



Release 3.3

Release Notes

SCANTRA KINEMATIC, CORE (LT & PRO)

© technet GmbH

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SCANTRA 3.3.1

Table of Content

1	SCANTRA CORE	3
1.1	NEW FEATURES.....	3
1.1.1	<i>Import / Export: Riegl RDBLib</i>	3
1.1.2	<i>Settings: Consideration of mapping reductions</i>	3
1.1.3	<i>Status of detection is now shown in the graphics window</i>	3
1.1.4	<i>Graphics legend: A priori legend has been added.....</i>	4
1.2	IMPROVEMENTS	4
1.2.1	<i>Browser: Point coordinates – link to global coordinate system added</i>	4
1.2.2	<i>Settings & project tree: Extended settings for global coordinate systems.....</i>	4
1.2.3	<i>Import / Export: Exporting colours.....</i>	4
1.2.4	<i>Import / Export: Faro API</i>	4
1.2.5	<i>Import / Export: PointCab interface</i>	4
1.2.6	<i>Matchmaker: Visualisation of a point identity's status</i>	4
1.3	BUGFIXES	4
1.3.1	<i>Import / Export: Error messages when deploying the Faro API</i>	4
1.3.2	<i>Graphics: Sectional view invisible in case of superior coordinates.....</i>	4
1.3.3	<i>Matchmaker: Key actions were not considered</i>	5
1.3.4	<i>Invalid path dialogue: Sorting leads to false file associations</i>	5
1.3.5	<i>Datum-dependent matching: Faulty plausibility check.....</i>	5
2	SCANTRA KINEMATIC.....	6
2.1	NEW FEATURES.....	6
2.1.1	<i>Import of kinematic point clouds with trajectory.....</i>	6
2.1.2	<i>Decomposition of kinematic point clouds</i>	6
2.1.3	<i>Cross-linking static and pseudo-static scans.....</i>	6

1 SCANTRA CORE

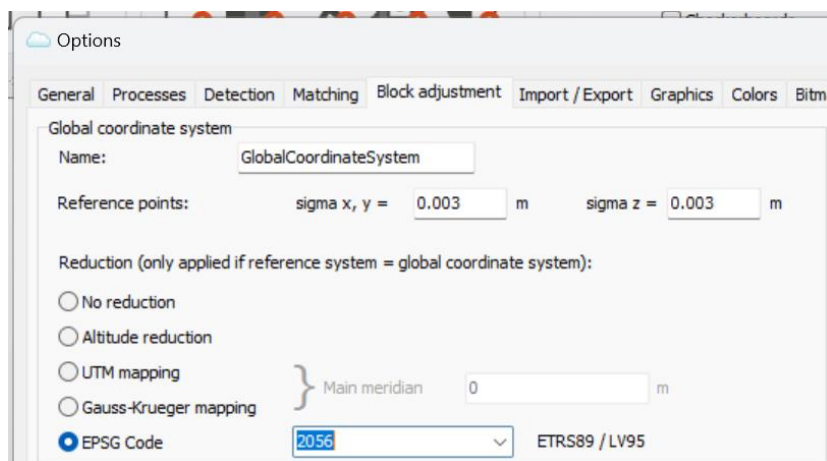
1.1 New Features

1.1.1 Import / Export: Riegl RDBLib

We are delighted to be able to process data from [Riegl](#) scanners natively. This can be done in two different ways. The first is the import of existing RiScanPro projects (*.rsp). The second way is to import individual scans (*.rxp) including vertical axes observations. In addition to scans, local and global points as well as point identities are imported.

1.1.2 Settings: Consideration of mapping reductions

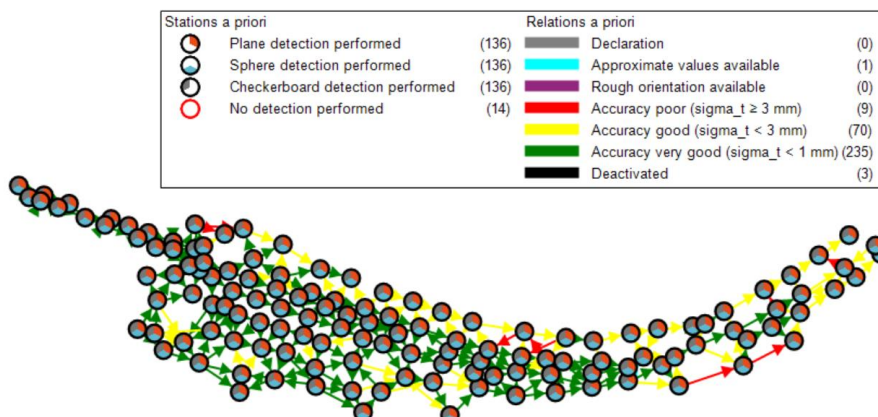
The earth is not a disc. Hence, the professions of e. g. geodesy and cartography need to inevitably cope with this challenging circumstance. Particularly in engineering projects with high demands in accuracy it is a necessity to use superior coordinate systems. Thus, it is vital to consider distortions in consequence of map projections in point cloud processing to avoid high misclosures between local laser scans and the superior control points. SCANTRA now allows to do exactly this by defining which projection was used.



Dialogue to define the consideration of map projections.

1.1.3 Status of detection is now shown in the graphics window

In all previous versions of SCANTRA, the detection status was solely related to planes which was highlighted by a black outer circle. From this version onwards the detection status is now additionally reported by a pie-like circle filling as depicted below. The size of the legend can be altered.



Graphics window with detection status for every station

1.1.4 Graphics legend: *A priori* legend has been added

Users can already select and analyse relations or stations *a posteriori* according to various criteria. We have also added an interactive *a priori* legend, as shown in the previous image, which makes it possible to analyse and clean up the network in advance before a block adjustment has been carried out. The size of the legend is adjustable.

1.2 Improvements

1.2.1 Browser: Point coordinates – link to global coordinate system added

The context menu *link to global system* has been added to the point context browser.

1.2.2 Settings & project tree: Extended settings for global coordinate systems

Two new features have an immediate impact onto our settings dialogue. The tab *Registration* has now been renamed to *Block adjustment*. Furthermore, the default station *Tachy* has been renamed to *GlobalCoordinateSystem*. For users of SCANTRA under LaserControl® ([Zoller+Fröhlich](#)), the name *Tachy* is retained.

1.2.3 Import / Export: Exporting colours

Up until now point clouds could either be exported with intensities or colour. Our team has addressed this issue so that it is now possible to add both sources of information to an exported point cloud.

1.2.4 Import / Export: Faro API

FARO has updated its API, which has now also been brought up to date in SCANTRA.

1.2.5 Import / Export: PointCab interface

The PointCab interface has been completely revised, as some users were experiencing so-called time-outs or problems accessing the PointCab licence.

1.2.6 Matchmaker: Visualisation of a point identity's status

In previous releases, the Matchmaker showed point identities even if they were deactivated which may confuse the user. As of this release, the status (enabled / disabled) of a point identity will be considered.

1.3 Bugfixes

1.3.1 Import / Export: Error messages when deploying the Faro API

In an early phase of the interface, SCANTRA may have given different error messages during import depending on which FARO Scene version was used. We have updated the SCANTRA-Scene interface which fixes this issue.

1.3.2 Graphics: Sectional view invisible in case of superior coordinates

In cases where local scans were transformed into a superior coordinate system, a missing centroid reduction lead to problems in the graphics window. In consequence, the sectional view was shown in a false location. This issue has been fixed.

1.3.3 Matchmaker: Key actions were not considered

Key actions were only considered if the focus respectively the mouse cursor was placed within the Matchmaker's panel. The event listener was extended so that key actions are now always considered.

1.3.4 Invalid path dialogue: Sorting leads to false file associations

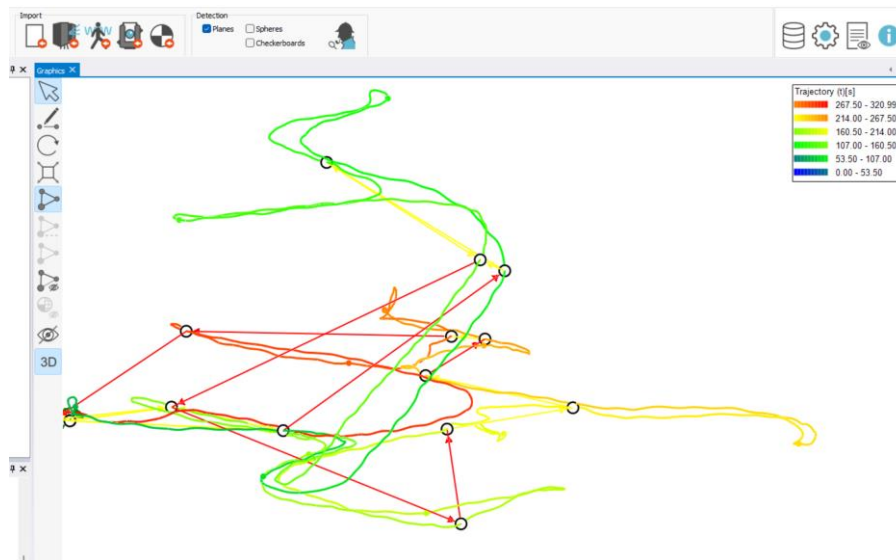
Given the case that a user has moved a database with respect to the scans or vice versa, the invalid path dialogue opens when the corresponding SCANTRA project is opened. If the user sorted the columns within the dialogue and reassigned the file locations, then false file associations were set. This bug has been fixed.

1.3.5 Datum-dependent matching: Faulty plausibility check

In rare cases, an incorrect plausibility check in datum-dependent matching led to gross errors. This error has been fixed.

2 SCANTRA KINEMATIC

The SCANTRA team is very pleased to present the first add-on module for SCANTRA after the basics were first presented to the public in 2016 (Oldenburger 3D days). For the first time, this module allows the user to combine a large number of data sets from different sensors. These include static scans, kinematic scans and total station observations.



Processing of a kinematic scan sequence

2.1 New Features

2.1.1 Import of kinematic point clouds with trajectory

The basic prerequisite for processing kinematic scans in SCANTRA are two data sources:

1. a kinematic point cloud with time stamps
2. a trajectory in the same coordinate system with time stamps

Data from the following sensors can currently be imported and processed in SCANTRA KINEMATIC:

1. DotProduct
2. Emesent Hovermap
3. Faro Orbis
4. Viametris
5. Z+F FlexScan 22

For other systems, check whether the basic requirements listed above are met.

2.1.2 Decomposition of kinematic point clouds

The basic idea of SCANTRA KINEMATIC is the decomposition of a (monolithic) kinematic point cloud into temporal segments in order to compensate for the inevitable drift. This measure creates semi-static scans that can be optimised in the subsequent process.

2.1.3 Cross-linking static and pseudo-static scans

The aim of cross-linking is to use redundantly recorded areas in order to minimise contradictions between loops within a walk, several walks or static scans. In addition, geodetic control points can be introduced with the respective accuracy.

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