

The logo for Roadscanners, featuring a stylized white arrow pointing downwards and to the right, with the word "ROADSCANNERS" in white capital letters positioned above it.

ROADSCANNERS

Roadscanners R&D on AC Pavements

Timo Saarenketo, PhD, Adj.Prof.
CEO, Roadscanners Group

**BEYOND
THE
SURFACE**

ROADSCANNERS 1998-2021

BEYOND THE SURFACE

Intelligent and proactive infrastructure asset management



ROAD & STREET



AIRPORT



BRIDGE



CONCRETE



POWERLINE

NEWS | Roadscanners is attending Makedonian Road Congress

[More News](#)

ROAD SECTOR'S INTERNATIONAL FIRST-CLASS PRIZE
AWARDED TO ROADSCANNERS

Using new methods can cut the costs of road maintenance by half



[READ MORE](#)

IMPROVING PRODUCTIVITY OF PAVED ROAD ASSET
MANAGEMENT



[Read more about the award winning PEHKO project](#)

ROADSCANNERS PRESENTATION VIDEO

[Click here to watch](#)

ROADSCANNERS

PEHKO PROJECT VIDEO

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MODERN ROAD SURVEY TECHNOLOGIES - ROAD DOCTOR SURVEY VAN, RDSV



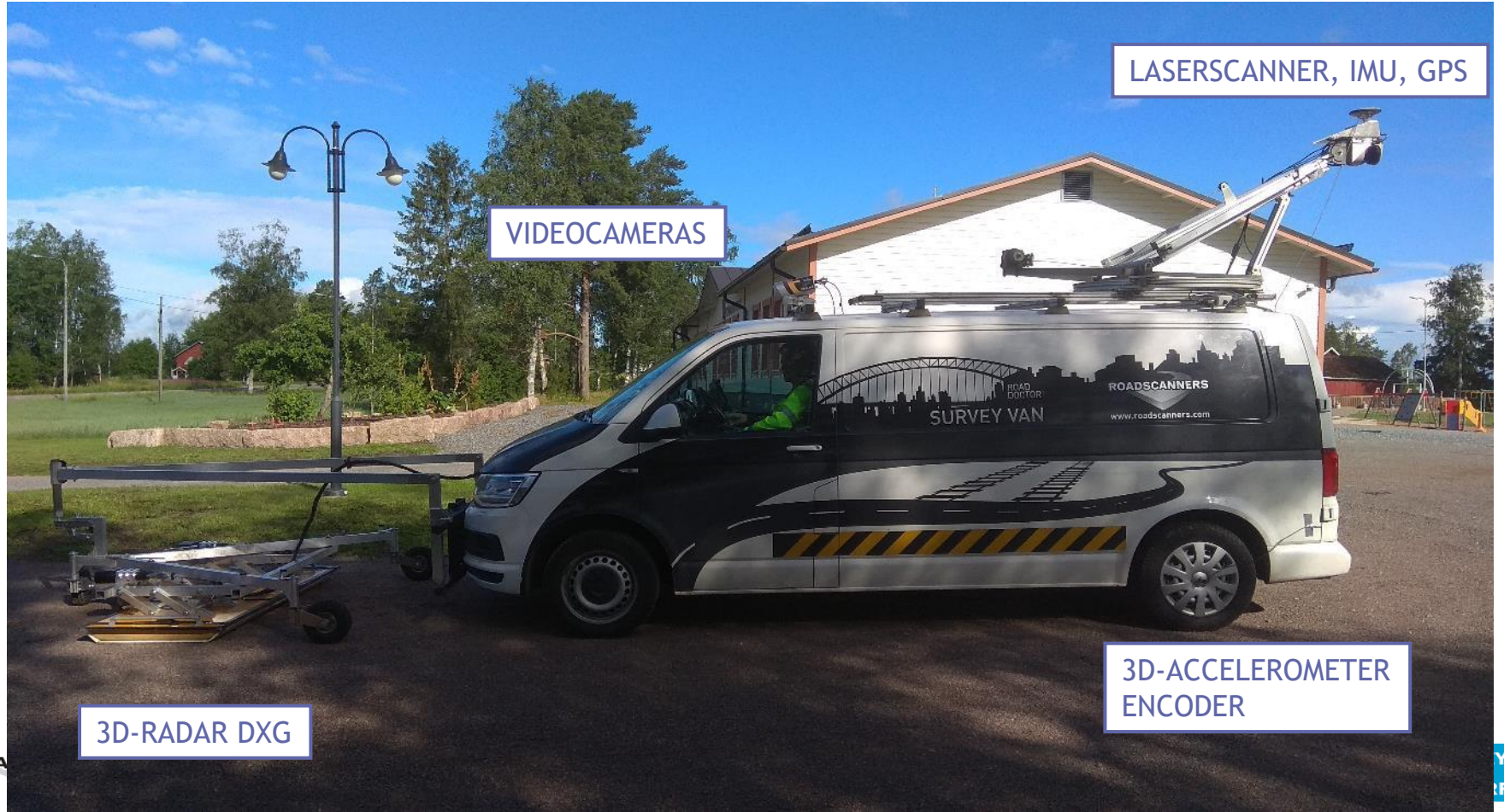
LASERSCANNERS,
IMU, GPS,
360 CAMERA

VIDEOCAMERAS, THERMAL CAMERA

GSSI 2 GHz, 400 MHz

3D-ACCELEROMETER
ENCODER

RDSV WITH 3D RADAR SYSTEM



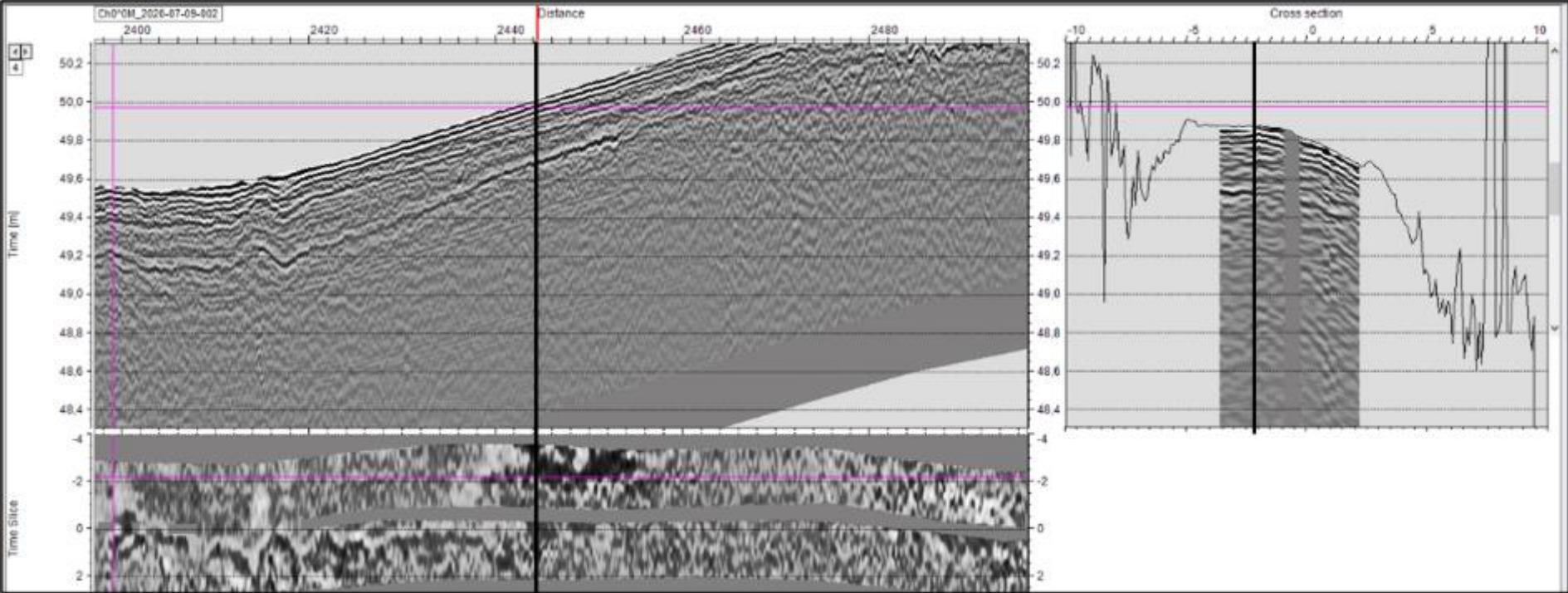
LASERSCANNER, IMU, GPS

VIDEOCAMERAS

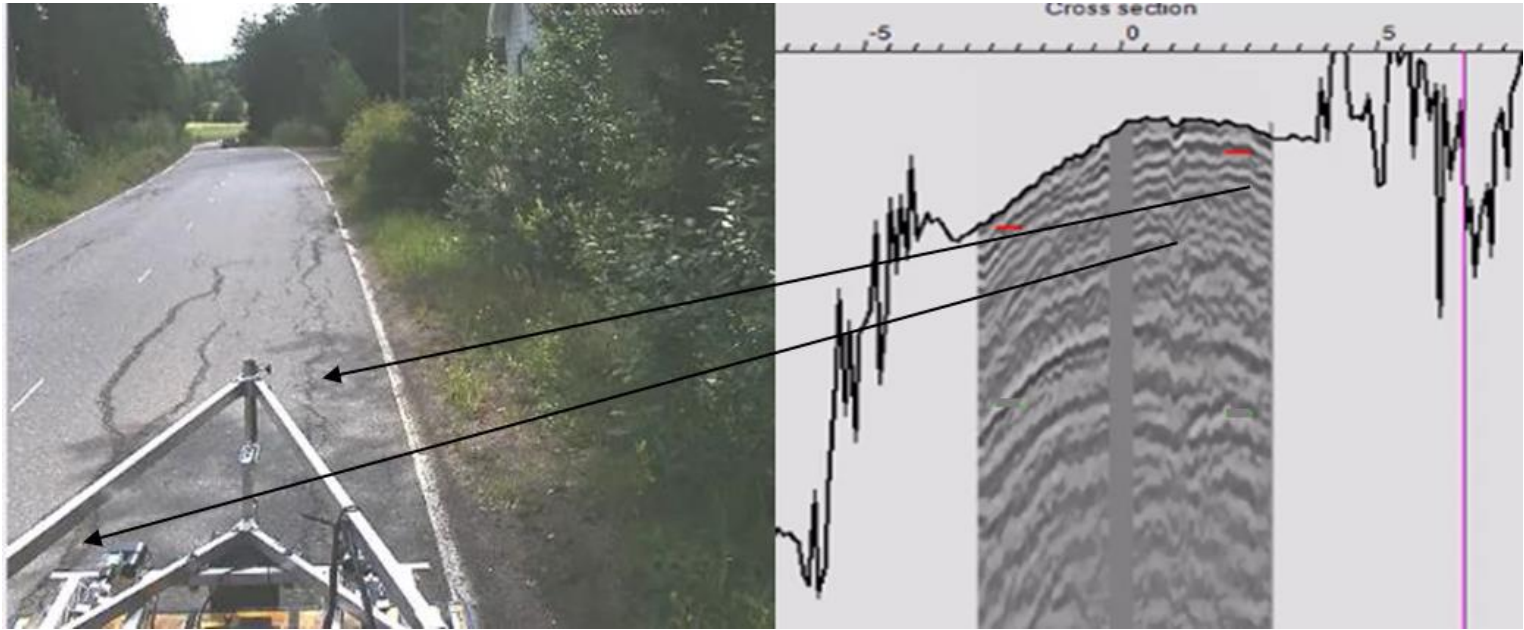
3D-RADAR DXG

3D-ACCELEROMETER
ENCODER

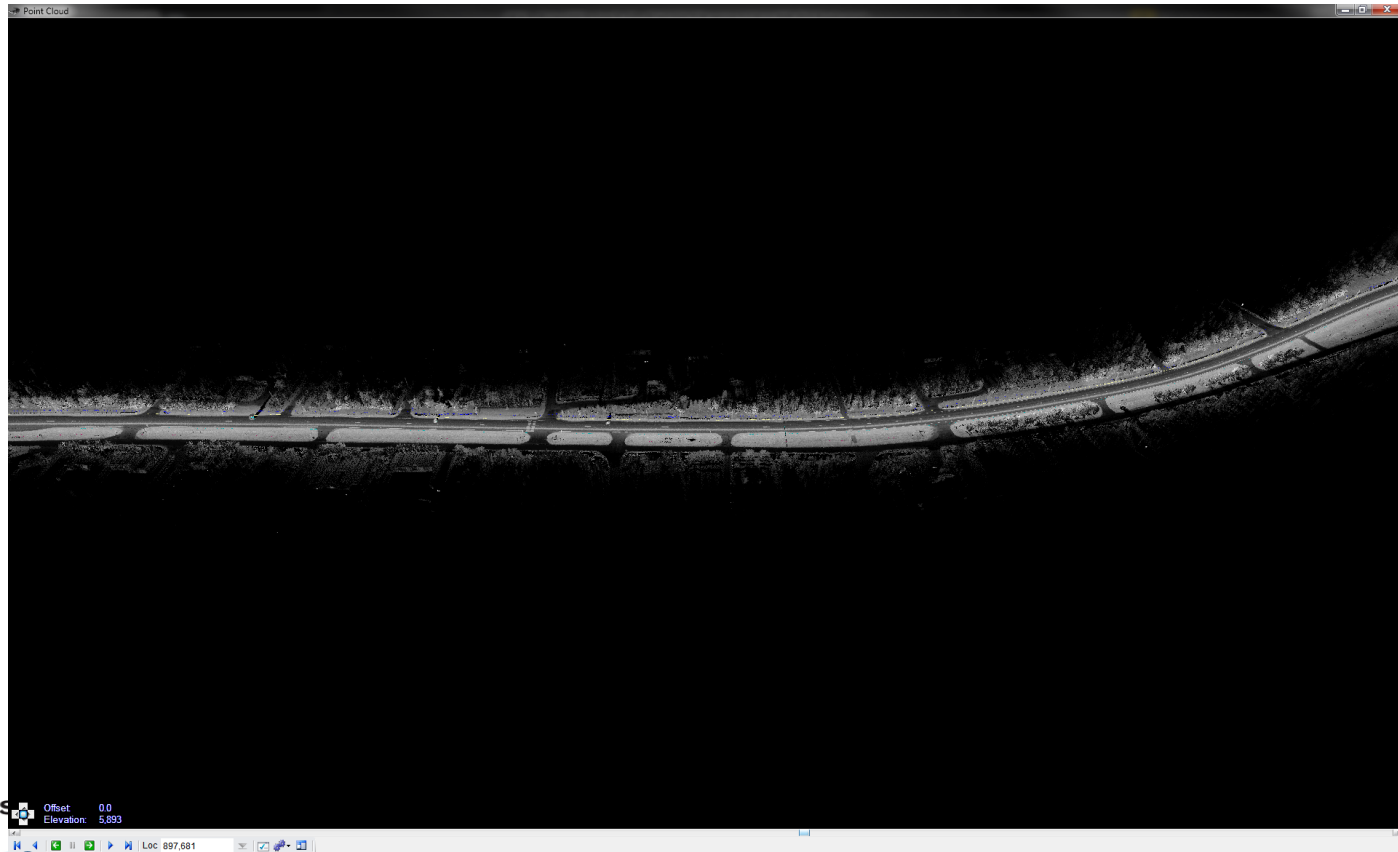
THE FUTURE: DIGITAL TWIN



THE FUTURE: DIGITAL TWIN



POINT CLOUD BASED TRAFFIC INFRASTRUCTURE DIAGNOSTICS

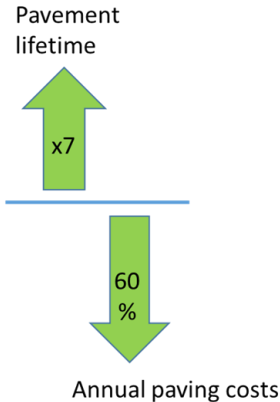
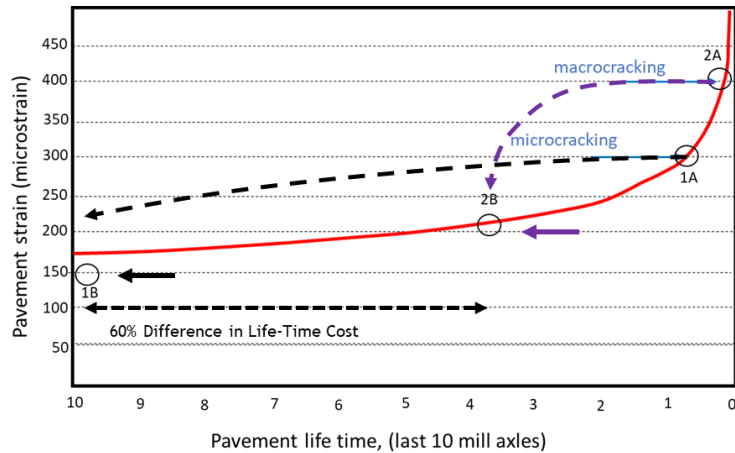


ROAD DOCTOR DIGITIZER FOR DIGITAL TWIN DATA COLLECTION



FROM REACTIVE TO PROACTIVE PAVEMENT MANAGEMENT

LIFE TIME OF NEW PAVEMENT WHEN ASPHALT OVERLAID DURING MICRO-CRACKING OR MACRO-CRACKING PHASE

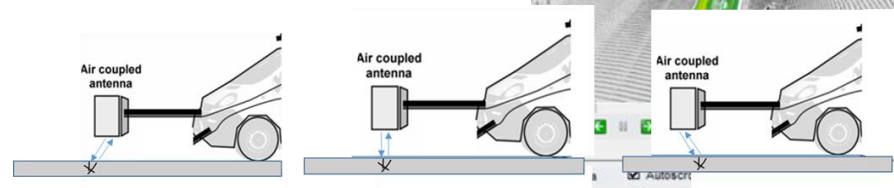
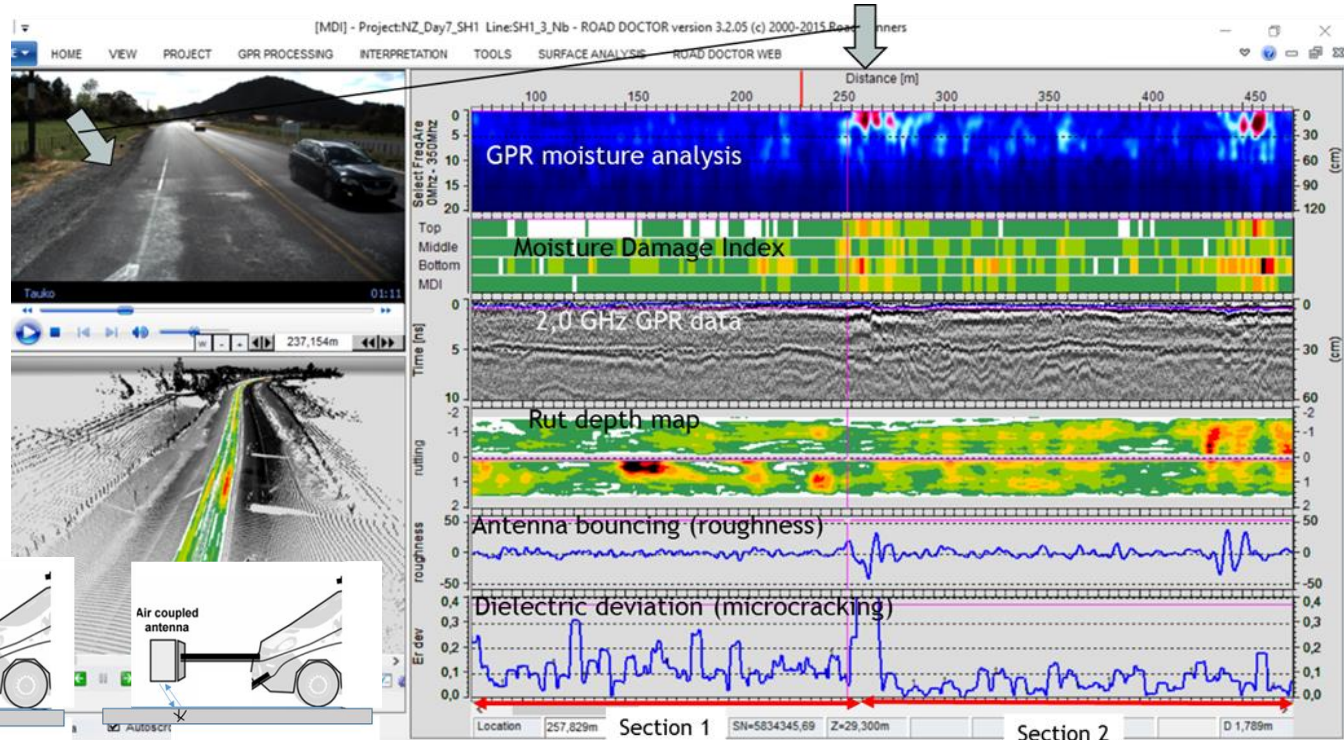
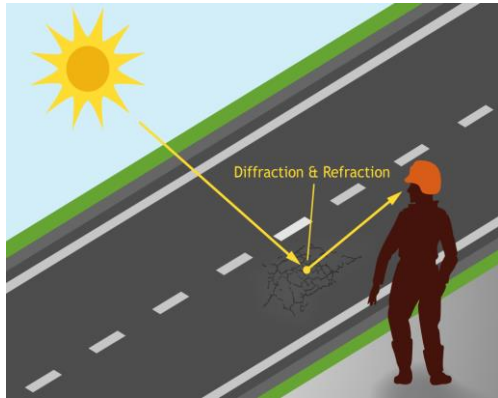


“Mapping cracks and pavement distress means that you are monitoring only how late you are with your maintenance measures”

MONITORING PAVEMENT MOISTURE AND FATIGUE

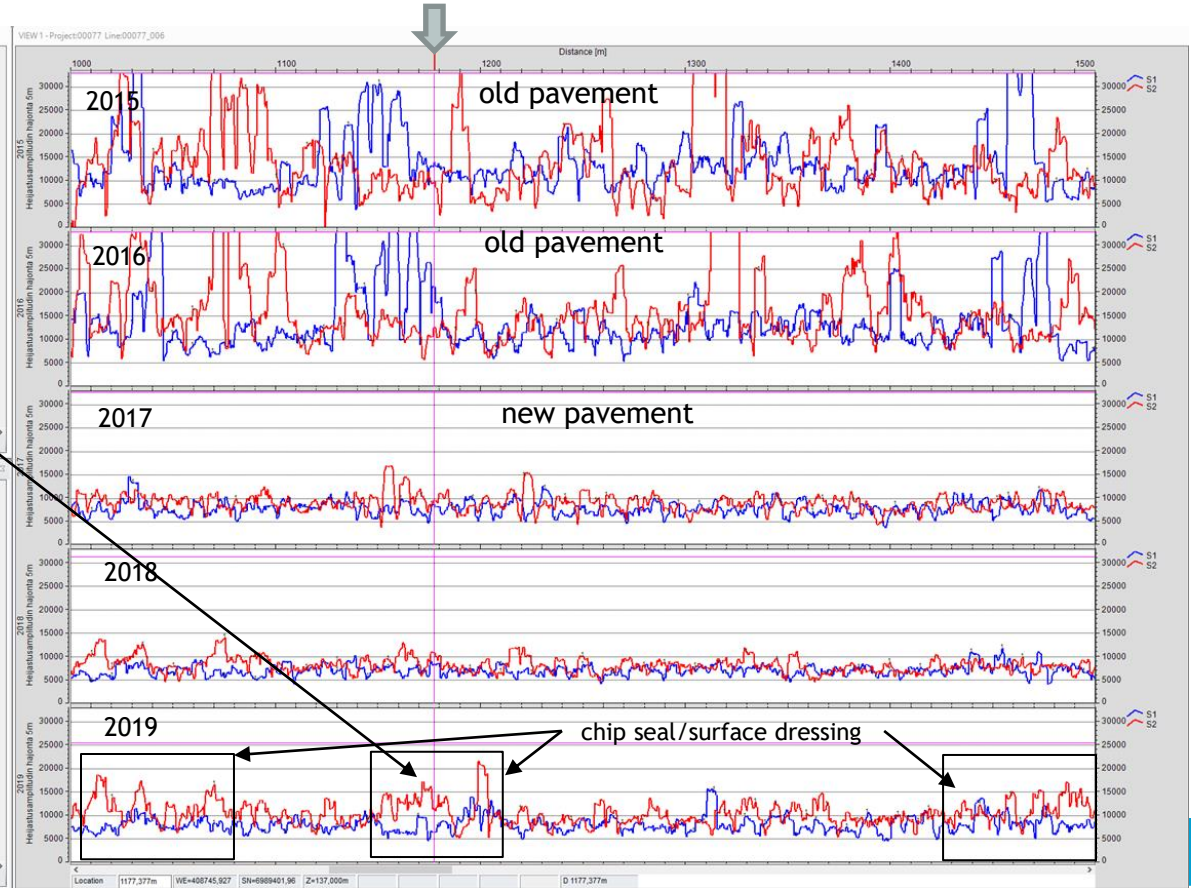
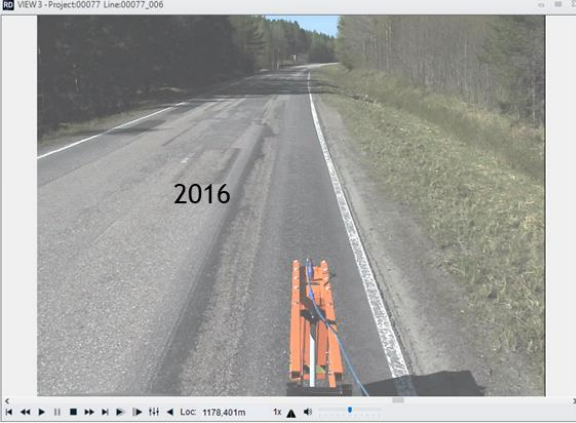


Longitudinal section, SH1, New Zealand

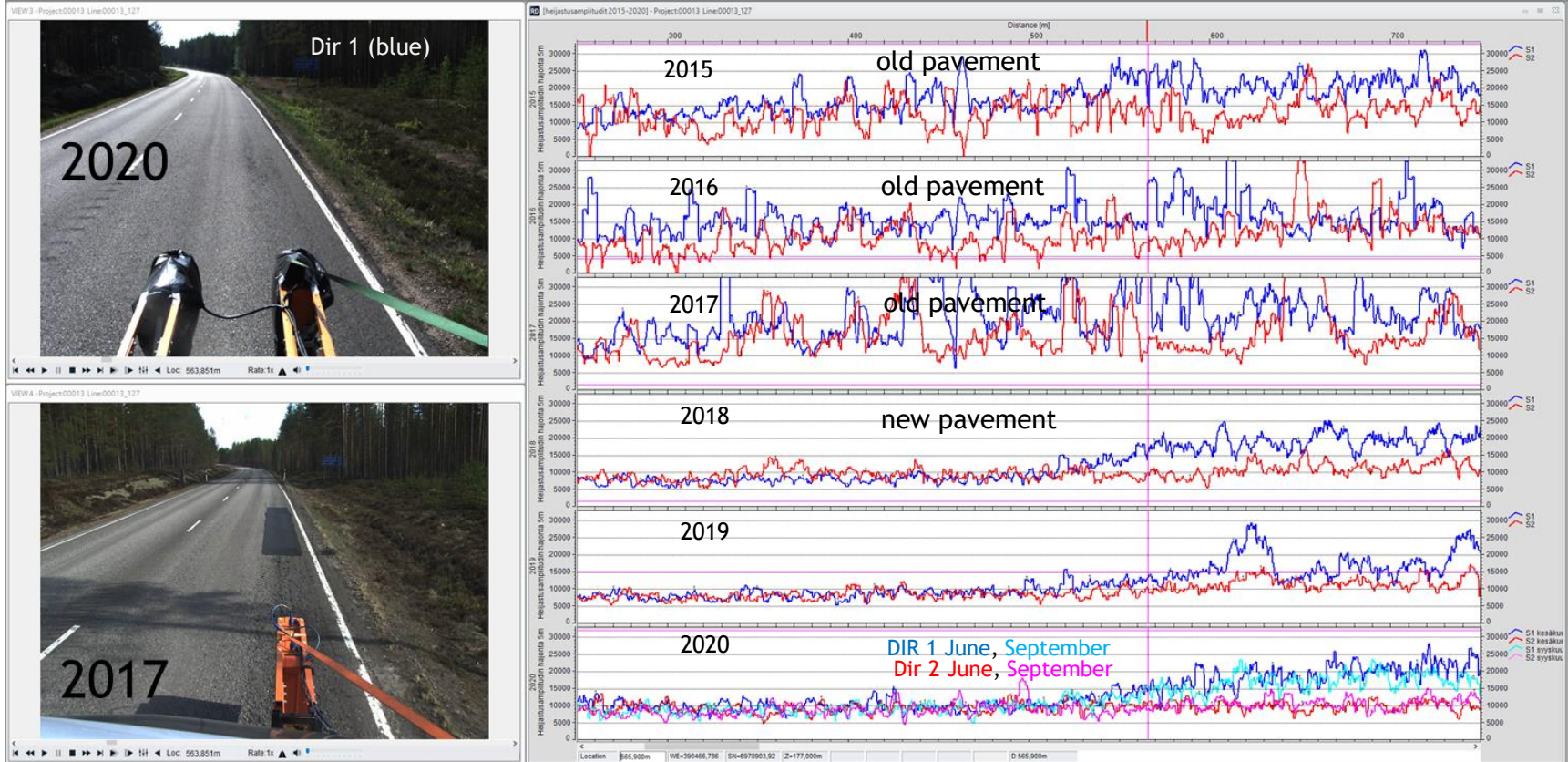


BEYOND THE SURFACE

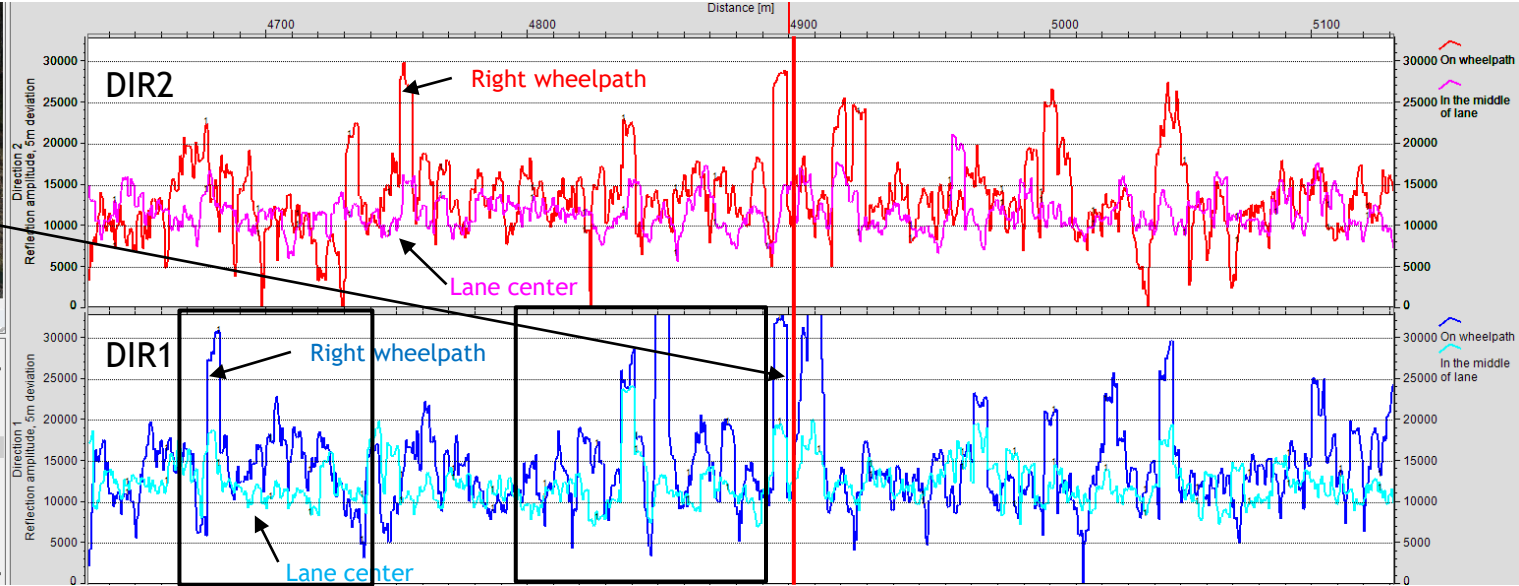
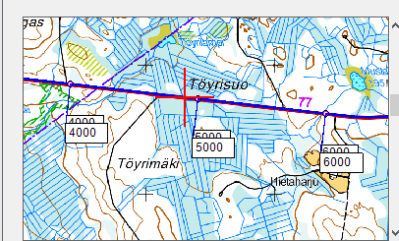
MONITORING PAVEMENT FATIGUE, CRACKING AND MICROCRACKING



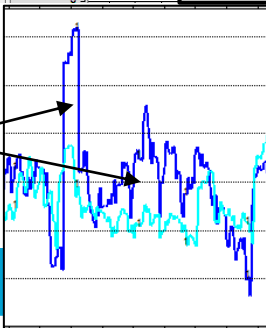
MONITORING PAVEMENT FATIGUE, CRACKING AND MICROCRACKING



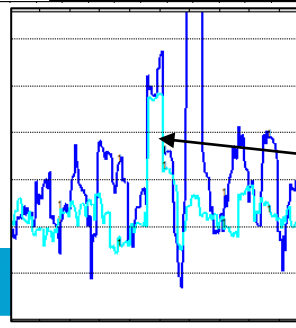
MONITORING PAVEMENT FATIGUE, CRACKING AND MICROCRACKING



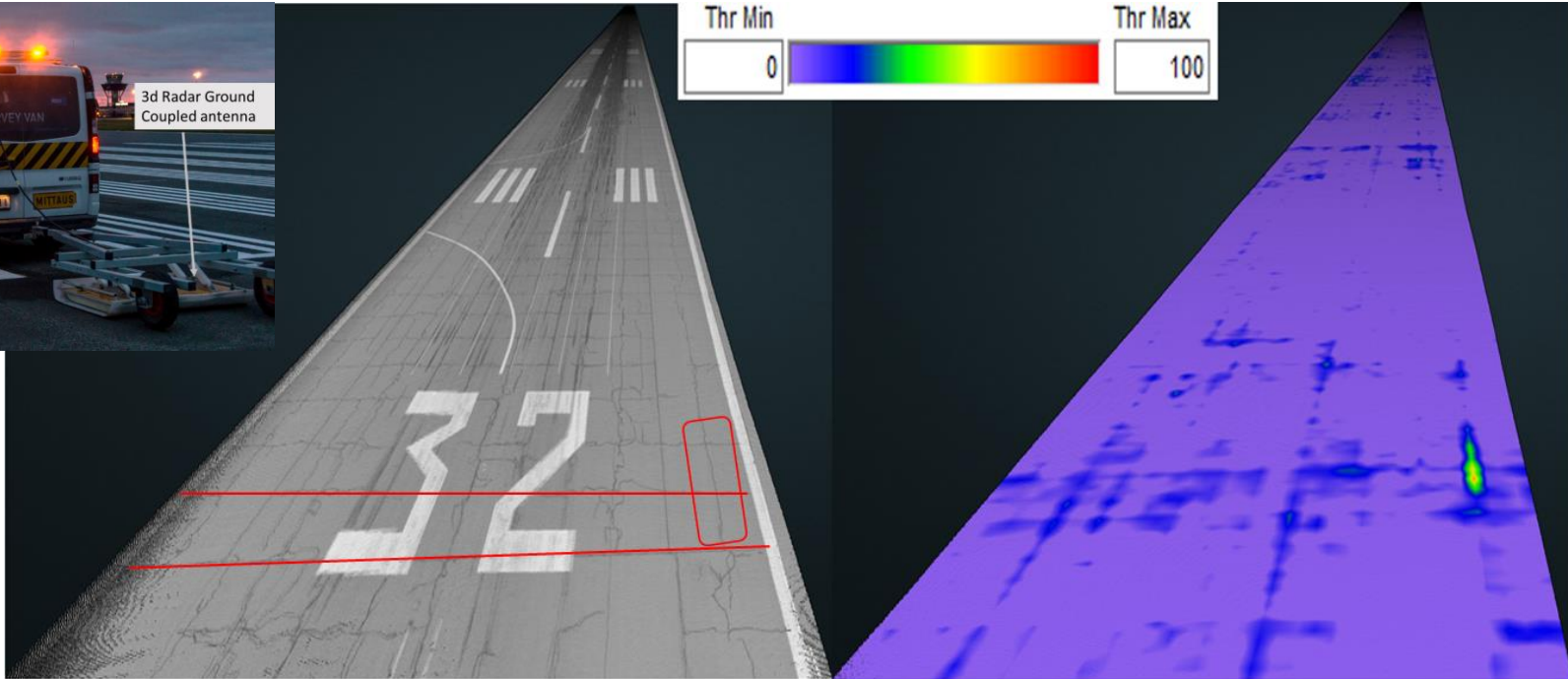
Load related fatigue



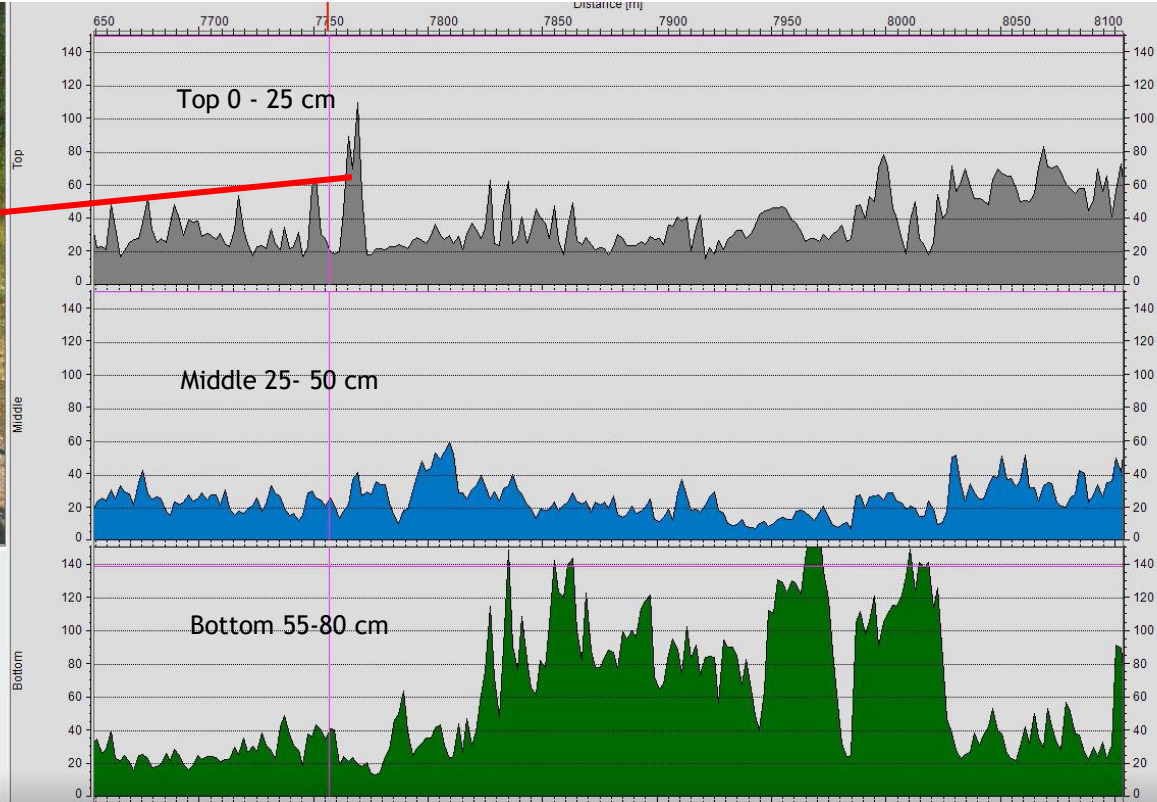
Problems related to pavement quality



Monitoring Moisture in the Asphalt

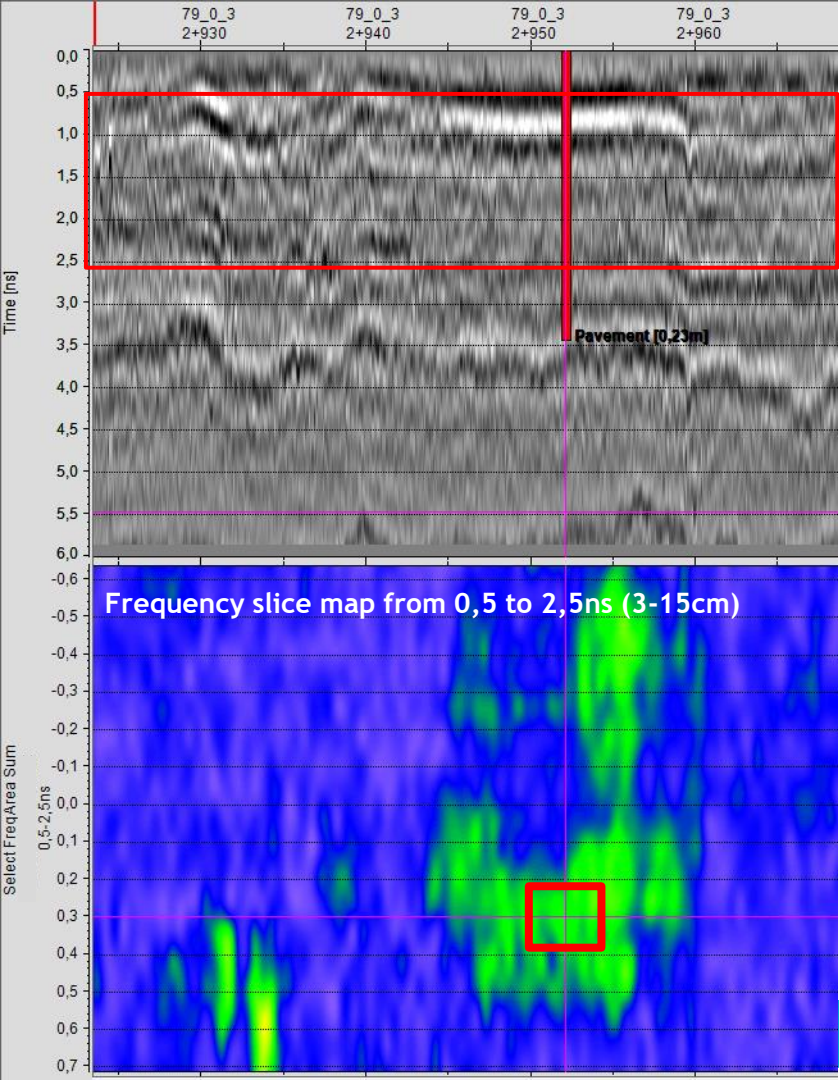


MOISTURE DAMAGE INDEX AND DRAINAGE DIAGNOSTICS



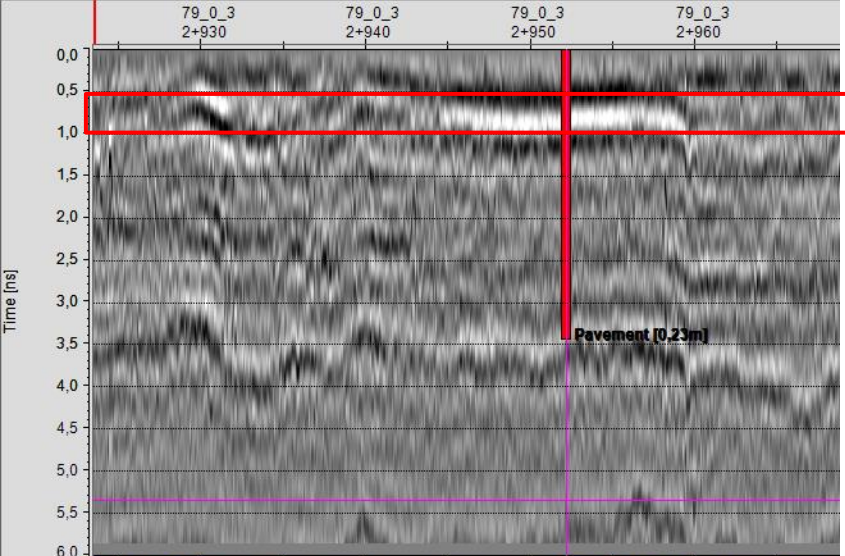
DETECTING DEBONDING / DELAMINATION



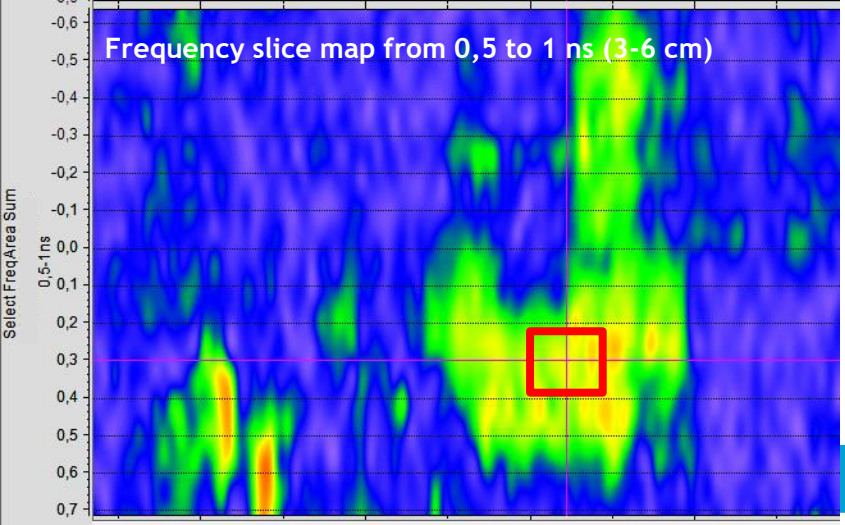
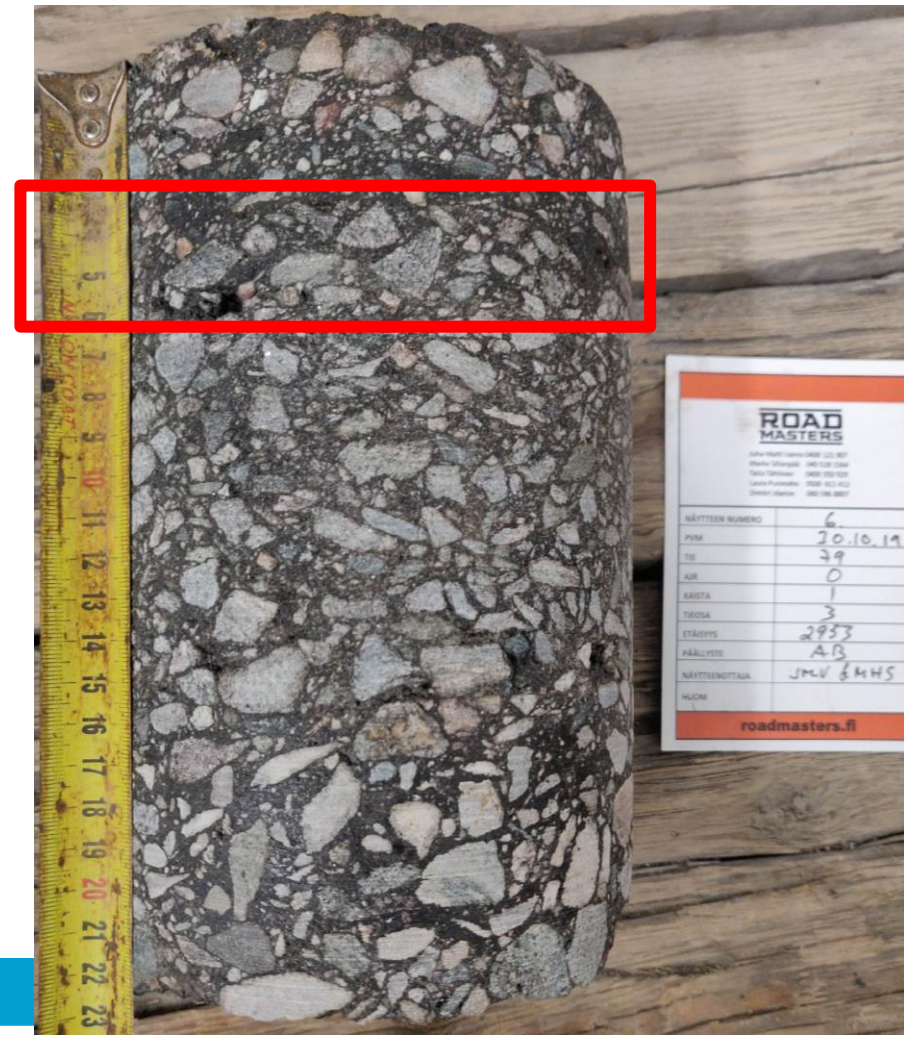


Delamination expected





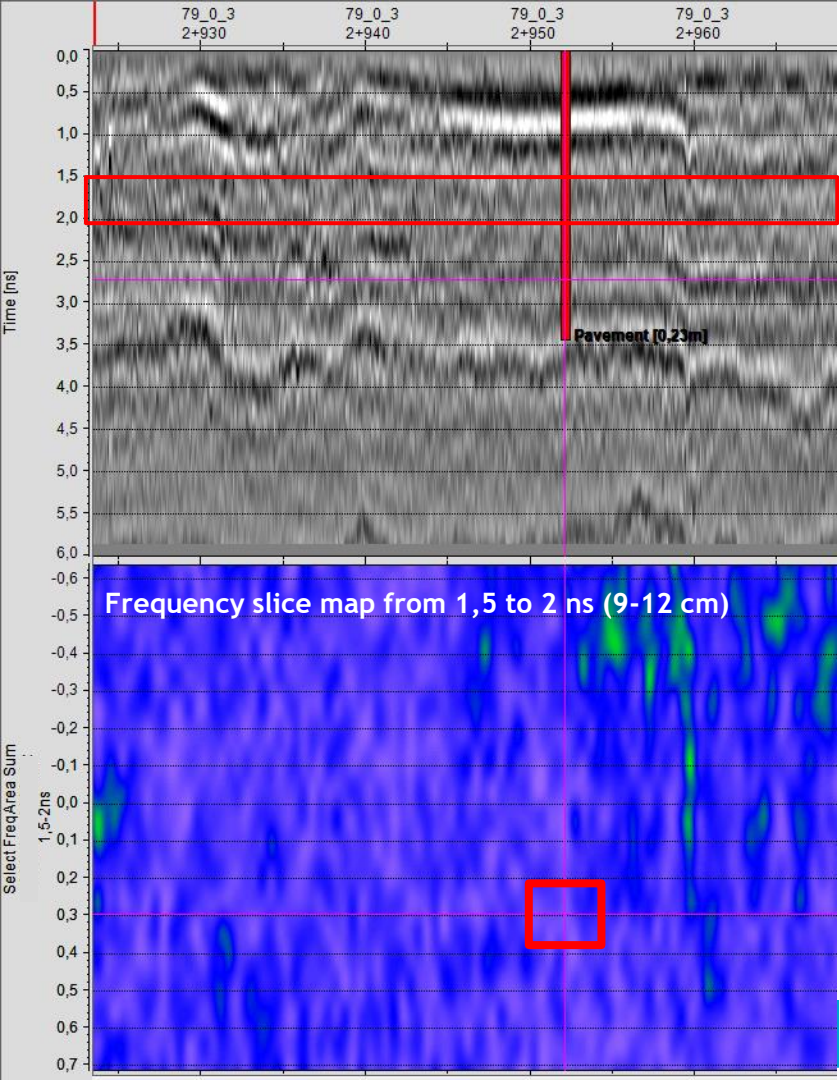
Delamination expected



ROAD MASTERS
Yhteystiedot: 020 550 800
 Myynti- ja asiakaspalvelu: 020 550 800
 Toimitus: 020 550 800
 Laskutus: 020 550 800
 Faksi: 020 550 800

NÄYTTEEN NUMERO	6
PVM	20.10.19
TIE	29
AUR	0
KASITA	1
TROGGA	3
ETÄISYYS	2933
PÄÄLLYS	AB
NÄYTTEENOMAIA	JMLV & HHS
HUOM	

roadmasters.fi



MONITORING ASPHALT SEGREGATION



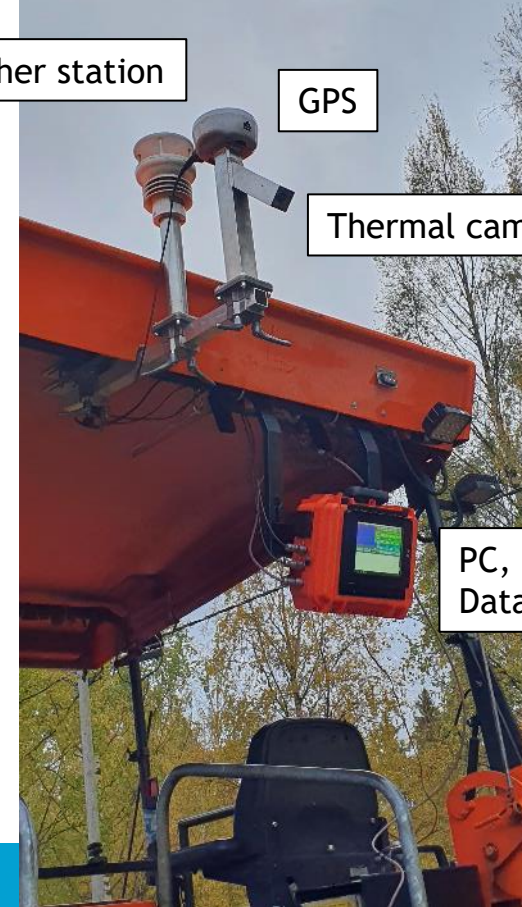
RDTD Paver

Weather station

GPS

Thermal camera

PC, Display
Data to Cloud



MONITORING ASPHALT SEGREGATION

Thermal data

3.6 cm

Surface

0.6 cm

3D Radar DXG data

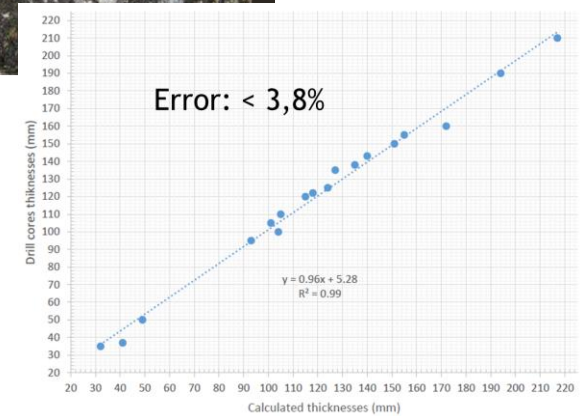
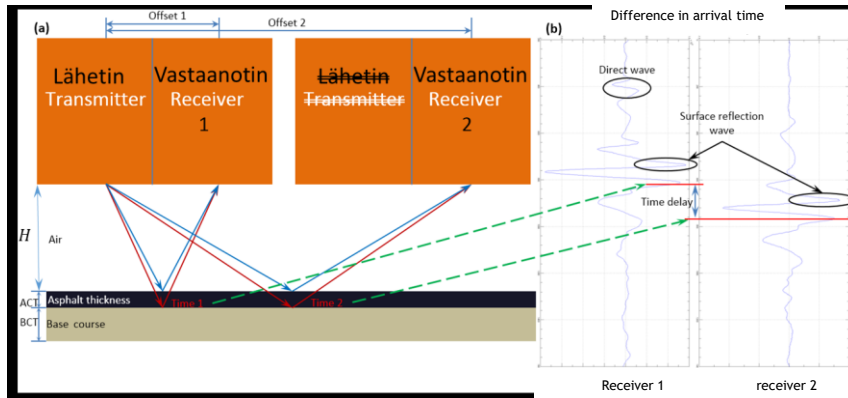
1.2 cm

200 m

CORELESS GPR METHOD BY ROADSCANNERS

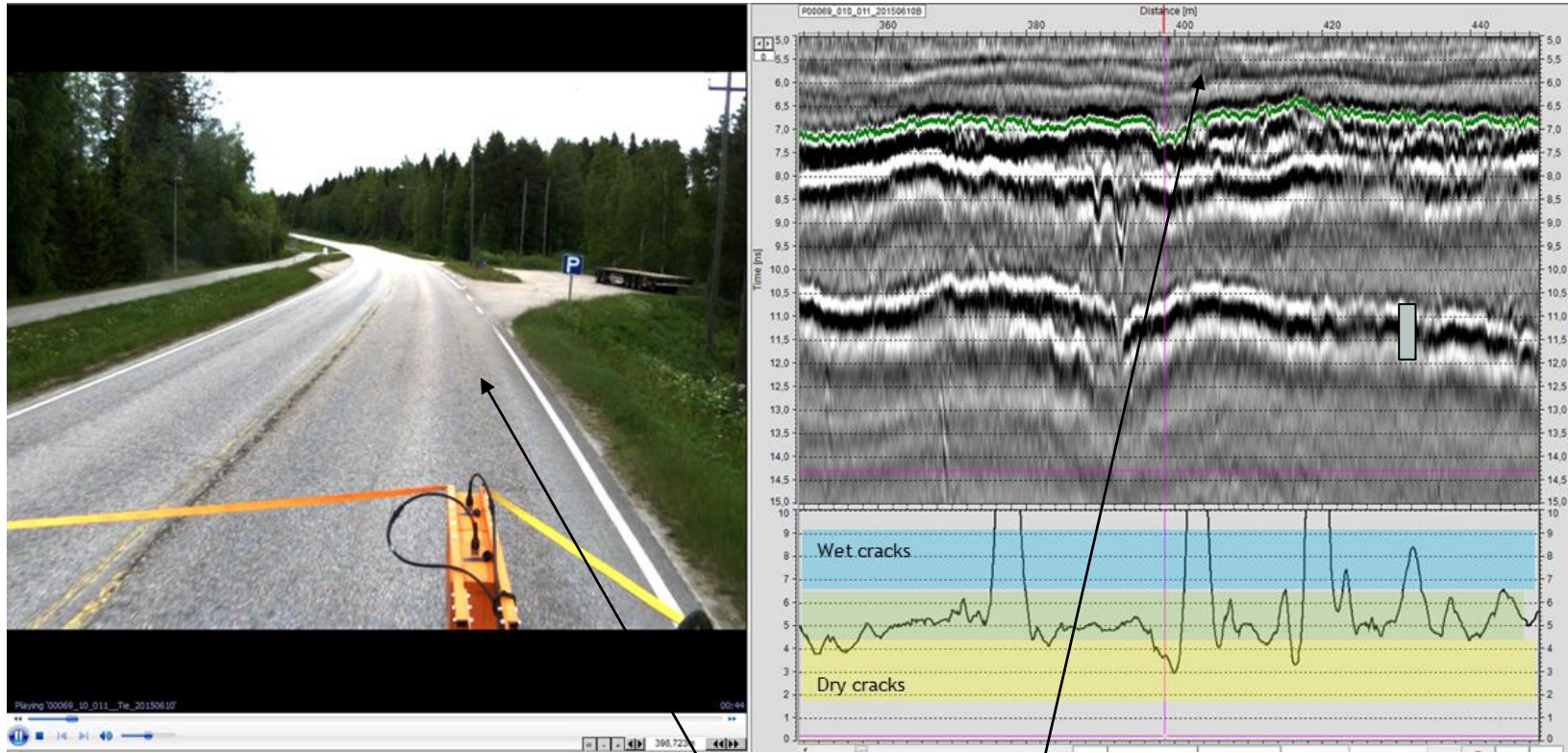


Surface reflection method



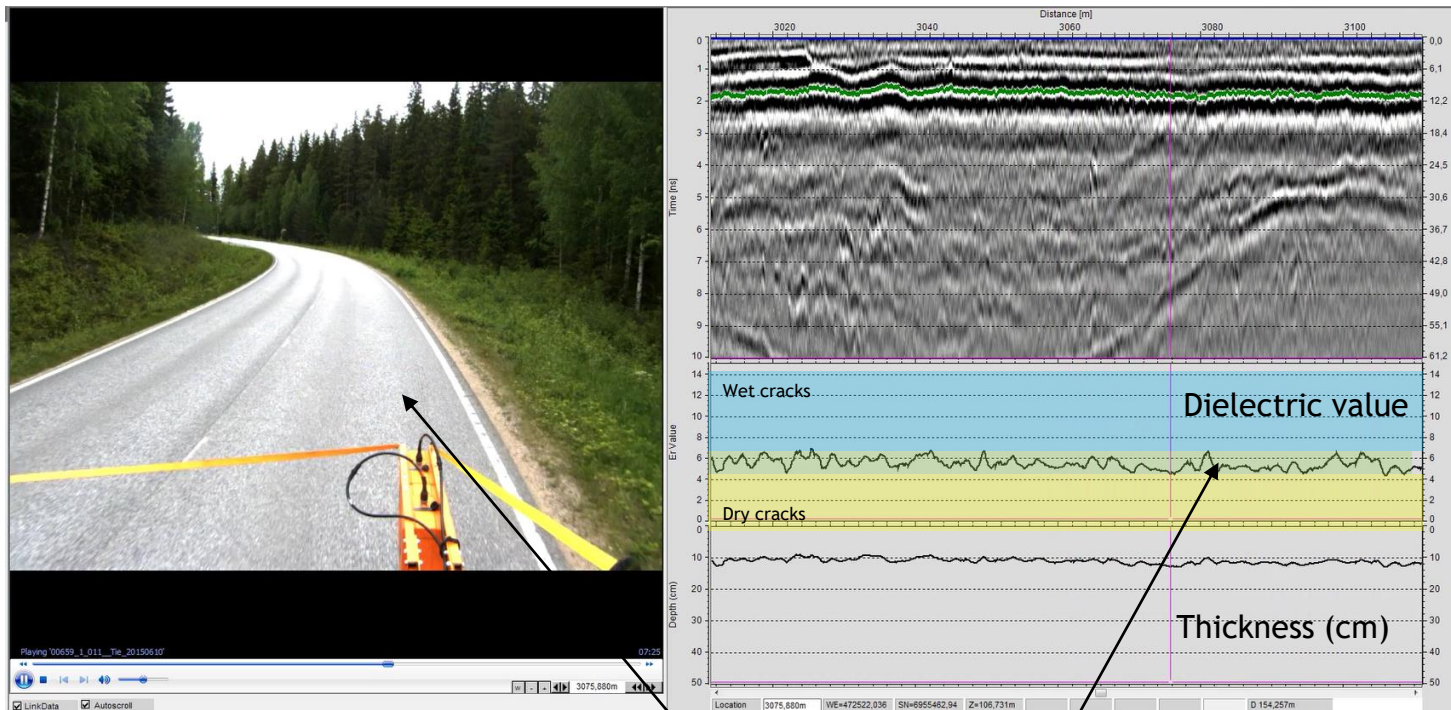
Coreless method - average dielectric value of the whole asphalt layer

CORELESS GPR DIAGNOSTICS



Damage inside asphalt due to thermal segregation during the paving phase (not visual)
High water content in the pavement

CORELESS GPR DIAGNOSTICS



Good quality asphalt, no cracking, no moisture

THANK YOU

