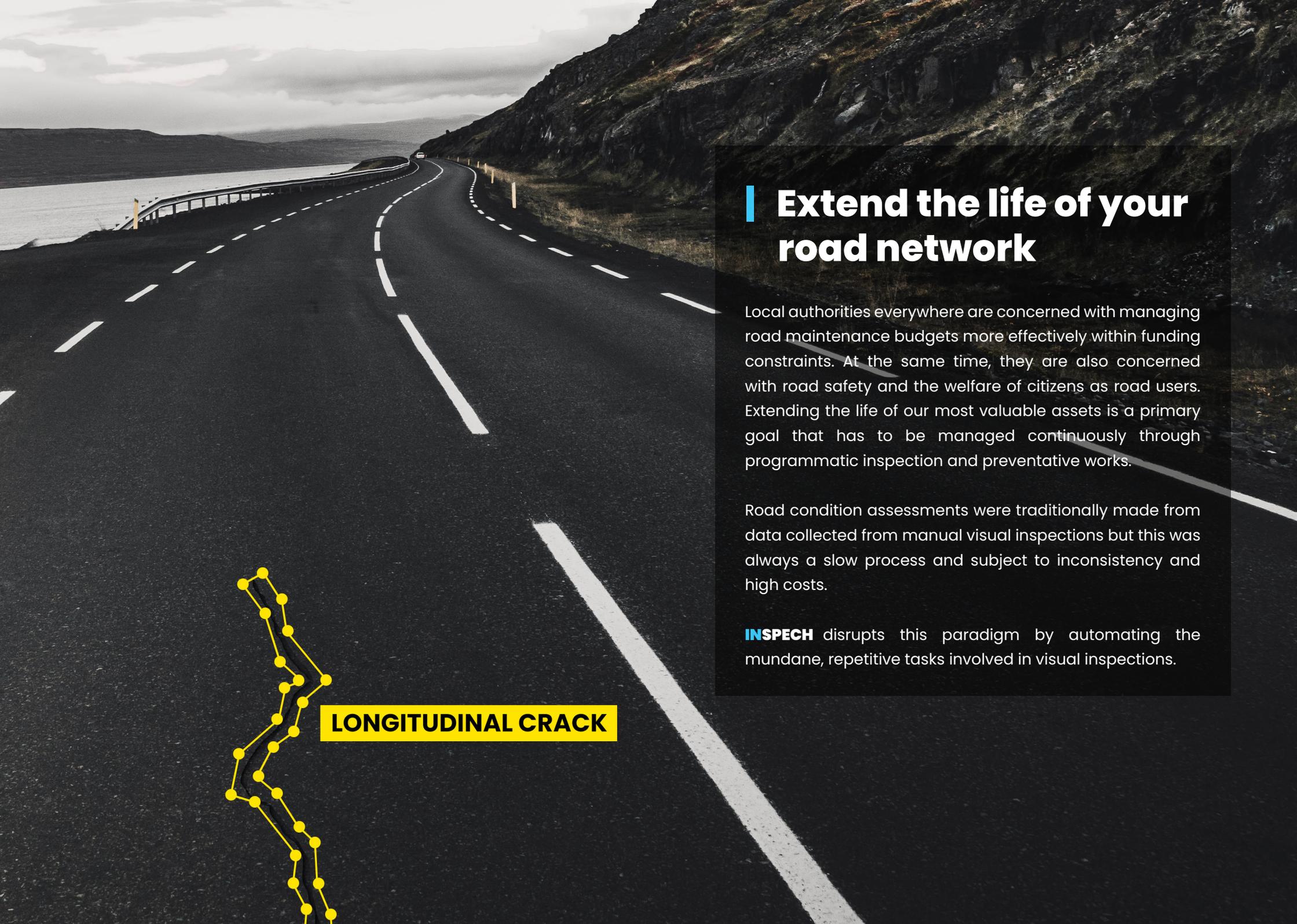


# AUTOMATED ROAD INSPECTIONS

Data-driven, smart maps for effective  
maintenance planning

**INSPECH**  
AUTOMATED ROAD INSPECTION

**Miles ahead.**



## Extend the life of your road network

Local authorities everywhere are concerned with managing road maintenance budgets more effectively within funding constraints. At the same time, they are also concerned with road safety and the welfare of citizens as road users. Extending the life of our most valuable assets is a primary goal that has to be managed continuously through programmatic inspection and preventative works.

Road condition assessments were traditionally made from data collected from manual visual inspections but this was always a slow process and subject to inconsistency and high costs.

**INSPECH** disrupts this paradigm by automating the mundane, repetitive tasks involved in visual inspections.



**LONGITUDINAL CRACK**

# What we see is what you get

**INSPECH** is a digital road inspector that:

- **Analyzes video footage** taken of road surfaces by survey cars travelling at normal traffic speeds;
- Automatically identifies the main classes of defects, records the GPS location and **calculates a severity rating** so that an overall condition assessment can be made;
- Enables road owners to know their roads and **understand road conditions**;
- Helps **prioritize maintenance planning** and works programs to ensure that preventative and rehabilitation works are carried out at the right time to help preserve and extend the life of these valuable assets and defer reconstruction costs.



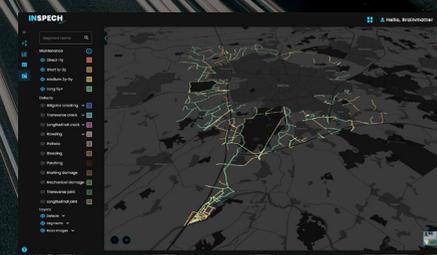
1

After the road is scanned, images with **GPS coordinates** are imported into **INSPECH** and prepared for processing.



2

**INSPECH** accurately and consistently analyzes the images rapidly and **classifies the detected damages** according to the standards applicable in your country.



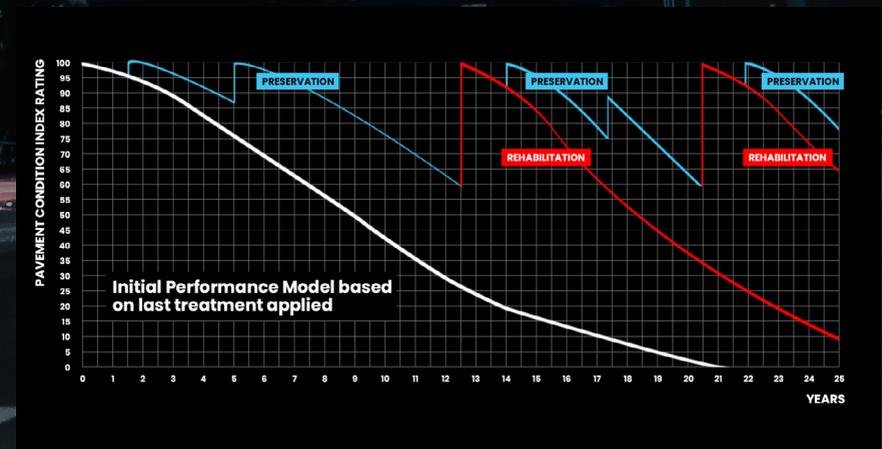
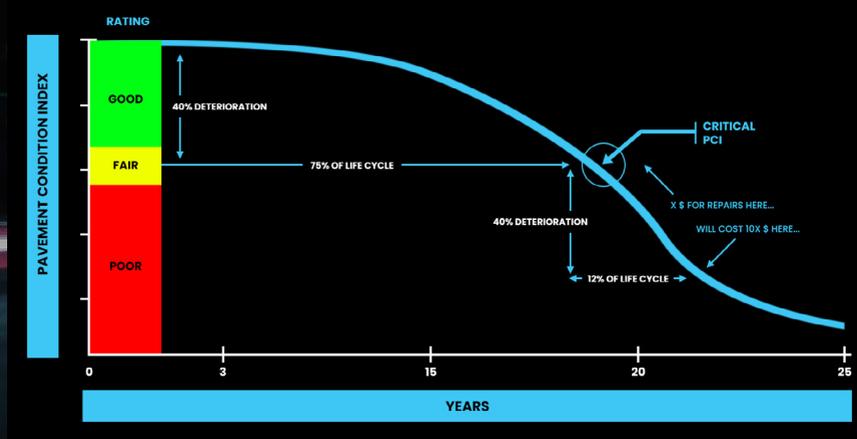
3

Then, fundamental insights are projected onto an **interactive digital map** with road sections colored red, yellow or green according to condition thresholds. It's that simple.

# Life Cycle Assessment

Life Cycle Assessment (LCA) is the systematic analysis of a road's condition during its useful life which typically may be as long as 20-25 years or more. During this time, the surface will deteriorate due to adverse weather, increasing traffic volumes and weight, for example. The analysis uses a Pavement Condition Index (PCI) based on the road condition assessment ranging from 0 (Failed) to 100 (Good).

**INSPECH** automatically provides defect severity ratings that support and feed this process.



## Typical Pavement Life Cycle

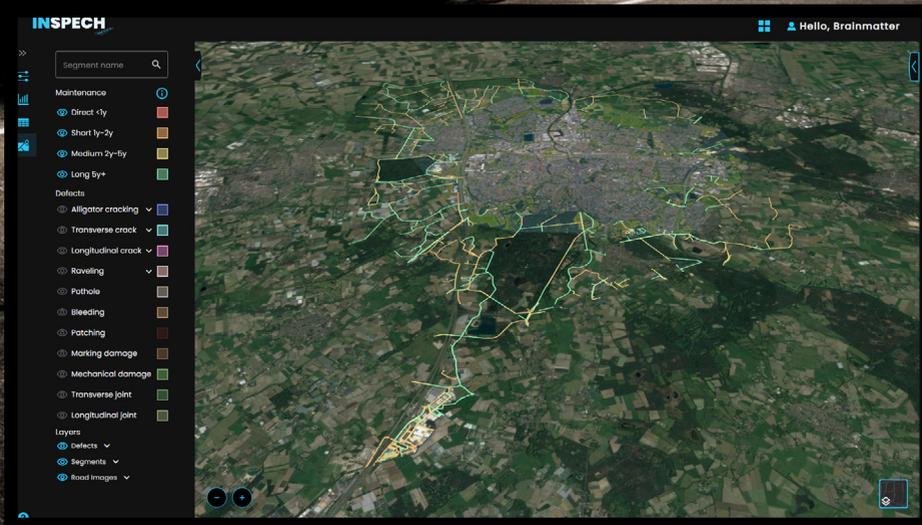
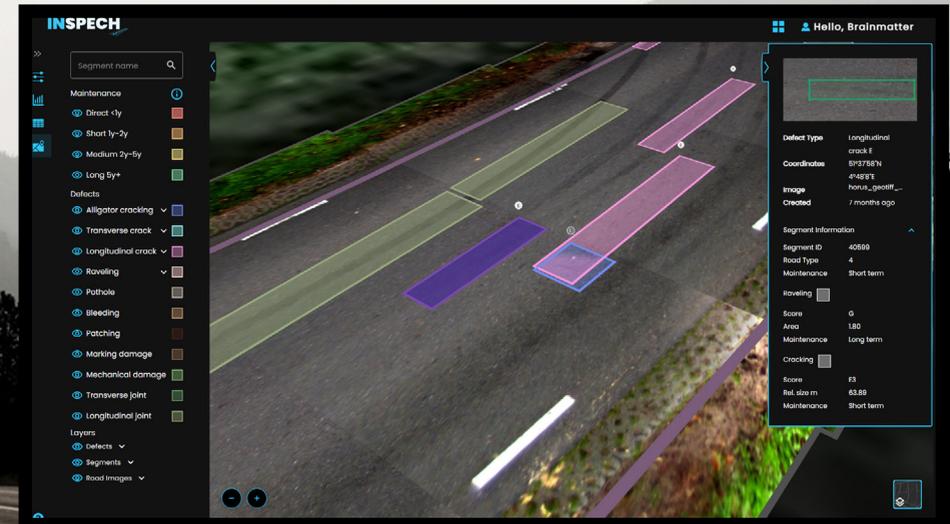
This graph illustrates the typical rate of deterioration over a road asset's life. Deterioration tends to accelerate in the later stages to a point of poor condition, where, if preventative measures are not taken in time, it becomes necessary to fully reconstruct the road. The costs of doing so are an order of magnitude higher than taking maintenance actions to intervene earlier and recover its condition and by doing so, extend its life and defer reconstruction costs.

## Optimized treatment timing

By making interventions proactively and repeatedly in this way, the life of the asset may be extended well beyond its normal life and avoids costs and service disruption, and ensures the safety of road users. Road inspections are key to achieving this and with **INSPECH**, increasing the frequency of inspections can be easily achieved to provide continuous information about road conditions. Road owners can understand the condition of a road over time and decide on the treatments necessary to repair or prevent damage to maintain its condition and prolong its life.

# A dynamic digital twin

The state of the inspected area is visible at a glance on the highly interactive, digital map. **INSPECH** colors road sections according to maintenance deadlines in compliance with applicable regulations and plots individual damage on the map. In addition, **INSPECH** also plots orthographic images on the map so that you can view actual photos of specific road sections from behind your desk.



**INSPECH**  
makes it quick  
and easy to  
understand  
the condition  
of your road  
network and  
provides  
insights to  
determine  
the optimal  
maintenance  
intervention  
point.



**Never miss the optimal  
intervention point**

By scanning and processing the same road sections frequently **INSPECH** provides clear insight into the deterioration of your roads over the years. This information is crucial to facilitate decision-making for long-term road management.



**Sustain infrastructure at a lower cost  
while increase road safety**

Roads that are in good condition are safer to drive and cheaper to maintain. After all, minor repairs and precautionary measures are less labor intensive, require fewer raw materials and prevent the complete replacement of entire road sections (saving millions).



**Significantly reduce carbon  
emissions**

In addition to less labor-intensive maintenance and the use of fewer resources, optimizing road maintenance also leads to less traffic congestion. The combination of these benefits contributes significantly to the reduction of carbon emissions.

**THERE IS A DIGITAL  
CLONE BEHIND EVERY  
HUMAN EXPERT.  
INSPECH USES  
ARTIFICIAL  
INTELLIGENCE TO  
SCALE YOUR BUSINESS.**



## PERCEIVE

**INSPECH** views thousands of kilometers of road footage. Every inch on every lane is carefully examined at high speed.



## DECIDE

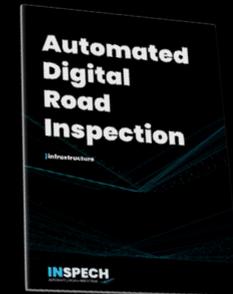
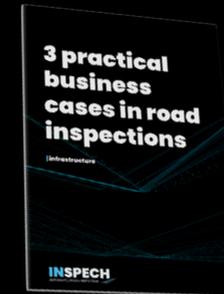
**INSPECH** recognizes a wide variety of defects, deterioration and anomalies, while keeping track of their exact location.



## RESPOND

**INSPECH** processes the detections to generate an interactive report, facilitating decision-making for the long-term management of roads.

## Create a better understanding



### Free eBooks for you to download

On our website, free eBooks are made available for you to download. Go to [www.inspech.com](http://www.inspech.com) and get your copy now.

## Summary

- Never miss the optimal intervention point;
- Prioritize maintenance planning;
- Ensure preventative and rehabilitation works at the right time;
- Extend the life of your road network and defer reconstruction costs.
- Increase road safety;
- Fully compliant with road assessment standards;
- Interact with inspection results in an online viewer;
- Significantly reduce carbon emissions

# Put us to work

Find out how simple it is to optimize your road maintenance while reducing costs at the same time.

TELL US YOUR NEEDS

**INSPECH**  
AUTOMATED ROAD INSPECTION

powered by  
**BRAIN  
CREATORS**

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