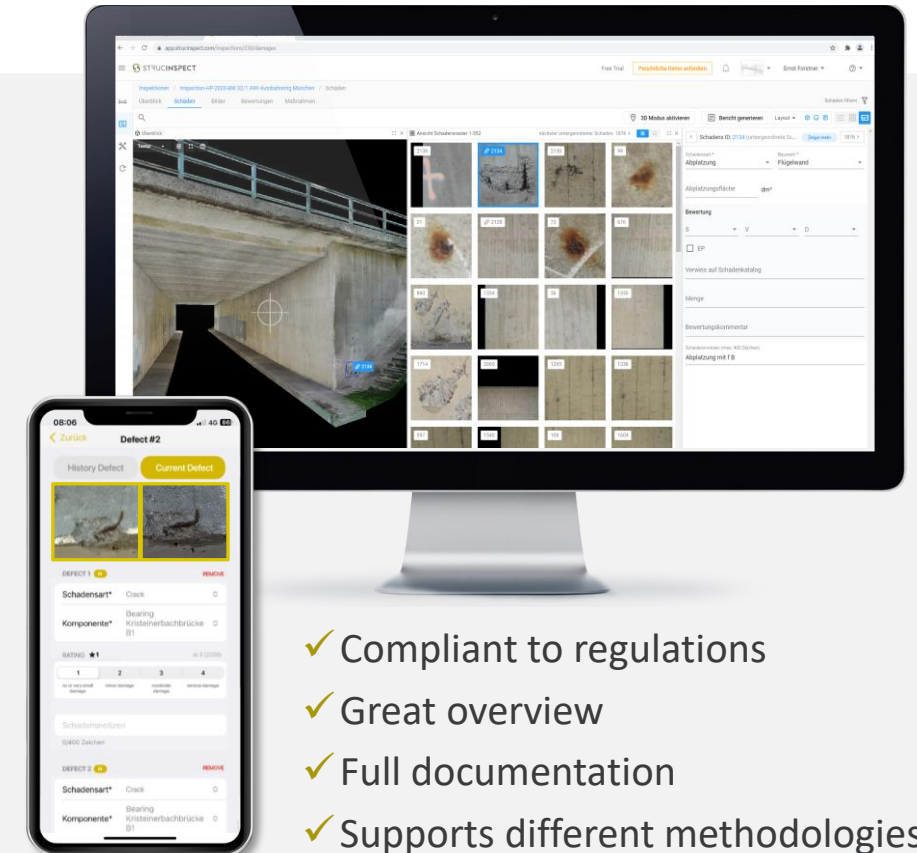
Complete evaluation already on site during your hands-on inspection

Digital Twin

Textured 3D model determined from images provides overview and orientation

Export in BIM

All inspection with 3D model can be exported in IFC file format



- ✓ Compliant to regulations
- ✓ Great overview
- ✓ Full documentation
- ✓ Supports different methodologies



BRIDGES – from inspection to digital twin

Value & Efficiency proven in many projects

Benefit from high-value digital data!

AI-assisted inspection workflow



Less clicks for documentation on-site – **40%**

Automated defect mapping on 3D model

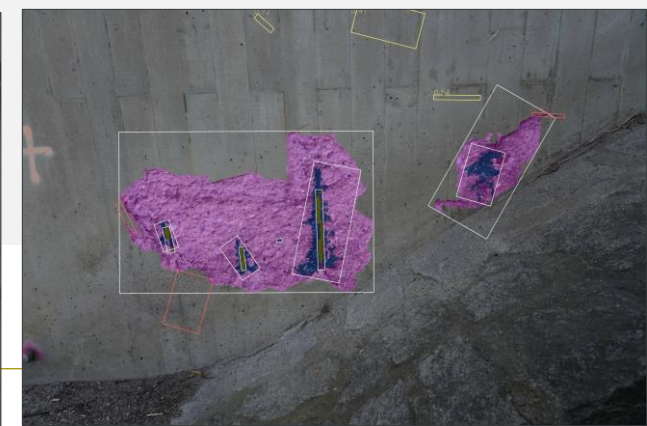
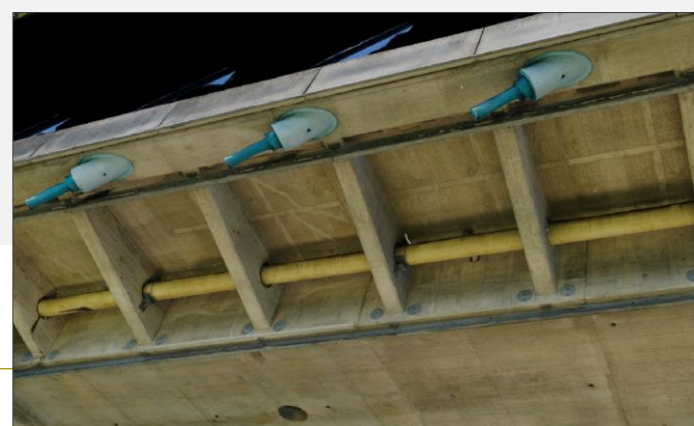


No defect location drawings – **60 to 90%**

Automated defect tracking



up to 50% savings in follow-up inspections – **50%**





TUNNELS – creating and analyzing Orthomosaics

The best overview in 2D

The ideal solution for tunnels and road surfaces

SOLUTION HIGHLIGHTS

Automated Detection and Analysis of Defects

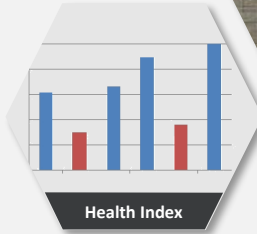
Powerful AI applications for detailed and meaningful documentation in large image formats



AI

Standardized Health index

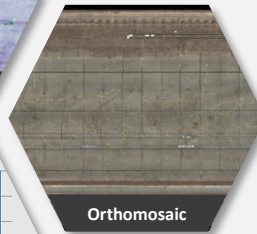
An objective health index can be generated from the defect documentation



Health Index



Data Capturing



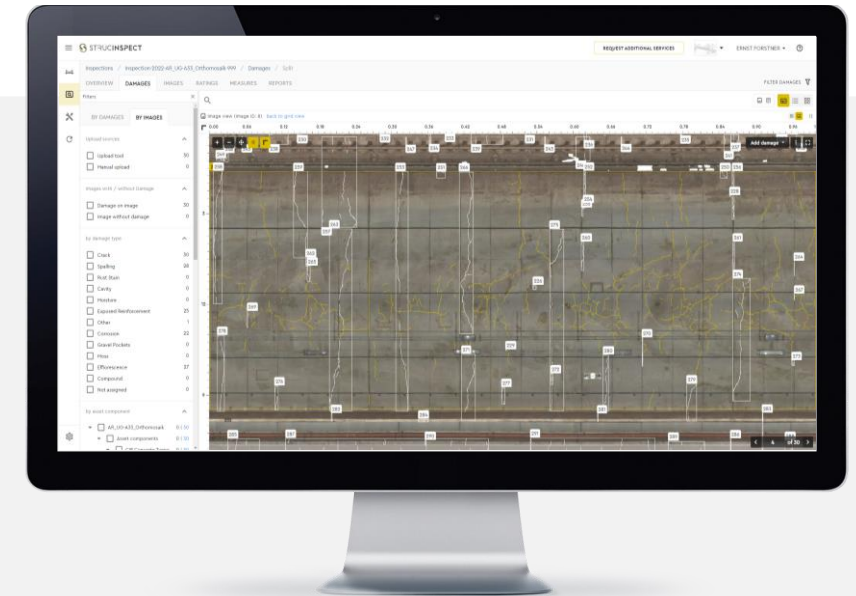
Orthomosaic

Efficient Data Capturing

Supports various formats and recording methods regardless of the service provider

Overview and Detail combined

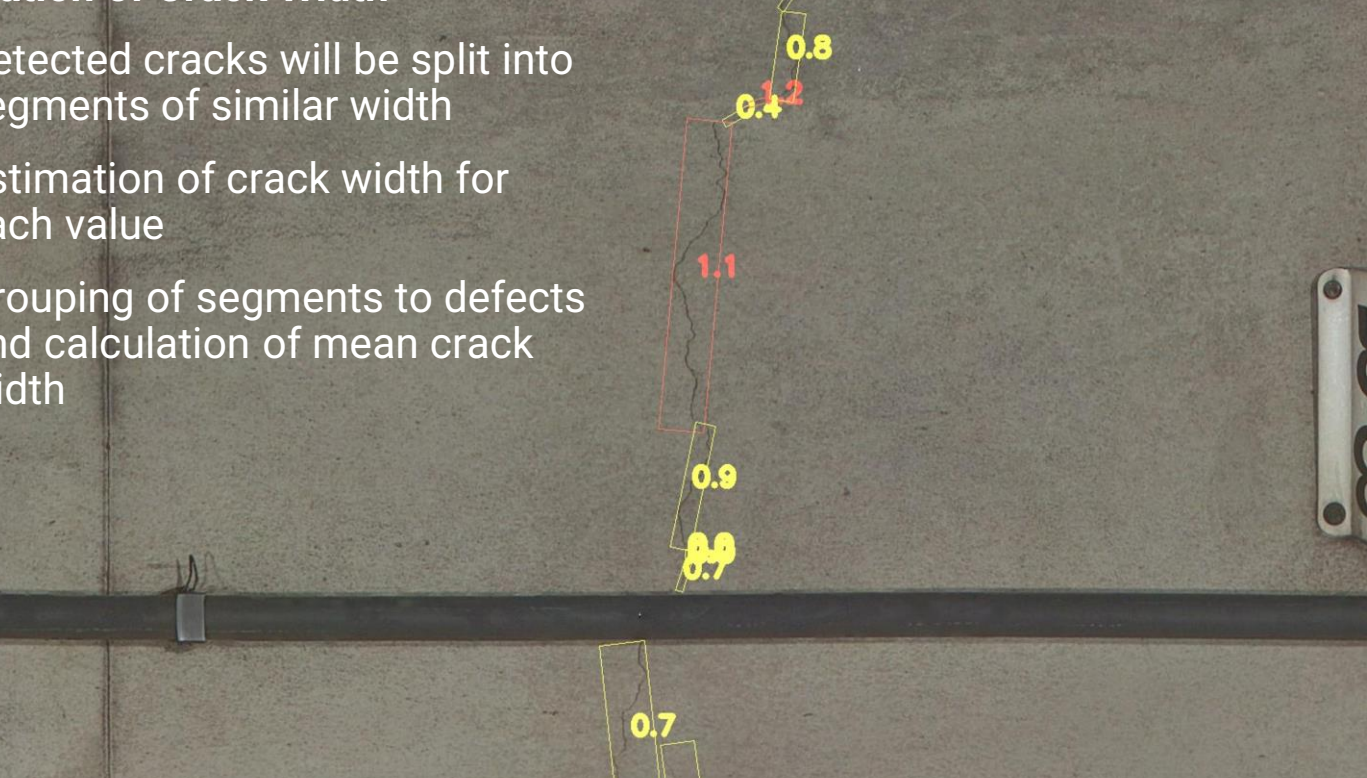
Orthomosaics as alternative for 3D model & individual images



- ✓ Documentation large-scale format
- ✓ Great overview
- ✓ Full documentation
- ✓ Independent from data capturer

Estimation of Crack Width

1. Detected cracks will be split into segments of similar width
2. Estimation of crack width for each value
3. Grouping of segments to defects and calculation of mean crack width



The image shows a vertical crack on a concrete wall. The crack is segmented into several parts, each labeled with a yellow number indicating its width. The segments are labeled 0.8, 0.8, 0.4, 1.1, 0.9, 0.9, 0.7, 0.7, 0.7, and 0.4. A horizontal black line is drawn across the wall, and a small metal bracket is attached to it on the left. On the right, a white sign with black text is visible, showing 'ARAR' and '0.89.8'.

1. Detected cracks will be split into segments of similar width
2. Estimation of crack width for each value
3. Grouping of segments to defects and calculation of mean crack width



Image view (Image ID: 8) [Back to grid view](#)

 Damage Details

[illegible]

Damage ID: 266 Save

^ Damages / Ratings

Damage type *

Crack

Asset *

602+00 - 603+00

Crack Width

Crack Length

1,2 mm 9,42 m

Ratings

Condition State

Rating comment

An aerial photograph of a railway yard. The image shows multiple tracks running horizontally. Several tracks are labeled with white boxes containing black numbers: 270, 271, 272, 277, 280, 281, 282, 284, 290, 291, 292, 294, and 296. A yellow rectangular box highlights a section of track 271. The tracks are surrounded by a dark, possibly gravel or dirt, area. The overall scene is a top-down view of the railway infrastructure.

0 / 400

Damage notes

0 / 400

☐ Non-Structural Observation

Defect No.

0 / 50

NEXT DAMAGE

TUNNELS – Los Angeles Metro

Successful application in U.S.

The ideal solution for tunnels and road surfaces



Efficient **data capturing** process on-site

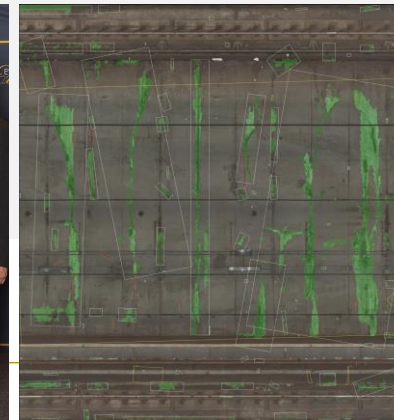
► Closing time of tunnel significantly reduced – **90%**

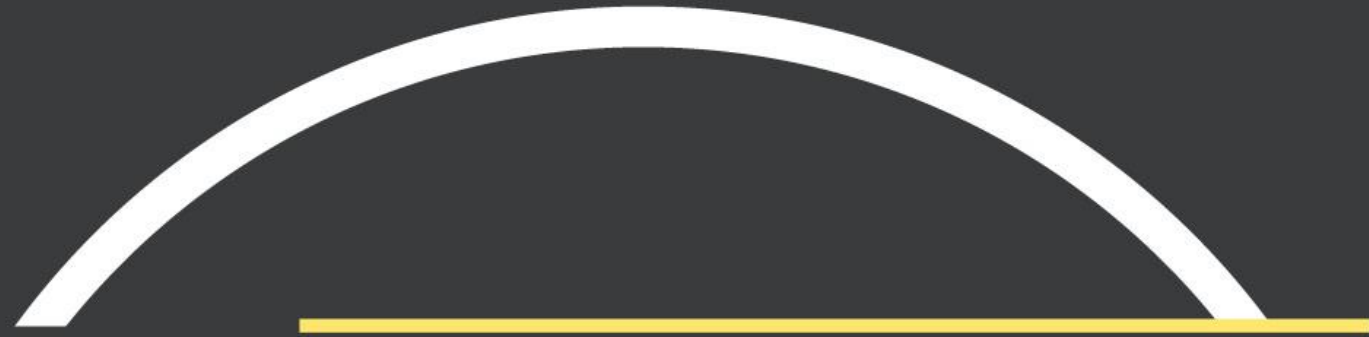
Less labor-intensive and time-consuming work due **AI-assisted inspection** workflows

► Total savings in own inspection resources – **80%**

Detailed determination of **Health Index** due to precise detection and analysis of defects

► up to 30% potential savings in maintenance costs – **30%**





THE POWER OF MORE

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