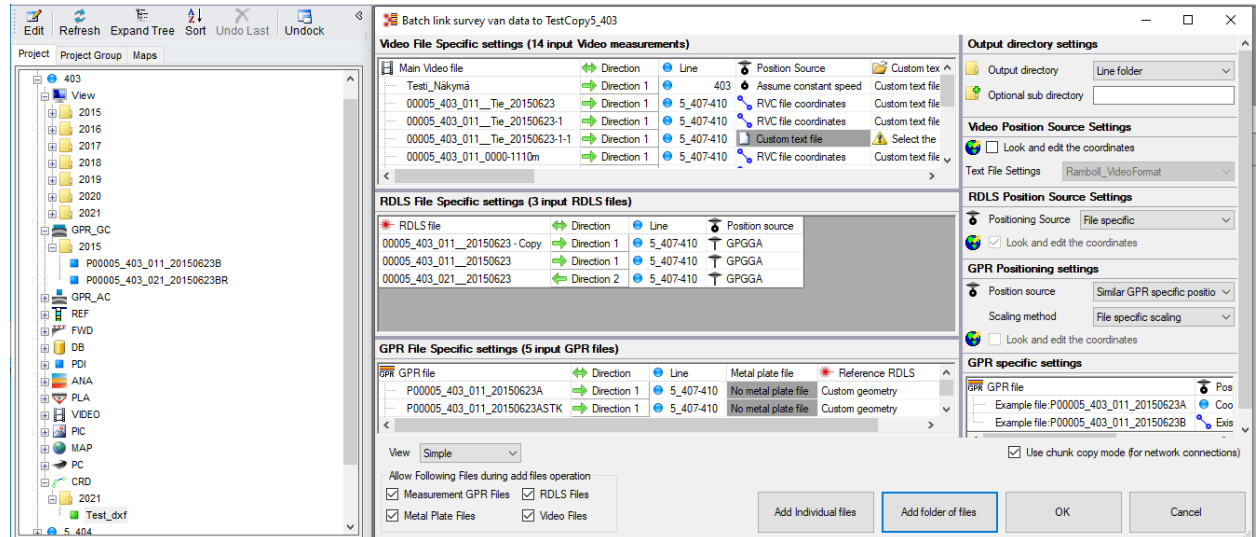
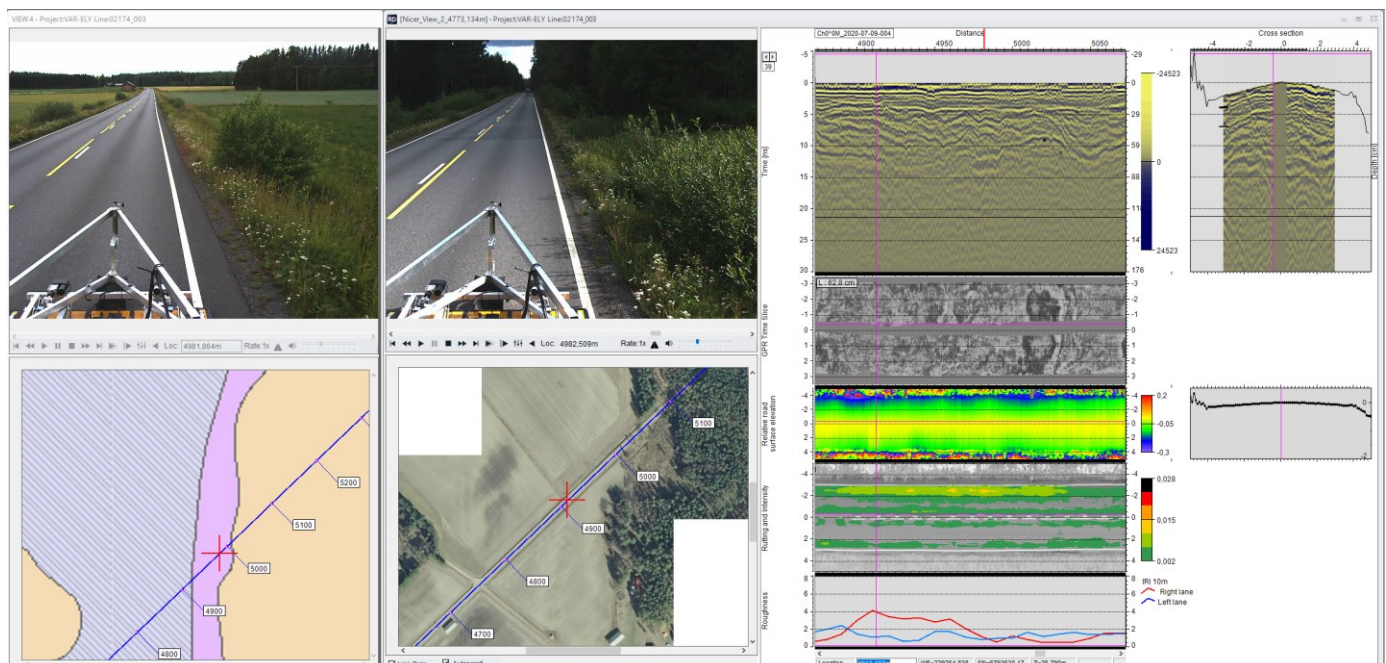


# General Road Doctor® Benefits

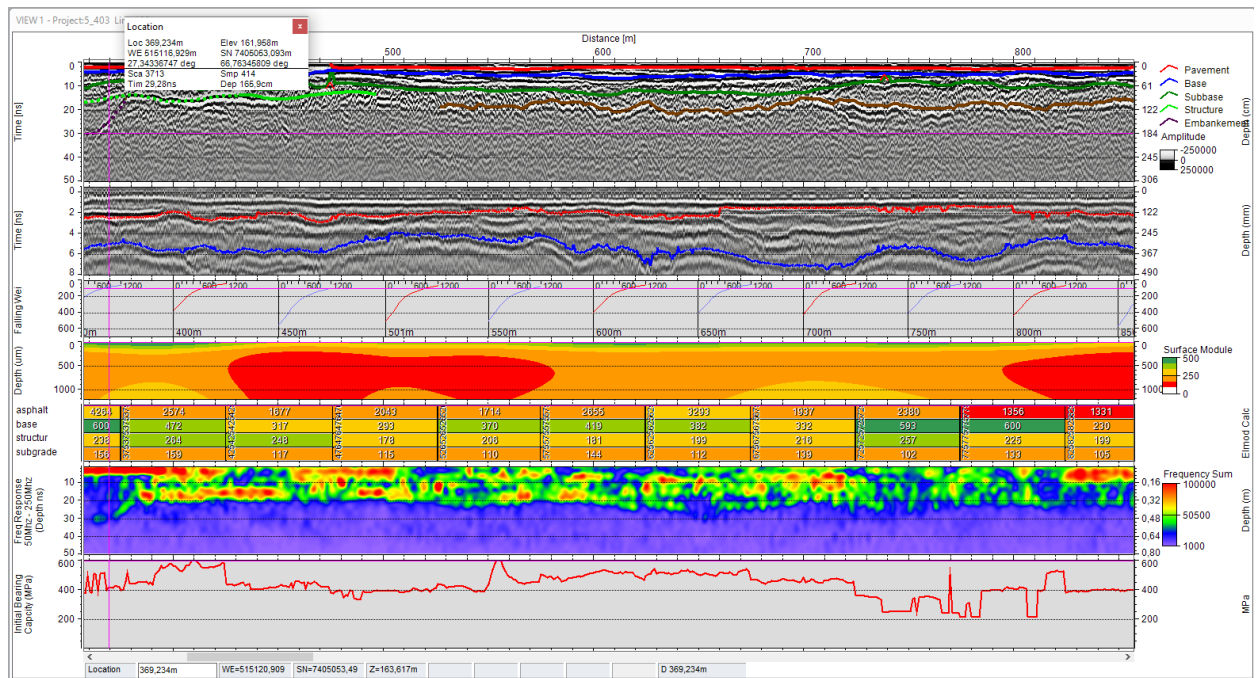
- Quick data linking into hierarchical and efficient project structure with tree view including data classification and search tools for easy handling of even very large and long-lasting projects



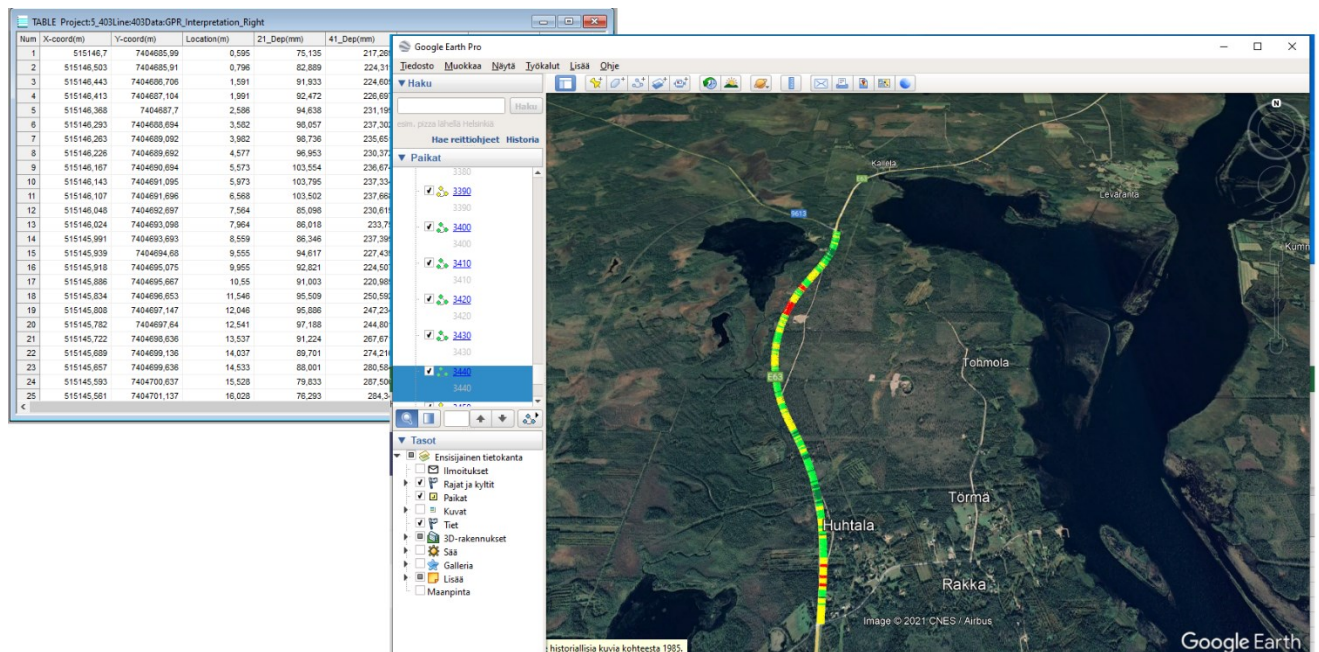
- Powerful tools for data synching with each other regardless of their coordinate source both in linking stage and in data display. Fluently use GPS and DMI for positioning together or separately.



- Advanced tools for GPR data processing and interpretation and comparing GPR data with other data from different measuring devices like Video, LIDAR, FWD, Profilometer, TSD, etc. and from local or external databases or any WMS- and Google maps.



- Different modules for deeper analysis of Road Data using Frequency and bearing capacity analysis methods.



- Very versatile results output possibilities – including fixed and user definable tabulated text formats with long/lat or XY-coordinates, DXF, KML, Shape, View Videos, PDFs and Bitmaps.
- Free Road Doctor Viewer version with GPS connection for enabling visualization of all views available for Data Analyzers also for clients.
- Possibility to output results to Road Data Center Web Map service for map based visualization of results for clients without need of Road Doctor software.



# Major new features of ROAD DOCTOR® version 3.6

Road Doctor 3.6 is the newest major release of Road Doctor and it brings users new features to work more efficiently with GPR and other related data. The features in this release are focused to Road Doctor Core version.

Changes in Short:

- 3D-GPR data buffering to a disk file, vastly speeding up 3D GPR data handling
- Cross-section and longitudinal topography from shown laser scanner data to 3D GPR Data display and also for output.
- User defined colours for GPR Data
- DXF-format output for GPR interpretations
- Project Templates
- Project Merging
- External Thematic Map view saving and content updating function
- Enhanced View Template handling
- Execution of user's own external functions for handling table view data
- New database drawing modes

## Core Version (All versions)

### GPR

The **3D cross-section view** can include cross-section topography read from a laser-scanner data. This feature will make visualization more realistic and interpretation of GPR data more reliable.

**Buffer file for 3D data view**, makes handling of 3D GPR data almost 100 times faster than before in Road Doctor. There is no need for FFT recalculation in the case of 3D-radar (Kontur.tech) data. Once the processing settings are selected the operation takes once longer time and then loading is as fast as hard disk or SSD-drives allow. The program can save a secondary data buffer file set simultaneously even for faster loading and display. The saving can be done using a lower number of samples per scan and Road Doctor can then resample the data to a higher value of samples for display and interpretation.

RD
Fill in View Name and Description

Name

Test Buffer

Description

☐ Save view with start location
☐ Save hidden Data windows

☒ Create 3D GPR Data buffer
☐ Create Also Secondary buffer (1/4 size)

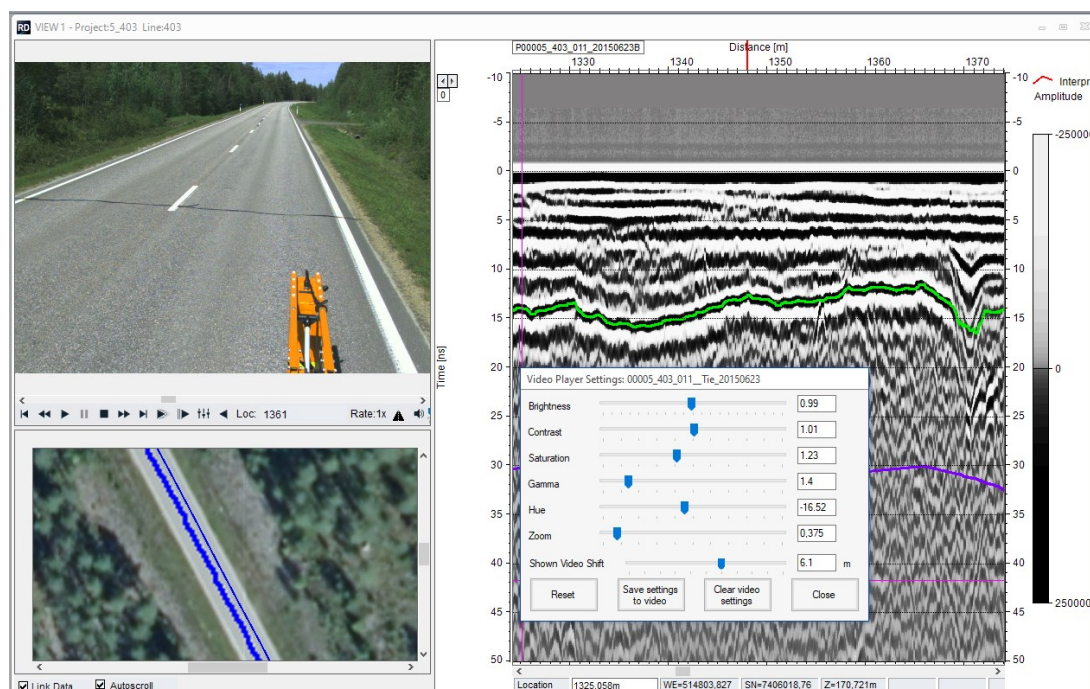
OK

Cancel

GPR Interpretations can now be outputted also as industry standard **AutoCad DXF**-format. Also, Longitude, latitude and offset from line centre can be printed in GPR vector output directly. These DXF-files can be shown also in a point cloud view. These files can be linked also separately to a Road Doctor Project.

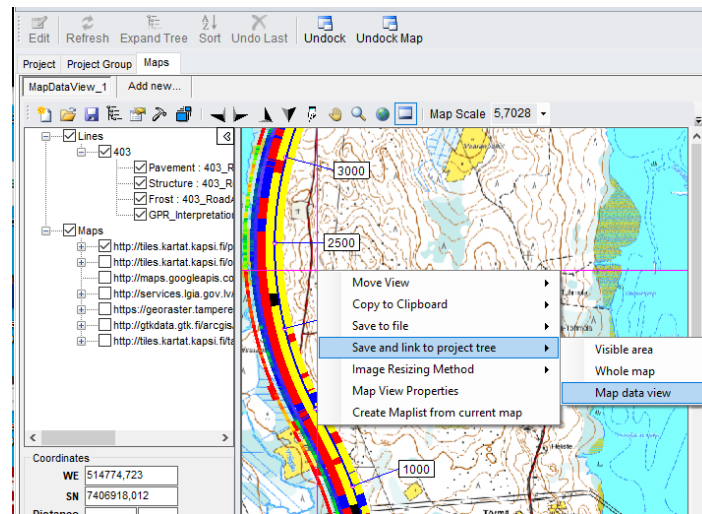
## Video

The **video shift** can be now set using the video settings tool window. This enables matching the forward and reverse direction videos so that it is easier to see the same location from both videos, for example.



## Map

**Saving Map View content** is now possible in Road Doctor. The Map View can be saved in project tree or in a separate file. In both cases the program can automatically open the views, which were used to create the thematic map and draw the datasets from those to map.



As a new feature it is also possible to **update the thematic map in a Map View** if the source data in a view is changed. This makes possible to keep the analysis fields in the map and in the view synchronized. Also, if a database content is modified, the modifications for a displayed field can be updated to a map.

## Project

Projects can be created now using **Project Templates**. The template makes possible to handle similar projects in a fixed manner harmonizing data names, file paths, coordinate transforms (EPSG), processing settings etc. in projects. This will reduce the possibility to human errors and keep the project structures consistent in larger projects. This is especially advantageous, if used with batch processing and linking operations.

**RD Project Template Settings**

**Originating directory**

☒ Template user selects ☐ Directory description

☐ Constant path

☐ Template File Relative Path

**Project group**

☐ Use project group name beginning

☐ Use project group directory

☐ Create additional directories under project group

**Project**

☐ Use Project name beginning

☐ Use Project directory

☐ Define Areal coordinate file

☐ Template file specific ☐ Project group specific ☒ Project specific

☐ Create additional directories under project

**Line**

☐ Use Line name beginning

☐ Clear Default

☒ Allow line directories ☐ Deny line directories ☐ Use line directories

☐ Define line coordinate system

☐ Template file specific ☐ Project group specific ☒ Project specific

Country

Grid

☐ Create additional directories under line

**RDLS**

☐ Define RDLS output Directory

☐ Define RDLS sub Directory

**Date References**

Date format

**Road References**

**Country References**

☐ Use upper case letters

**Project References**

**Custom References**

**Project merging operation** is used to merge two separate projects to one or an older version of the same project to a newer one. The user can select which data to merge and also if copying data from one place to another is needed and done.

**RD Merge**

☐ Copy data files ☐ Rename files if files exist in destination (left) project

	Sel	Datatype	Data		Sel	Datatype	Data
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Project	TestCopy5_403_Original.rdp	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Project	TestCopy5_403.rdp
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	LINE	5_404.lin	<input type="checkbox"/>	<input type="checkbox"/>	LINE	= 5_404.lin
<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	MAP	= 5_404_500x500m_1000x1000pix.PNG
<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	DB	= GPR_Interpretation_Right_5404.txt
<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	VIEW	= test
<input checked="" type="checkbox"/>	<input type="checkbox"/>	LINE	? Test.lin	<input type="checkbox"/>	<input type="checkbox"/>	Project	= TestCopy5_403.rdp
<input checked="" type="checkbox"/>	<input type="checkbox"/>	LINE	? Test.lin	<input type="checkbox"/>	<input type="checkbox"/>	Project	= TestCopy5_403.rdp
<input checked="" type="checkbox"/>	<input type="checkbox"/>	LINE	? Test.lin	<input type="checkbox"/>	<input type="checkbox"/>	Project	= TestCopy5_403.rdp
<input checked="" type="checkbox"/>	<input type="checkbox"/>	LINE	? Test.lin	<input type="checkbox"/>	<input type="checkbox"/>	Project	= TestCopy5_403.rdp

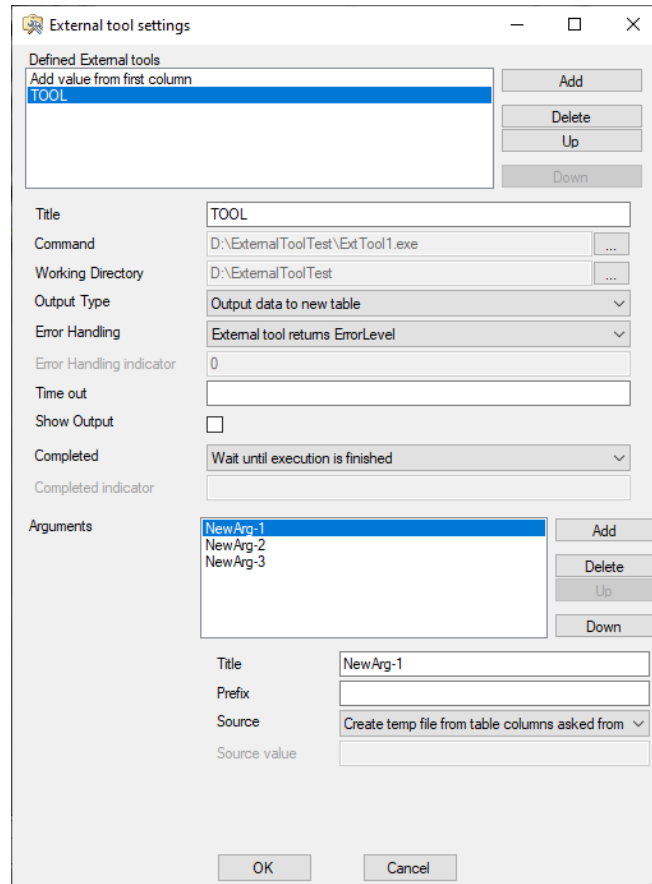
Left:    Right:

Find:  From:  Direction:

Field	Left project	Right project
File:	5_403.RDP	TestCopy5_403.rdp
Special:	Project_Number=, Road_Number=, PrjCrd=E:\TestCopy\Tieosc	Project_Number=, Road_Number=, PrjCrd=

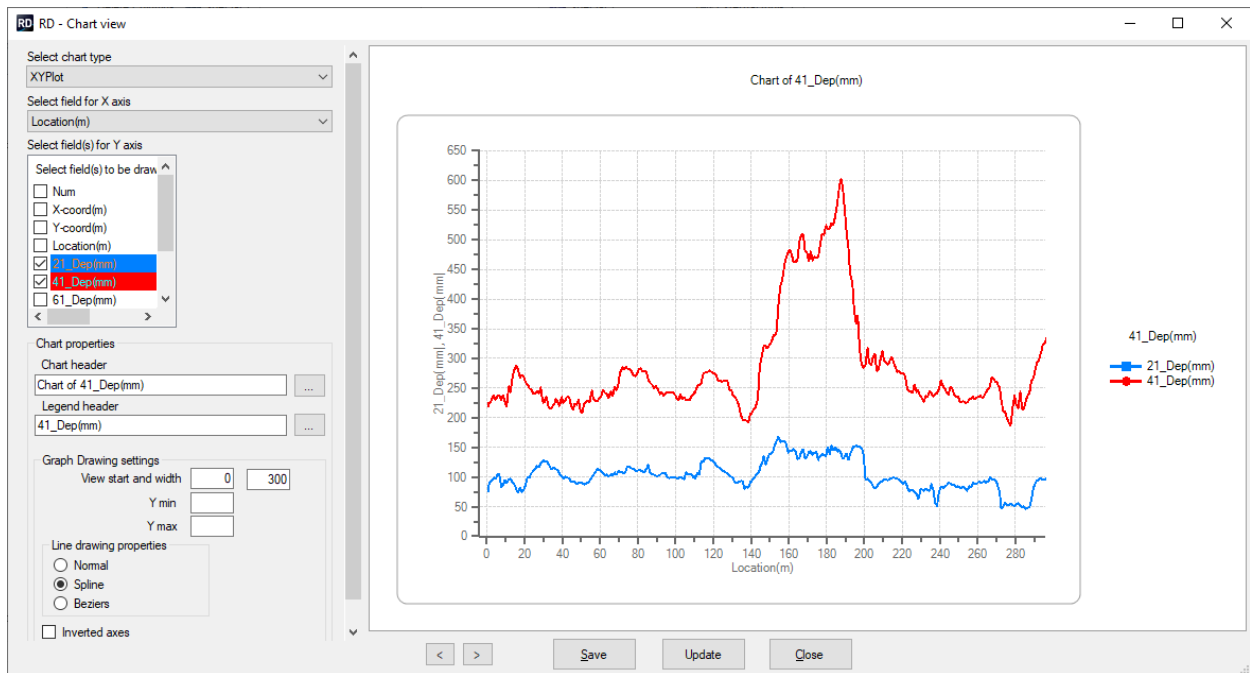
**Table view**

**“Execute external function”** tool makes possible to run user created functions and mathematical or logical operations in a Table view for selected columns. User can define the location of the executable used and set parameters how the operation handles the data and what parameters the operation inputs. After the operation the data can be quickly linked as a new database or update the existing database and show on the screen.



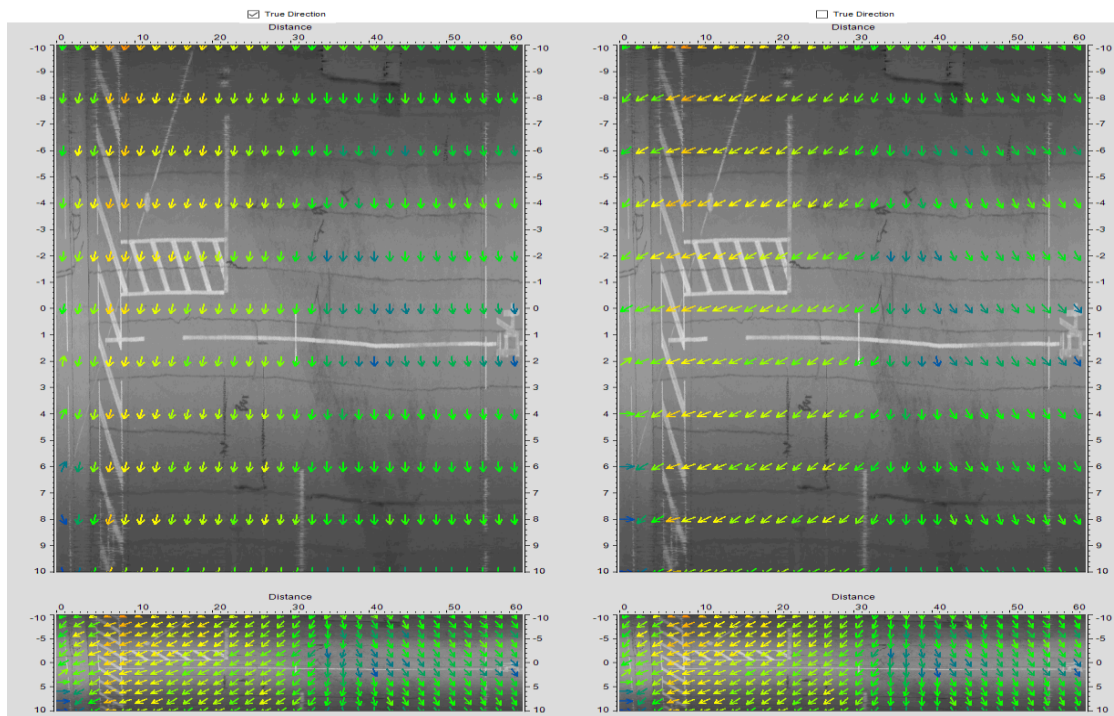
New command is added to Table view pop-up menu, which enable **drawing a single graph** of displayed data. The graph is not synchronized with any other view elements, but it can be used to quickly create high resolution pie, bar, area and xy-plots from data. The graph can be copied to clipboard as a high-resolution vector graph or as a bitmap.

Also, all **the filter and Interpolate cells operations are available for multiple fields**. Multiple operations added for handling table data in a row (solve x for multiple y, linear and spline interpolation, multiple slope values from set field ranges etc).

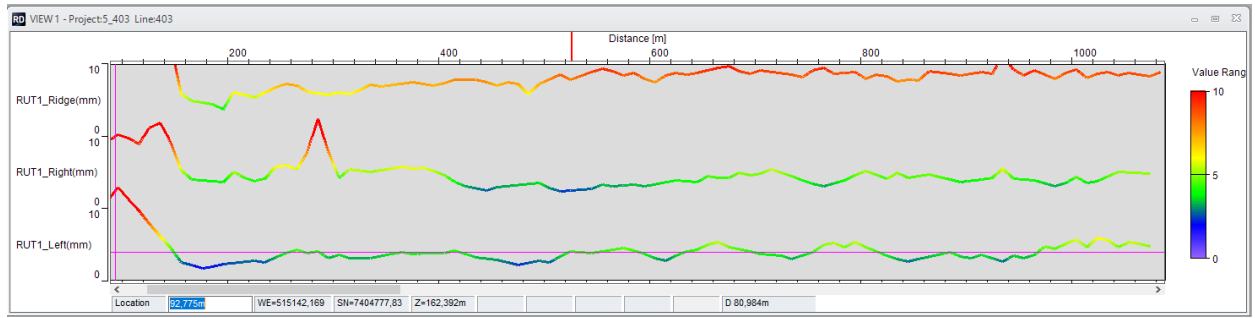


## Databases

New Drawing method for database **surface - the slope direction** can be displayed as arrows and magnitude as colours. This is a great tool for displaying the direction where the water would run in seemingly flat pavement surface, for example.



The from-to type data can be displayed also as **coloured lines**, where the used line thickness can be given. This can be used to emphasize specific values.



**Text data drawing** can print text in vertical direction.

