

OPTIMIZE YOUR ROAD INSPECTION PROCESS

INSPECH Assessment
A cutting-edge digital tool to assess and
report on road conditions

INSPECH
DIGITAL ROAD INSPECTION





What is **INSPECH**?

INSPECH is an emerging road inspection platform that connects various stakeholders such as local governments, road owners, civil engineering companies, PPPs (Public-Private Partnerships), and road operators. It provides a set of SaaS-enabled tools that help bridge the skills gap and improve the road maintenance workflow. By leveraging **INSPECH**, stakeholders can streamline their road inspection processes, improve collaboration, and enhance overall road maintenance efficiency.

INSPECH is an innovative and advanced cloud-based software solution designed to accelerate and optimize road condition assessments. Our comprehensive digital tool empowers your inspectors to complete inspections swiftly and efficiently deliver results to your clients faster. With optional AI-assistance, **INSPECH** enhances the inspection process by automating the visual recognition and classification of road defects, further streamlining your workflow.

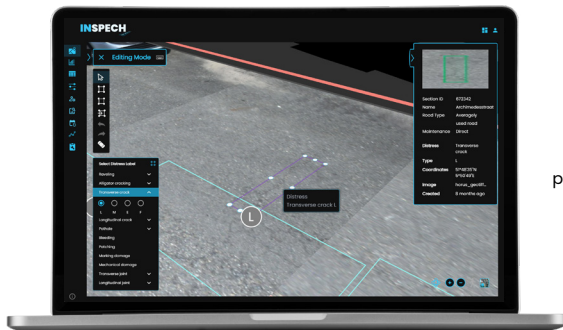
The future of road inspection and reporting, made possible by **INSPECH**.

*In today's fast-paced world, time is of the essence, and efficiency is paramount. With our cutting-edge digital tool, we bring a new level of efficiency and effectiveness to the assessment and reporting of road conditions. Say goodbye to traditional, time-consuming methods and embrace the power of **INSPECH** for faster, more accurate results that benefit both your inspectors and your clients.*

A new collaboration standard

By utilizing **INSPECH Assessment**, our dedicated road inspection software and **INSPECH Insights**, a collaborative review tool, you can establish a seamless workflow that enhances collaboration, streamlines communication, and improves decision-making for road maintenance and repairs.

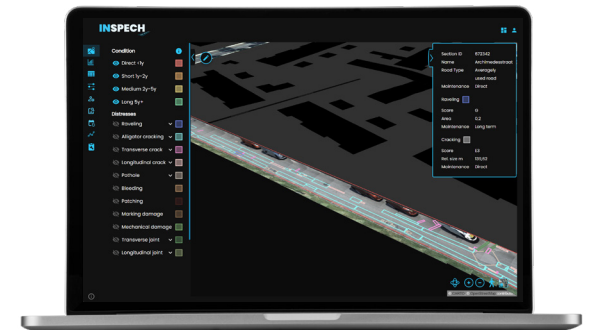
INSPECH Assessment



Handover inspection results as reports or provide **INSPECH Insights**



INSPECH Insights



A specialized tool for conducting road inspections with reporting capabilities that streamlines the data collection and documentation process.

A collaborative tool designed for reviewing and analyzing your road inspections that enhances the efficiency and effectiveness of the evaluation process.

How it works

INSPECH creates a dynamic digital twin of the road infrastructure and streamlines communication and information sharing among various stakeholders involved in specific projects. **INSPECH** serves as a centralized platform where data and insights can be captured, analyzed, and accessed by relevant parties. This is how it works.



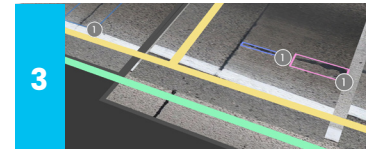
1 DATA COLLECTION

In order to use **INSPECH**, you need to collect video with GPS-data first. You can do this either by using advanced, specialized camera equipment or by using a specifically rigged GoPro HD camera.



2 DIGITAL TWIN CREATION

The collected data is then digested and processed. **INSPECH** automatically converts your video images into orthographic images that are used to create a realistic virtual replica of the scanned area: your dynamic digital twin of the road network. In this highly interactive virtual environment you can hover over the road surface, as it were, both from a bird's-eye view and at a detailed level.



3 DIGITAL INSPECTION & AI-ASSISTANCE

Stakeholders, such as road inspectors, engineers, and maintenance personnel, can access the digital twin to perform analysis and annotate specific areas or issues of interest. They can review the road conditions, identify anomalies, and add annotations. With optional AI-assistance, **INSPECH** enhances the inspection process by automating the visual recognition and classification of road defects.



4 SEAMLESS COLLABORATION

The digital twin serves as a collaborative platform, enabling seamless communication and shared understanding among stakeholders. It allows multiple users to simultaneously access and interact with the virtual replica, facilitating real-time collaboration, discussions, and decision-making.



5 REPORTING AND DOCUMENTATION

The simplified reporting process is supported by the digital twin, as stakeholders can easily extract relevant information, visualizations, and insights from the virtual environment. Detailed reports can be generated, along with relevant analysis and recommendations.



6 INSPECTION REPORT HANDOVER

The digital twin facilitates the smooth handover of reports to different stakeholders. Instead of traditional paper-based or manual processes, reports can be shared with **INSPECH Insights**, a specialized version of our solution for your customers where they can access the digital twin to review your reports, verify findings, and plan appropriate actions.

INSPECH features

INSPECH boasts a comprehensive suite of features that empower inspectors and enhance the inspection process.

Our software offers a user-friendly interface with intuitive editing capabilities, allowing inspectors to annotate and document their findings effortlessly. With the optional AI-assistance, **INSPECH** enables automated visual recognition and classification of road defects, accelerating the inspection process and increasing efficiency.

DATA INGESTION, CONVERSION AND SECTION GENERATION

INSPECH facilitates the seamless ingestion of HD video geo-referenced data, eliminating the need for manual data entry and saving time during the inspection process. The section generation feature in **INSPECH** automatically creates road sections based on the imported data. This feature enables your engineers and inspectors to have a comprehensive view of the road's structure and assists them in identifying potential issues or areas of improvement more efficiently. **INSPECH** can also import shape files to generate custom sections.

MAP VIEWER (Dynamic Digital Twin)

INSPECH includes a powerful map viewer that provides a dynamic digital twin of the road network being inspected. This interactive map interface allows you to navigate and explore the road sections visually. You can zoom in and out, pan across the map, and access detailed information about specific road segments. The dynamic nature of the digital twin ensures that your inspectors can interact with the road data in real-time, enhancing their understanding and analysis capabilities.

DIGITAL INSPECTION & AI-ASSISTANCE

The distress annotation feature in **INSPECH** enables your inspectors to accurately identify and annotate distresses or anomalies present on the road surface. You can mark these distresses directly on the digital twin, ensuring precise documentation of the road condition. This feature improves the accuracy and consistency of distress identification. Optionally, you can choose to let the AI assistant do the repetitive work of the actual inspection. The AI automatically recognizes and classifies road defects and puts them on the map. Your inspectors only have to validate the data (we call it a Last Mile Check), which saves them a lot of time.

FULL EDITING CAPABILITIES

INSPECH provides comprehensive editing capabilities, allowing you to make modifications or updates to the road data as needed. Your engineers can edit road sections, modify distress annotations, or add new information during or after the inspection process. These editing capabilities ensure that the road data remains up to date and accurate, providing a reliable foundation for subsequent analyses and reports.

REPORTS & GRAPHS

INSPECH allows you to generate comprehensive reports within the digital twin that your clients can access in their own **INSPECH** environment. These reports provide a clear and concise overview of the road condition, highlighting any distresses or issues encountered during the inspection. A graphical management information dashboard provides visual data analytics to review aggregated data and facilitate decision-making.

AI-ASSISTANCE

By leveraging AI technology, **INSPECH** enhances road inspection processes. The optional AI assistant can process large amounts of data quickly and efficiently and automatically extract relevant information from the images, such as the location, extent and severity of road defects. This information is used to generate recommendations that are projected onto the dynamic digital twin. With the full editing capabilities that **INSPECH** offers, the human inspector only needs to perform a last mile check and approve the digital inspector's recommendations to ensure high quality reporting to your customers: *they can focus on what matters instead of spending a lot of valuable time on boring, repetitive tasks.* So by using this **smart add-on feature**, you greatly reduce the need for manual work and human error, leading to faster, more accurate and consistent assessments.



The Dynamic Digital Twin

Experience a multitude of advantages with **INSPECH**

By providing an interactive, virtual representation of the road infrastructure, **INSPECH**'s dynamic digital twin helps you perform inspections a lot faster and more consistently. By integrating your road inspection data with the digital twin, you and your clients will experience advantages in the following ways:

ENHANCED VISUALIZATION

The visual representation of inspection results on the digital twin provides a clear and more intuitive understanding of the road's condition for your clients. Their asset managers can easily identify larger or more specific areas that need attention. This visual clarity reduces the time required to interpret your inspection reports and enables faster, data-driven decision-making.

EFFICIENT PLANNING

By analyzing the inspection data projected on the digital twin, your engineers can identify patterns and trends in the road's condition. They can advise your clients on prioritizing maintenance activities based on the severity of the issues, optimizing resource allocation and scheduling. This helps in planning inspections and maintenance more effectively, adding value to the service you provide.

REMOTE MONITORING AND COLLABORATION

INSPECH can be operated remotely, allowing you to monitor and assess road conditions from a centralized location. This capability eliminates the need for continuous physical presence on-site for routine inspections, saving time and travel costs and improve the safety of your workers.

PROACTIVE MAINTENANCE

Through the analysis of historical inspection data your engineers are able to identify areas of concern and predict the deterioration of road conditions by leveraging observed patterns. This proactive approach empowers you to advise your clients on predictive measures and treatments before minor issues escalate into significant road hazards. By adopting this preservation-oriented strategy, you not only save your clients valuable time and resources but also enhance the overall value of the services you offer.

A background image showing construction workers in safety gear (high-visibility vests, gloves) using tools like shovels and rakes on a road surface. The workers are partially visible, focusing on their hands and tools. The scene is outdoors, likely on a construction site for road maintenance.

Proactive maintenance

Balancing preservation and the worst-first approach

The preservation-focused predictive maintenance methodology emphasizes the preservation and longevity of road infrastructure assets. By closely examining the historical inspection data and aligning it with the digital twin, your engineers gain insights into patterns that can be indicative of potential deterioration. Armed with this knowledge, you can advise your clients on timely repairs.

This proactive approach allows for early interventions that prevent minor road conditions from transforming into major hazards that disrupt traffic flow, cause accidents, lead to compensation claims, or result in extensive repair work. By prioritizing preservation and maintenance, you not only safeguard the safety of road users but also save your clients substantial amounts of time and money.

However, it's important to strike a balance between the preservation-oriented approach and the worst-first approach in predictive maintenance. While focusing on preserving road infrastructure is crucial, it's also necessary to address urgent issues that pose immediate risks to road users. The worst-first approach acknowledges that some road conditions may already be at a critical stage, demanding immediate attention to mitigate safety hazards. Therefore, by integrating both preservation and worst-first approaches, your predictive maintenance strategy ensures that you prioritize long-term preservation while promptly addressing pressing concerns. This comprehensive approach maximizes the value you bring to your clients by effectively managing their road infrastructure, minimizing disruptions, and optimizing overall maintenance efforts.

UNIQUE in multiple ways

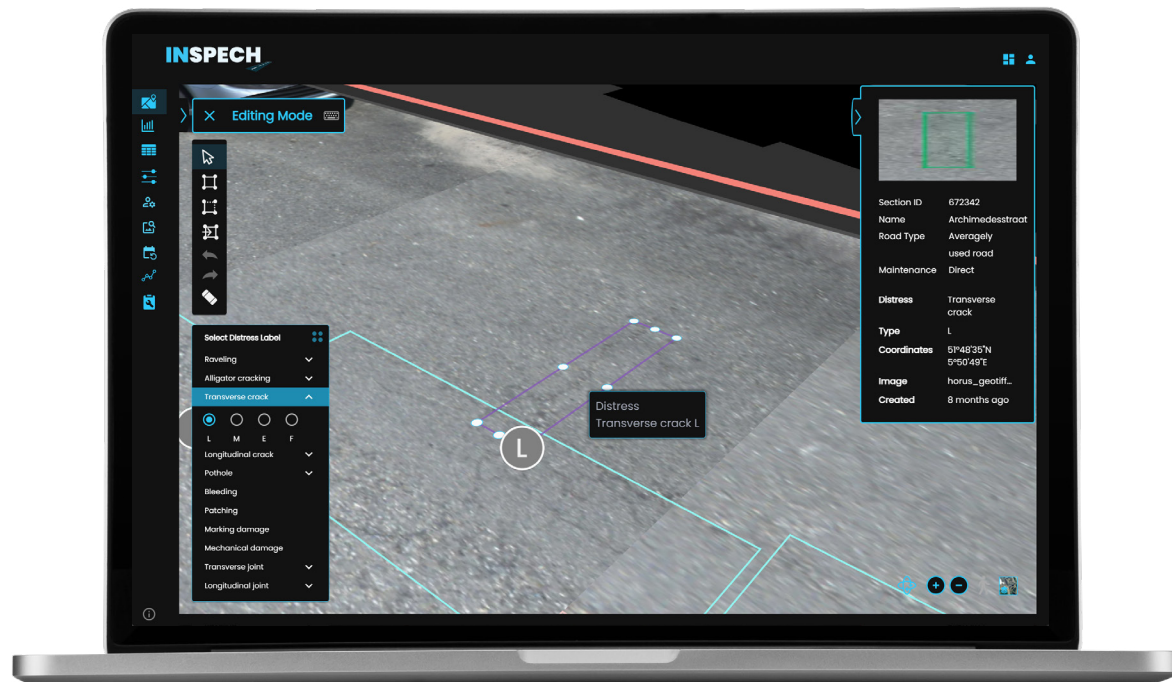
"INSPECH provides our clients with a fantastic tool to track pavement distress initiation and progression, along with a better understanding of why we make our recommendations. INSPECH keeps on improving the way our engineers are able to deliver results, with a speed and credibility that makes us proud and that is often lacking in our industry."

Erwin Kohler - founder and director 3ipe Pavement Engineering

- 1 MAINTAIN FULL DATA OWNERSHIP**
INSPECH lets you own your road footage data, defect annotations, reports, and insights. Easily import and export data in standard formats without the lock-in enforced by most other mobile mapping companies.
- 2 ACCESS FROM ANYWHERE**
INSPECH is available wherever you have an internet connection, all you need is a browser. No costly local system install and/or update requirements..
- 3 ENTIRELY FOCUS ON THE ROADS**
INSPECH is specifically built and constantly improved to facilitate road inspection and maintenance. Its unique reality map viewer presents the road precisely as you would see if you could hover over it.
- 4 DATA-DRIVEN DECISIONS BASED ON HISTORICAL DATA**
INSPECH is a dynamic digital twin of the road network at a given time. With regular inspections, the results can be compared with previous versions to build historical context. Gain valuable insights into the rate of deterioration of each section.
- 5 SIMPLIFY COMPLIANCE**
INSPECH is adopting to the global PCI standard to ascertain the general condition of road pavement sections and measure the performance of your road infrastructure and service levels.
- 6 DOMAIN EXPERTISE**
INSPECH is trained by road inspectors for road inspectors and asset managers.

Start with **INSPECH**

And optimize your road inspection process



ROADASSESSMENT

Starting at **\$1,102*** / month (ex VAT)

- *Data Ingestion & Conversion*
- *Section Generation*
- *Dynamic Digital Twin*
- *Reports & Graphs*
- *Distress Annotation*
- *Optional AI-assistance (quote on request)*
- *Full Editing Capabilities & Report Generation*

* Pay \$13,228 annually (\$1,102 p/m) or pay \$1,268 monthly.

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About **INSPECH**

INSPECH is a leading software provider for digital road inspections and efficient road maintenance. **BRAINCREATORS** created **INSPECH** with the help of **UNIHORN**'s domain expertise to meet the growing demand for digital inspection solutions and sustainable road infrastructure.

At **INSPECH**, we believe in using technology to improve the lives of our customers. By delivering software that streamlines the road inspection process and assists human inspectors, we make inspections faster, more consistent, and more cost-efficient. This benefits both the environment and public safety, while reducing the skills gap in the workforce.

BRAINCREATORS, specializing in applied Artificial Intelligence, directly impacts the future of work by offering digital inspection products to solve the growing problem of human domain expert scarcity. **UNIHORN**, is committed to improving infrastructure and public space in the Netherlands.

At **INSPECH**, we are dedicated to providing top-notch products and services that positively impact customers and the environment. So join us on our mission to create a safer and more sustainable future.

LET'S TALK ROADS!

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DIGITAL ROAD INSPECTION

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**BRAIN
CREATORS**

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