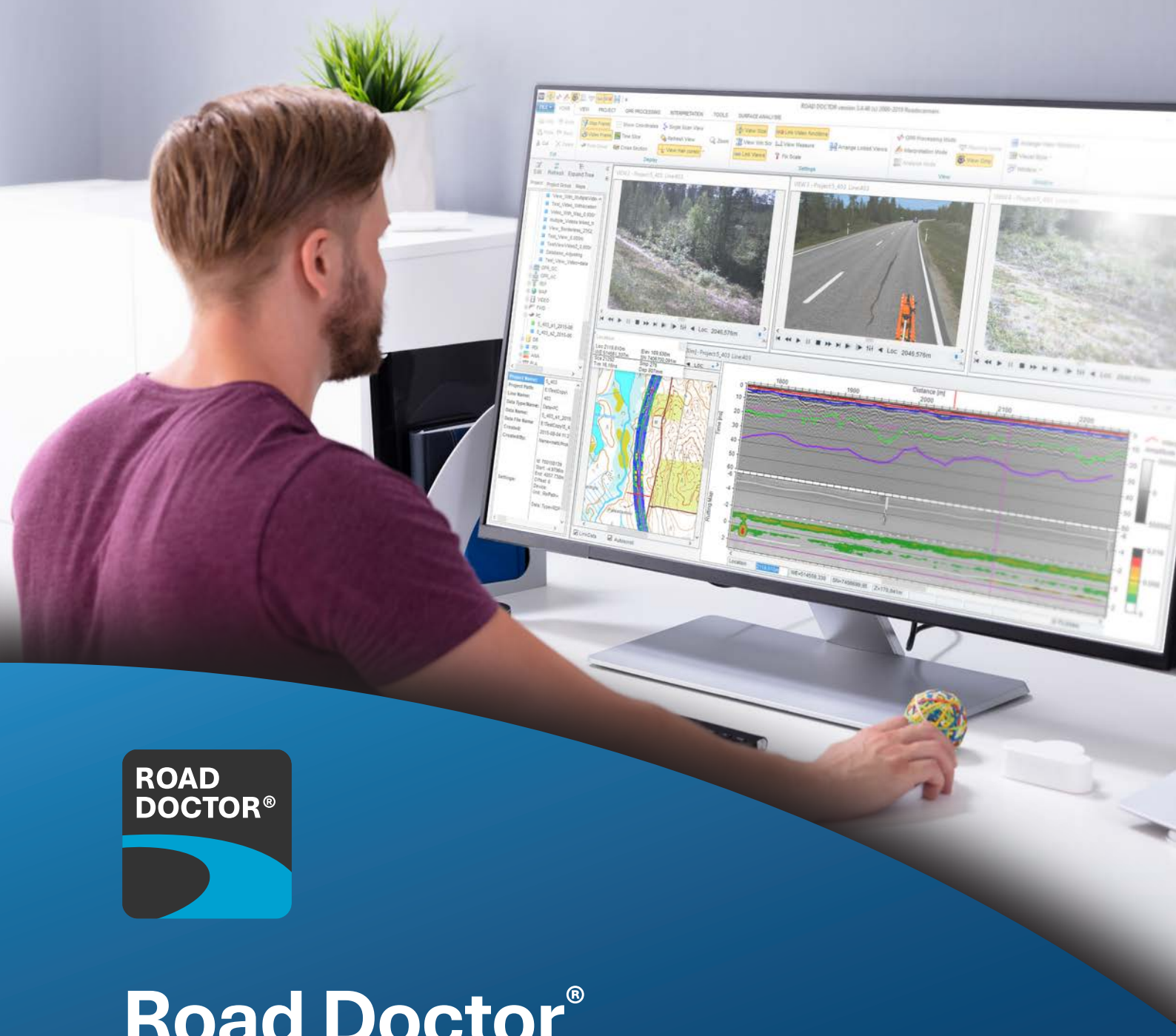
ROADSCANNERS

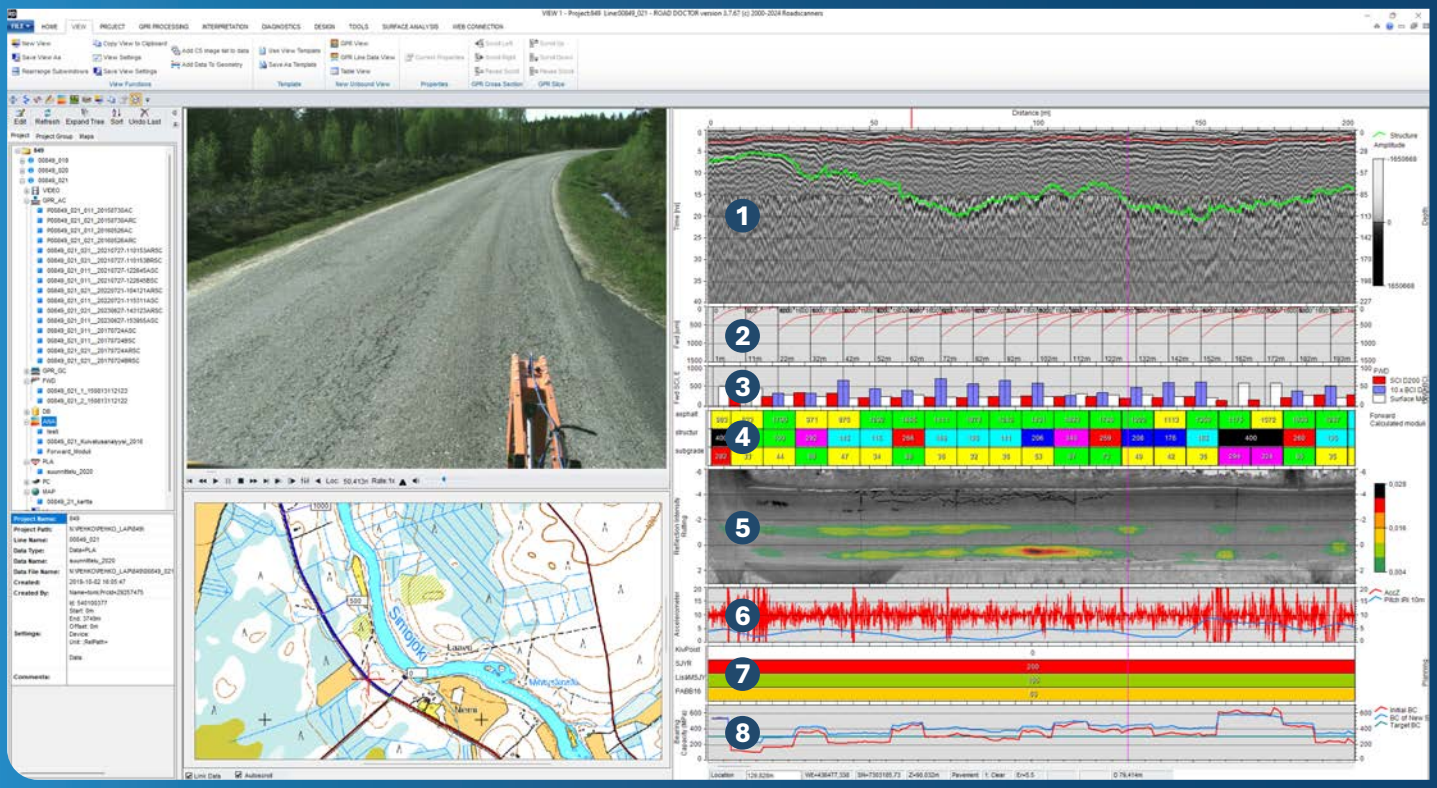


ROAD DOCTOR®

Road Doctor®

Ideal solution for infrastructure data analysis and presentation

roadscanners.com



1. GSSI GPR 2GHZ and 400MHz
2. FWD deflection bowls
3. FWD SCI, BCI and E2Mod
4. FWD Forward calculated moduli
5. Rutting map with intensity
6. Vertical Accelerometer data with IRI
7. Rehabilitation Design
8. Bearing capacity of the existing structure and planned structure

Road Doctor®

Roadscanners' Road Doctor® is specifically designed to empower engineers, geophysicists, and geologists in their data analysis tasks. The advanced software stands out with its distinctive ability to simultaneously analyze surface and sub-surface data, setting it apart from other software solutions.

Road Doctor® specialized tools:

- GPR data interpretation and frequency and amplitude analysis
- falling weight data analysis
- point cloud data analysis
- profilometer data analysis
- video and image data analysis
- multidata integrated analysis
- road rehabilitation design and dimensioning
- PMS Road Data import and export
- support of mile/km posts for both
- viewing and output
- AI powered tools

Key Features

Synchronization and visualization of data from multiple sources:

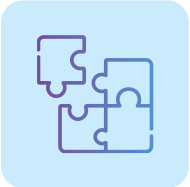
This capability facilitates multidata analysis and empowers professionals to gain a comprehensive understanding of their projects.

Presentation:

Road Doctor® excels in presenting results in a visually appealing and informative manner, thereby enhancing project communication and collaboration. Its scalability and compatibility are noteworthy, as it supports a wide array of survey devices and data formats, ensuring seamless integration into existing workflows.

Variability:

Road Doctor® provides various modules that complement its core capabilities, catering to specific applications for different user profiles in diagnostics, design, surface analysis, and GPR, including options for rock and concrete analysis.

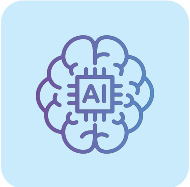


Seamless integration:

With the capability to link various data types and perform manual data analysis and feature digitization within a synchronized view, Road Doctor® seamlessly integrates GPR, maps, point clouds, videos (including 360 videos), ground truth data, falling weight data, profilometer data, databases, and other data sources.

Accommodativeness:

The software offers preset and user-definable text output support for analysis and interpretation, accommodates both metric and US units for on-screen and output measurements, supports Google KML and ESRI shape file formats for map outputs, and provides DXF compatibility for AutoCAD.



AI powered GPR and Surface data analysis:

Road Doctor provides tools for training custom models and utilizing pretrained models for automated GPR data layer tracing and object detection, as well as lidar data surface object and feature detection. These tools are incorporated into the user interface, allowing for fast manual corrections and enabling the use of updated data to improve AI models and achieve more accurate automatic interpretations.

Modules:

Road Doctor® software provides four modules that complement its capabilities. You can choose the modules required.

ROAD DOCTOR®

MODULARITY

VERSIONS FOR DIFFERENT USER PROFILES

+ GPR Advanced

+ GPR Expert

+ Diagnostics and Design

+ Surface Analysis

ROAD DOCTOR® 4.0
SOFTWARE FEATURES

		ROAD DOCTOR® VIEWER	ROAD DOCTOR®	Modules for Road Doctor®			
				+ GPR Advanced	+ GPR Expert	+ Diagnostics and Design	+ Surface Analysis
PROJECT	Project management	•	•				
	Project backup/transfer tool		•				
	Project structure template		•				
	Project process book keeping		•				
GPR TOOLS	Air coupled GPR data pre-processing			+	+		
	On-screen GPR Processing	Limited	•				
	Creating GPR time slice views			+	+		
	GPR data editing tools		•				
	Manual and semi automatic feature/layer digitizing		•				
	Manual and semi automatic GPR Data interpretation			+	+		
	AI-powered GPR data interpretation			+	+		
	Writing text annotation in GPR data			+	+		
	Coreless Air Coupled data interpretation			+	+		
	Data Frequency analysis in single scan view		•				
	Data Frequency analysis in a window			+	+		
	GPR data based moisture analysis				+		
	GPR data based excavation damage zone definition				+		
	2D GPR data frequency content analysis				+		
	3D GPR data frequency analysis				+		
	Ground truth data linking		•				
	Map linking		•				
	Video linking		•				
	Database linking		•				
	Image linking, also 360 degree		•				
	Document linking		•				
	Profilometer data linking		•				
	Falling weight and TSDD data linking		•				
	Point cloud (.las) linking		•				
	GPR data batch linking			+	+		
	Survey van .rdls laser scanner data manual and batch linking						+
	Video batch linking operation			+	+	+	+
DATA ANALYSIS	Pavement voids content calculation			+	+		
	Manual data classification (analysis)		•				
	Shown database filtering tools						+
	Digitizing data features manually		•				

ROAD DOCTOR® 4.0
SOFTWARE FEATURES

		ROAD DOCTOR® VIEWER	ROAD DOCTOR®	Modules for Road Doctor®			
				+ GPR Advanced	+ GPR Expert	+ Diagnostics and Design	+ Surface Analysis
DIAGNOSTICS AND DESIGN	Automatic Road Data Analysis					+	
	2D road rehabilitation design/dimensioning					+	
	Elmod link (Limited to older Elmod 6.5)			+	+	+	
	Pavement distress inventory tools					+	
	Pavement lifetime estimation					+	
	Road width and object size estimation using video					+	
	Layer Moduli estimation using forward calculation					+	
	Road structure dimensioning using Odemark					+	
	Bearing capacity analysis					+	
SURFACE ANALYSIS	Road Doctor Survey van lidar data linking						+
	Rutting calculation with multiple methods						+
	Roughness calculation based on accelerometer						+
	Pointcloud combination and rechainage operation						+
	Pointcloud adjustment tools						+
	Mill / Fill volume calculation						+
	Road bottom slope variance calculation						+
	Semi-automatic surface feature digitizing operation						+
	Semi-automatic ditch and road shape digitizing						+
	AI-powered lidar feature detections						+
	Converting Road Doctor point clouds to las-format						+
VIEWING & PRINTING	Ground penetrating radar data display	•	•				
	Displaying 3D GPR cross section and interpretations	•	•				
	Presenting 3D GPR time-slices and interpretations from saved views	•	•				
	Road data visualization (IRI, RUT, FWD, TSD, Video, 360 Images)	•	•				
	Printing current view to printer		•				
	Printing to images		•				
	Creating video and GPR data preview		•				
	Copying view to clipboard	•	•				
	User customizable text output		•				
	Showing maps integrated to data view	•	•				
	Separate thematic map view with WMS and Google™		•				
	Showing pointcloud remission and elevation in dataview integrated mapview		•				
	Automatic and manual legend creation for all data	•	•				
	Output support for shape-file and KML files in analysis		•				
	Cross-section view from GPR and db surface display	•	•				
	Point cloud view		•				
	Elevation, remission and cross-section view from point cloud		•				
	Showing Db and diagnostics data in a point cloud view	Limited	Limited	+	+	+	+
	Backward scrolling with reverse direction video	•	•				
	Multiple video synchronization on the screen	•	•				
	Table view tools for data interpolation, ransfer, filtering etc.		•				
	Saving views and view templates		•				

Road Doctor® | System Requirements

Operating System	64bit Microsoft Windows (MS) 10 or 11. Intel or AMD multicore at least 2GHz CPU with minimum of 16Gb internal memory and 500Gb SSD.
General Features	Several supported user interface languages: English (default), Swedish, Finnish, German, French, Spanish (some language support is limited). On-line documentation (F1-key), tooltips.

Road Doctor® | RDAI-Server Requirements

Minimum Requirements (CPU usage, slow)	• Operating System: Windows 10 / 11 (64-bit) • Processor: 4-core Intel i5-8xxx / AMD Ryzen 5 or newer (AVX support) • Memory (RAM): 8 GB • Storage: At least 50 GB free SSD space • Graphics Card: Not required (uses CPU)
Recommended Requirements (GPU usage, fast)	• Operating System: Windows 11 (64-bit) • Processor: Intel i7-12xxx / AMD Ryzen 7 5xxx or newer • Memory (RAM): 32 GB • Storage: At least 50 GB free SSD space • Graphics Card: NVIDIA GeForce RTX 3060 / 4060 or better, recommended at least 8 GB VRAM

ROADSCANNERS

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