

# Road Health Product Description



# Product Summary

Road Health by NIRA utilizes continuous measurement of road roughness and road anomalies (such as potholes) to improve road maintenance and decrease operational costs. Road Health utilizes data from two million vehicles and the number of vehicles increase day by day.



## Data Layer

- Roughness (IRI)
- Road Anomalies (pothole, bumps, and other minor deficiencies detected by vehicles)



## Tools

- Map view – all data visualized in a map.
- Roughness changes – automatically detect and pinpoint significantly changes in roughness,
- Road stretches detailed view – time and spatial development of a road stretches.



## Road Network

Road Insights allows you to set up your own unique road network. This means that only data for selected roads will be used.

Your road network can be defined by importing a shape file or manually using the built-in road network editing tool.

## Map Layer

The map layers give the user an eye bird view of the road network's condition.

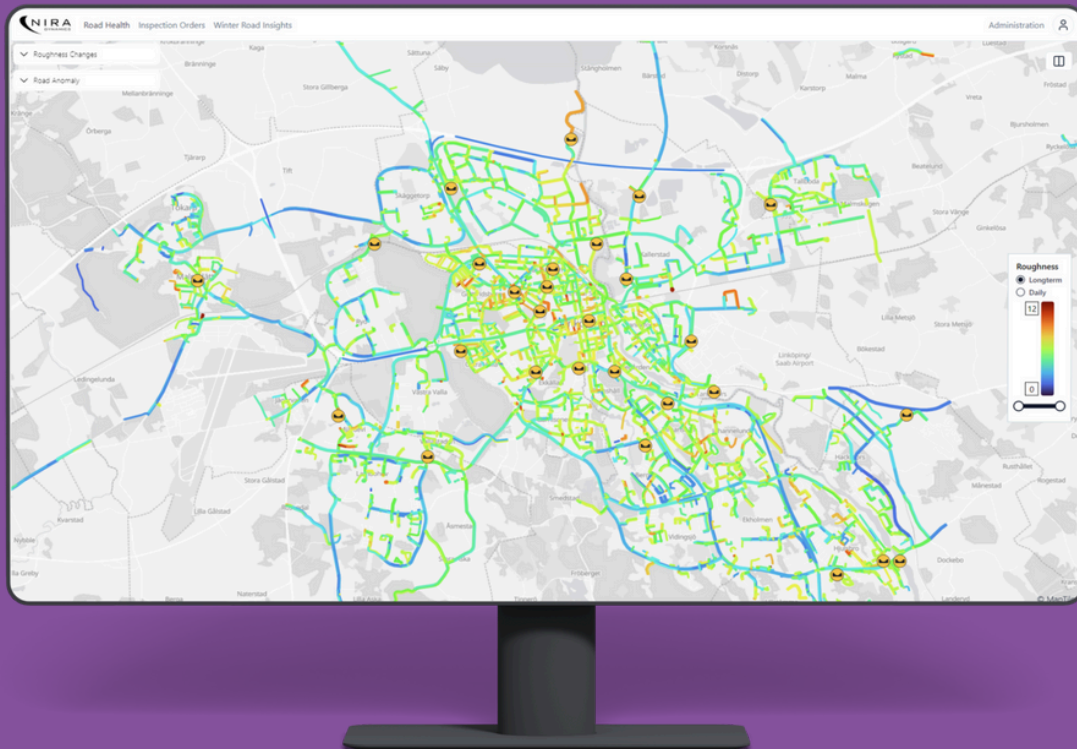


## Main Use Cases

- Reactive: Detect, inspect and repair quickly emerging road deficiencies.
- Planning: Plan, verify and follow-up maintenance based on up-to-date condition.
- Budgeting: Using network wide historical road conditions and previous budget, a very precise budget and road condition can be planned.
- Analysis: Understand your road network, which roads are problematic, where are the reoccurring issues, what maintenance work has sub-par longevity, which roads are in a better state than expected, etc.

# Map View

The map layers helps the user understand the road condition both on a regional and a hyper local level.



## Features

- Visualization of Roughness, Roughness Changes, and Road Anomalies in the same view.
- Daily updates of data.
- Switch on and off displayed features.
- Filters enabling quick overview and deeper investigation of the roads.
- Direct links to google street view for each segment.
- Split view enabling, for example, to compare the road network at two different dates. Typically winter damages or maintenance season improvements.
- Direct link to Detailed View (see below).

## Benefits

- Birds eye view of the current and historical state of the road network.
- Find road stretches with unexpected high road roughness.
- Understand the historical development of road stretches.
- Guide for inspection of road damages pointed out by roughness changes and/or road anomalies.

# Road Anomalies Information

Pinpoints the location of anomalies, for example potholes, relative the vehicles travel direction and state the timepoint of the first and last detection.



## Roughness Changes

### Features

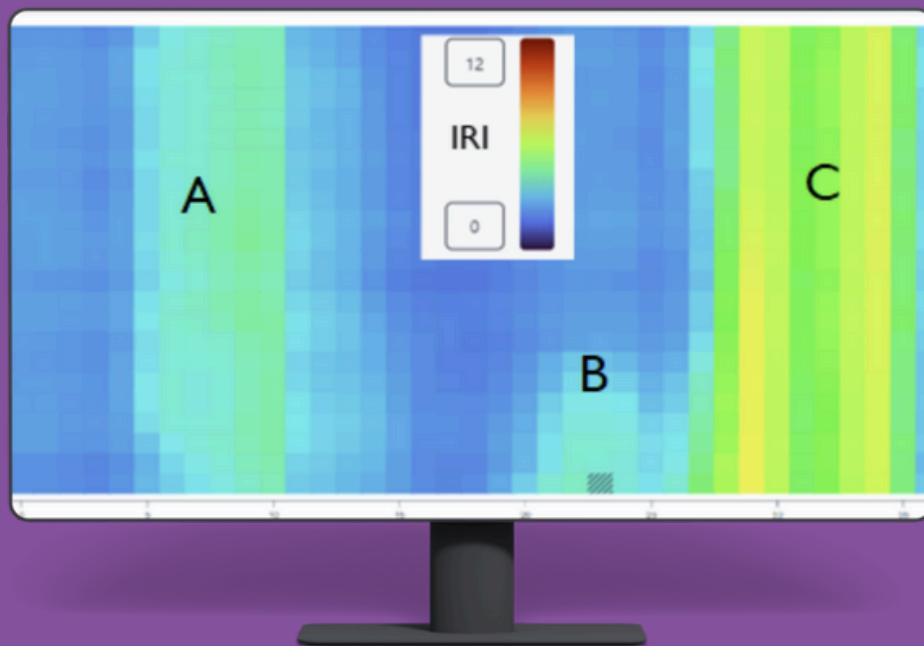
- Alerts for degeneration of road state (increasing IRI).
- Alerts for improvements of road state (decreasing IRI).
- Filters for severity, road class, and dates of creation.
- Detailed view (see below) supports further analysis.

### Benefits

- Immediate information about changes in the road network.
- Enable rapid reactive maintenance.

# Detailed View

Among other charts contain a 2D heatmap that shows the development of a road stretch both in time and spatial dimension.



Three areas of interest are marked. At B we see a road deterioration emerging over 8 weeks. At A and C we see local and over time stable road deterioration. The roughness levels at A and B are acceptable. But the long lifetime of A and C and the fast development of B suggests that the road stretch needs maintenance.

## Features

- Historical development and spatial distribution of the roughness on a road stretch.
- Historically development on sub segments down to 25m/82f.
- Spatial distribution at a specific date.
- Showing details of roughness change

## Benefits

- Pinpoints when and where a change in the roughness occurred.
- Make it possible to correlate damages with other events.
- Provide the development rate of a roughness change.



# Book a demo

Contact an expert by choice to book a demo of Road Health



Björn Zachrisson

Product Strategist

+1 (835) 226 6595

[bjorn.zachrisson@niradynamics.se](mailto:bjorn.zachrisson@niradynamics.se)



Albert Navarro

Solutions Architect

+46 722 283 941

[albert.navarro@niradynamics.se](mailto:albert.navarro@niradynamics.se)



Dr Matteo Pettinari

Solutions Architect

+46 722 108 272

[matteo.pettinari@niradynamics.se](mailto:matteo.pettinari@niradynamics.se)



Steffen Knab

Infrastructure Sales Germany

+49 176 23236547

[steffen.knab@niradynamics.se](mailto:steffen.knab@niradynamics.se)