

Nowe funkcje i zmiany w Geo Professional			
Lista prezentuje najważniejsze aktualizacje programu.			
Wersja	Data wydania	Część	Opis
2024.2.1	2024-06-23		Najnowsza wersja
		Rów (UIM)	- Wsparcie dla wykopów serwisowych łączących się z wykopem głównym: - Dodaj rury serwisowe – nowa opcja w menu Dane dla modeli wykopów (UIM). - Dodane rury usługowe są wymienione poniżej węzła drzewa Rurociągi usługowe. - W węźle Roboty ziemne/Usługi można znaleźć ustawienia dotyczące wykopów pod instalacje. - Utwórz model wykopu – nowa opcja, Uwzględnił wykopy serwisowe, umożliwiającą utworzenie połączonego modelu obejmującego główny wykop i wykopy serwisowe. - Utwórz przekroje poprzeczne – Nowa opcja, Uwzględnił rowy serwisowe, umożliwiającą tworzenie przekrojów poprzecznych dla rowów serwisowych. - Obliczanie objętości i powierzchni – Nowa opcja: uwzględnił wykopy serwisowe; objętości i powierzchnie są obliczane i raportowane również dla wykopów serwisowych. - Elastyczna siatka skalni: - Można określić stacje, w których należy wykorzystywać szelf skalny. - Można zdefiniować szerokości różnic. - Ulepszony model wykopalisk: - Jeżeli wybrana zostanie nowa opcja Uwzględnił modele, aktywne modele, np. powierzchnia górna i skala, a także zdefiniowany interwał obliczeniowy zostaną użyte podczas tworzenia modelu wykopu. - Jeśli ta opcja nie zostanie wybrana, aktywne modele nie zostaną użyte, a wartość głębokości wykopu zostanie użyta do zdefiniowania poziomu, na którym ściany powinny się kończyć. - Ostatnio używany plik współrzędnych dla profilu rur jest wstępnie wybierany w kreatorze podczas dodawania kolejnych rur. - Ulepszona możliwość śledzenia — informacje o użytych plikach źródłowych dla potoków są dostępne w Plik > Wyświetl/Edytuj informacje o pliku.
		Przygotowanie danych z wykopów	- Nowy przepływ pracy i narzędzia usprawniające przygotowywanie danych wejściowych dla modeli wykopów (UIM): - Dodaj wysokość w sekwencji - Wysokość można ustawić dla punktów i linii w sekwencji. - Wybierz wysokość z tekstu – narzędzie podobne do narzędzia przyciągania, które umożliwia pobranie wartości wysokości tekstu/ tekstu wielowierszowego z pliku DWG programu AutoCAD i dodanie wysokości do pliku współrzędnych. - Zaktualizowano narzędzie Ustaw informacje o punktach/liniach, dzięki czemu możliwe jest ustawienie dwóch atrybutów dla punktów i linii. - Można dodać dwa atrybuty związane z rurami wykopowymi, co umożliwi importowanie wielu rur jednocześnie, a wykopy zostaną utworzone automatycznie. - PipeServiceName – nazwa wykopu serwisowego. Jeśli zostanie użyta, podczas importu zostanie utworzony wykop serwisowy o tej nazwie, a rura zostanie dodana do tego wykopu. - PipeServiceFrom – Do której rury w wykopie głównym jest podłączona rura serwisowa. W przypadku użycia tej opcji możliwe jest jednocześnie wstawienie np. wszystkich rur wodociagowych z ich specyficznymi ustawieniami.
		Plik współrzędnych (GEO)	- Dodaj wysokość w sekwencji – nowe narzędzie graficzne umożliwiające dodawanie wysokości do punktów i linii poprzez wybranie jednej z dwóch opcji: Wysokość lub Nachylenie %, z listy rozwijanej. - Wysokość – wpisz wartość wzrostu i potwierdź klawiszem [Enter]. - Nachylenie % – Dodaj wartość procentową nachylenia i potwierdź klawiszem [Enter]. Ta opcja działa tylko wtedy, gdy poprzedni punkt na linii ma wysokość, a ta wysokość i nachylenie służą do obliczenia wysokości dla wybranego punktu. - Następny punkt na linii lub pojedynczy punkt w pliku, bez wysokości, zostanie wybrany automatycznie. - Ustaw informacje o punktach/liniach — narzędzie zostało udoskonalone i jeśli projekt ma zdefiniowany plik atrybutów (ATR), można dodać dwa atrybuty dla punktów i linii. - Wybierz atrybut z listy rozwijanej, podaj wartość i zaktualizuj punkty/linię na grafice, zaznaczając je. Wybierz narzędzie ponownie, aby wyświetlić okno dialogowe i zmienić dane wejściowe.
		Model terenu (TRM)	- Ulepszona wizualizacja 3D: - Jednoczesna obsługa kolorów jednolitych i ramek szkieletowych - Linie konturowe można wizualizować w 3D. - Punkty można wizualizować w 3D. - Zaktualizowano okno dialogowe właściwości, ustawienia 2D i 3D zostały połączone w tym samym oknie dialogowym. - Obsługa kolorów — wybrane kolory można zastosować i zapisać do pliku, dzięki czemu te same kolory zostaną użyte następnie razem, gdy model zostanie otwarty w programie graficznym. - Rozszerz model – Nowa opcja rozszerzania modelu terenu (TRM) o różnicę wysokości i wartość nachylenia. Model jest rozszerzany o zdefiniowane nachylenie, aż do osiągnięcia różnicy wysokości.
		AutoCAD DWG (DWG)	- Wyodrębnił powierzchnie z brył : - Dane > Wyodrębnił powierzchnie z AutoCAD DWG . Jeśli wybrano bryłę, można ją teraz wyodrębnić jako powierzchnię (TRM). Użytkownik decyduje, czy zaimportować najwyższy, czy najniższy poziom. <u>Wymagana jest licencja terenowa.</u> - Wybierz wysokość z tekstu – nowe narzędzie umożliwiające wybranie wartości wysokości, tekstu lub tekstu wielowierszowego z pliku DWG programu AutoCAD i użycie go w połączeniu z narzędziami Rysuj punkt, Rysuj linię lub Dodaj wysokość w sekwencji.
		IFC (IFC)	Bryły – nowe opcje w widoku przepływu pracy dla modeli IFC , dzięki którym wybrane obiekty można zapisać jako powierzchnię, a nie jako punkty i linie. Użytkownik definiuje, czy najwyższy, czy najniższy poziom ma zostać zapisany jako model terenu (TRM). <u>Wymagana jest licencja na model terenu</u> .
		LandXML (XML)	Obsługa powierzchni LandXML z etykietą właściwości „ M_Color ”. Powierzchnia jest wizualizowana w kolorze w przeglądarce LandXML , a po zaimportowaniu modelu terenu (TRM) otrzyma odpowiedni kolor.
		Zmiany konserwacyjne	- Zaktualizowano pliki atrybutów (ATR) z atrybutami dotyczącymi przepływów pracy modelu wykopu. - PDF – W niektórych przypadkach, gdy plik PDF był otwierany metodą „przeciągnij i upuść” z drzewa projektu, aplikacja mogła się zawieszać. Naprawiono
2024.1.7	2024-06-20		Wersja oficjalna
		Zmiany konserwacyjne	Ustawienie wartości dziesiętnych we właściwościach ma wpływ nawet wtedy, gdy nie jest używane. Naciśnięcie klawisza Enter podczas tworzenia filtra w opcji Modyfikuj punkty nie rozpoznaje wartości. Naciśnięcie klawisza Enter podczas modyfikacji wartości punktu nie rozpoznaje wartości. W ramach sesji należy zachować ustawienia opcji Tworzenie modelu terenu. Zapisz ostatnie ustawienie skali podczas tworzenia pliku DWG programu AutoCAD . Bezpośrednie użycie klawisza Enter podczas modyfikowania wybranych obiektów nie powoduje żadnych zmian.
2024.1.6	2024-04-04		Wersja oficjalna
		Zmiany konserwacyjne	- Aplikacja Geo ulega awarii po wybraniu z listy rozwijanej otwartych plików. - UIM Nie należy używać przedziałów obliczeniowych przy obliczaniu ułożenia rur.
2024.1.5	2024-03-22		Wersja oficjalna
		Układ współrzędnych	Zaktualizowana wersja pliku lokalizacyjnego (wersja 5) z nową opcją umożliwiającą zastosowanie lokalnej siatki korekcyjnej przed lokalną transformacją, patrz ostatnia strona kreatora układu współrzędnych. - Opcja ta jest wykorzystywana w przesuniętych prognozach UKTM dla projektów autostradowych w Wielkiej Brytanii (projekcja TMx w Captivate). - Jeśli nie stosuje się kombinacji modelu korekcyjnego i transformacji lokalnej, zaleca się zapisanie pliku LOK jako wersji 4, aby mieć pewność, że starsze wersje programów MC1 , iCON site , iCON 3D i GeoPad będą mogły z niego korzystać.
		Zmiany konserwacyjne	- Zapisywanie modeli terenu bez tytułu (TRM) na serwerze plików mogło trwać bardzo długo. Naprawiono. - Obliczanie objętości (MBS) z wielokątem granicznym mogło w niektórych przypadkach powodować awarię. Naprawiono - Chmura punktów (GPC) – Jeśli użyto sfery jako punktu, chmura punktów mogła ukryć dane AutoCAD DWG . Naprawiono - Import LandXML(XML) — naprawiono pewne problemy ze stabilnością występujące podczas wizualizacji plików XML . - Dane > Utwórz raport kodu (REP) mogło spowodować awarię. Naprawiono - Rozwijane pole z aktywnymi plikami nie dało się już przewijać za pomocą kółka myszy. Naprawiono - Trench (UIM) – awaria występująca podczas kopiowania i wklejania geometrii rurociągu (E, N) zawierających więcej wierszy niż istniejąca geometria. Naprawiono - Poprawa stabilności — naprawiono szereg raportów z serwera powodujących awarie.
2024.1.4	2024-02-09		Wersja oficjalna
		Plik współrzędnych (GEO)	Teraz w informacjach o obiekcie można uzyskać wartość nachylenia, %, Do punktu i Od punktu na linii współrzędnych (zółte okno).
		Zmiany konserwacyjne	- Funkcja przyciągania do punktu wstawiania w pliku AutoCAD DWG była nieaktywna w przypadku bloków. Naprawiono. - Ikona właściwości rysunku (DRA) była nieprawidłowo umieszczona pod inną ikoną. Naprawiono.
2024.1.3	2024-01-26		Wersja oficjalna
		Model wysokości GeoTIFF	Teraz można zdecydować, czy podczas importowania wysokości GeoTIff do pliku współrzędnych lub chmury punktów należy użyć kodu EPSG.
		Grafika	- Nowy przycisk umożliwiający włączanie/wyłączanie uwag w widoku graficznym. - Window and toolbar positions are saved separately for each version. It will solve issues e.g., windows in strange places, when jumping between multiple versions.
		AutoCAD DWG (DWG)	- Hide selected objects - New option to isolate objects in AutoCAD DWG files. Select objects and the new option can be found in the right click menu. - Create Cut and Fill Map - Information about the different areas percentage of the total area is added to the AutoCAD DWG. - Select Units - The dialog when opening AutoCAD DWG files is updated with more information about the different options. - Change layer name in AutoCAD DWG by double click on layer in Properties.
		Trench (UIM)	The last used input file(GEO) is pre-selected in the dialog when inserting more pipes.
		Road (L3D)	Create Road Line - Possible to create a road line from a line even if all points don't have heights. Vertical nodes are only created at stations with height.
		Maintenance changes	- Parallel line tool didn't work as expected. Fixed. - Create cross section and profile did not work from UIM 3D-view. Fixed. - Snap to perpendicular was broken when drawing polyline and using undo. Fixed.
2024.1.2	2023-12-22		Latest version
		Maintenance changes	- Improved dialog, when open AutoCAD DWG with conflicting Units - Import Landxmi - Used wrong Unit for FlowUnit, Fixed - Translation - View > Save view as, was Save as, Fixed - Crash report was broken, Fixed
2024.1.1	2023-12-15		Latest version
		Terrain (TRM)	Updated Data menu for terrain model: - The option, Merge Models, is moved from Functions to Data menu. - Two new menu options: - Extend Model - Stitch Models Extend Model - New function to extend design models e.g. house pads with user defined parameters. - A horizontal offset and/or slope offset to a defined height level can be added. - A preview of the extended surface with current parameters is visualized in 3D window. - The source model can be extended in multiple steps and saved as a new terrain model (TRM). Stitch Models - Two models, that are not overlapping, can be stitched together. - A user defined maximum horizontal distance must be added. - A preview of the result is visualized in 3D window. - A new stitched model can be created (TRM). Merge Models - The option called "Prioritized model" is improved. - It's not required to use any user defined cut and fill slope values, when the prioritized model is merged into a source model in overlapping areas. Functions > Volume calculation, Stockpiles - A faster workflow to calculate volumes for multiple stockpiles. - Opened stockpile models are pre-selected in the workflow view. - Possible to add description and material codes. - Create volume report of one or multiple stockpiles. - Options to save all volumes to the same or separate reports. - If saved to the same report, the volumes can be summarized: - By stockpiles - All volumes are summarized. - By code - All stockpiles with same material code are summarized.

		Difference model (DFM)	Improved visualization of difference models(DFM), so the user easily can identify areas with plus or negative height differences. Updated Document Properties dialog for difference model(DFM). Difference model(DFM) node is added to the project tree. Export to AutoCAD DWG- The option View > Save View As > "AutoCAD DWG" file is enabled for difference models(DFM).
		Point cloud (GPC)	New tool, Calculate Stockpile from Point Cloud(GPC), to extract and calculate volumes of stockpiles direct from point cloud. - Preview of stockpile surfaces. - Volumes are listed in the workflow view. - Possible to add description and material codes. - Create volume report(REP) of one or multiple stockpiles. - Options to save all volumes to the same or separate reports. - If saved to the same report, the volumes can be summarized. LAS point cloud - User defined classes are listed in the classification filter and the classification filter dialog is updated with more options e.g. point count for each class. Dynamic selection - The selected area for processing, when using a point cloud tool, is visualized dynamically so it's easier to select the correct area. The dynamic option can be toggled on/off in the document properties dialog for point cloud. Measure tool - Improved visualization of the measure tool line when using the tool with point cloud.
		PDF (PDF)	PDF viewer - Raster and vector PDF(PDF) files can opened and visualized. Two import options: - as AutoCAD DWG by vectorizing all possible content. - as a raster image and used as background map, if an image transformation is created by the user. Two new options when exporting a AutoCAD DWG as PDF (Data > Create PDF > 2D PDF/3D PDF): - Orientation, portrait or landscape, can be set. - Paper size (A4, A3, A2, A1)
		ConX	The used folder structure on ConX can be seen in the import/export dialog and - Files can be upload to any user defined folder. - Possible to both delete and create new folders on ConX. New option to select the correct data type when uploading files, for example avoidance zone, reference model etc.
		AutoCAD DWG (DWG)	Insert Layout - New option in the Data menu for "AutoCAD DWG" files to insert paper layout from template drawing. In the Insert Layout workflow view the user can: - Select which template to use. - Give the layout a name. - Set the scale of the inserted layout. Show/Edit Layout Placement - New option in the Data menu and available when the file is in Model space. - The selected layout can be both moved and rotated in the graphics. Edit Layout Text Labels - With this function it's possible to edit text labels of a paper layout in a AutoCAD DWG directly. - Available in the Data menu when a layout is selected. - Text labels can be added or edited in the workflow view. Delete Layout - In the dialog, Set Active Layout, an option to delete layouts are added. Updated ODA library The option to export the view to AutoCAD DWG format is now found at the top of the View menu (View > Save View as > AutoCAD DWG File). When using Data > Transform, the default path is set to the active project folder instead of the Global folder.
		IREDES	Import of drill/piling holes to a coordinate file (GEO). No export.
		Tunnel	- Export of tunnel section files (TUN) to AutoCAD DXF. - The method to interpolate tunnel sections is updated. Start/mid/end of the arcs are interpolated and then the radius of the interpolated element from three points are calculated.
		Maintenance changes	- Updated IFC library LandXML import - Improved import of alignments when the file has redundant information regarding start stationing (conflict between staStart vs individual elements. LandXML import - The numerical part of the line codes are not truncated anymore, so the codes will be unique (LandXML from Gemini). - Text file(TXT) import - When using a text import filter, it can be selected by double clicking the filter. - Text file export(TXT) - The last used export settings are saved. - The cross section generation method for terrain models (TRM) is improved and is now the same as is if the surface is a AutoCAD DWG. The change will solve some issues in trench model(UIM) and Volume calculations(MBS).
2023.2.4	2024-01-12		Official version
		Maintenance changes	- LAS file, named with UNICODE characters, could not be converted correctly. Fixed - ConX upload progress bar had issues with very large files. Fixed - Point snap detected TRM nodes. Fixed
2023.2.3	2023-11-22		Official version
		Graphics	- Copy (Ctrl + C) and paste (Ctrl + V) is now supported in 3D window. - Documents in Window - The selected option to Display file name or Display file path is remembered during a session.
		Point cloud	- Edit Point Cloud Filters - The name of the active GPC-file is added at the top of the workflow view. - Improved automatic rotation centering.
		Maintenance changes	- Modify coordinate data - Multiply and divide didn't work for some regional settings. Fixed - Coordinate data - It took a very long time to delete many points in the numerical view. Fixed - The function, Coordinates to Station and Offset, didn't work in combination with a road line with station equations. Fixed - MBS - Crash when Data > Visualization was used saved surface definitions were not valid for the active MBS model. Fixed - Point cloud from GeoTIFF - Not prompted to save a new created GPC when closing the file. Fixed - Point cloud - Unable to create a GPC file from *.HSPC with folder structure. Fixed - Point cloud - When using, Filter Points by Grid, the reference grid was flickering. Fixed - Point cloud - Failed import when transforming multiple source files to one GPC-file. - WMTS/WMS - Flickering when switching files in windows or tabs in LMD, MBS, TBS. Fixed - WMTS/WMS - The map layer was not turned off when, No Background Map, was selected in the drop down menu. Fixed - WMS - Fails to update to high resolution images for Metria map service. - Terrain model - Some special terrain models took very long time to open in 2D. Fixed - Compare files - The function was broken when using the option to ignore characters in the end of the point ID. Fixed - Leveling - When using, Add Simulated Trigonometric Height Difference, the tool will automatically add the return observation, indicating that the net is better than it is. Fixed - Drawing - Cross sections drawings based on center line with station equation, did not work properly when reopened. Fixed - HeXML 2.0 schema failed to load in XML validation. Fixed - PLM-file. Pasting numeric data, creates random garbage in attribute columns. Fixed
2023.2.2	2023-08-25		Official version
		GeoTIFF	When a tif-file is opened a dialog is displayed with options how to process the file. Based on content of the file and available licenses, one of the following options is selected, but can be changed: - Create a tiled image as background map source - Create a transformation for static background image - Import elevation data to point cloud - Import elevation data to coordinate file Import of elevation data from GeoTIFF in WGS84 latitude/longitude from Leica ConX Surface log. Selected coordinate system for the active project is used in the transformation.
		Coordinate data	Simplify Lines - New tool to simplify lines based on a user defined horizontal tolerance. - In the Input/Output window information about the reduced number of points is displayed. New keyboard shortcuts for: - Create point → Ctrl + Q - Create line → Ctrl + W
		Tunnel	Compare Survey to Design - New option to visualize coded points in the design tunnel section (*.TUN) as lines in the as built-check DWG.
		Point Cloud	The workflow view, Edit Filters, is opened by default when a GPC-file containing filters is opened.
		Processes	Clear List - Right click menu with an option to clear the list of completed processes.
		Maintenance changes	- Stockpile - Only parts of a model was calculated in some cases when the model contained islands. Fixed - Net adjustment - The tool to find highest standard residual only searched in the visible rows of observations. Fixed - Background maps in 3D - The height of the background map was not changed, when the reference plane was moved. Fixed - Point cloud - 2D filter didn't always work properly if the 2D polygon contained many points. Fixed - Bricsys 24/7 - Failed download/upload of files if the project path contained Unicode characters. Fixed - Trench - Low/High Rock - show rock cut value in report even if the value is 0. - Improved handling of background map changes. - AutoCAD - Revert from Shaded Visual Style to default one, when exporting to DWG.
		Revision report	Tweaked the coloring for the revision report - Green is Official release - Yellow is Latest release
2023.2.1	2023-07-05		Latest version
		Translation	Small fix for translation
2023.2.1	2023-06-30		Latest version
		Terrain	- Compare Terrain Model - A new function, available in the Data menu for terrain models, to compare two surfaces and generate a cut and fill map/heat map as DWG or a difference model. - No need to do a volume calculation as a first step. - Option to add a height offset to the target surface. 3D DWG - A new output is a DWG, colored according to the height differences, but with absolute height. - Volume Calculation, Terrain Models - A new control to easily switch the order of the input models - The Validate Surface function is improved and more error and warnings can be found in the validated terrain models. - Option to create a DWG with all errors and warnings saved in different layers. - More error and warnings can be fixed in the corrected surface.
		Point cloud	- Compare Point Cloud to Terrain Model - A new quick tool to visualize a point cloud in relation to a reference surface: - Visualized as colored points or surface. - User defined colors and height interval. - The preview can be saved as a colored DWG. - Support for LAZ. - Filters - The filter name is added to the header row of the filter, so it can be seen even if filter settings are collapsed. - The two options to toggle filter on/off and to show filter are switched, so now it's easier to turn filters on/off. - When point clouds are imported and a GPC-file is created this file is linked to a wrapped single file with the extension *.HSPC.pack. In previous versions a complex tree structure of multiple *.hspc files was created and linked to the main GPC-file. This version also supports GPC-files created with multiple *.hspc files.

		Cut and fill map	An improved and updated dialog to define your own height and color templates to be used when a colorized DWG is created. The same dialog is used in: - Create Cut and Fill Map from difference model - Compare Terrain Models - Compare Point Cloud to Terrain Model - Tunnel model (*.TBS), when performing an as-built check.
		Cloud services	Support for Bricsys 24/7, a cloud-based data environment for document management - Users can connect and get access to Bricsys 24/7 projects. - The same login as for the web-portal is used - Possible to see the folder structure on Bricsys 24/7 - Upload and download of files - Delete files - Create and delete folders
		Background maps	- Improved UI to add multiple layers of map sources. - New option to change order of used map sources. - Active map sources are indicated in the drop-down list.
		AutoCAD DWG	Insert Background Map - Now it's possible to add the used background image to active drawing as an image file reference. - The option is available in the Data menu for AutoCAD files. - It works for both static images and map services. - If a map service is used, a snapshot of the currently visible extent is used.
		GeoTIFF height model	Height model - Elevation data from a GeoTIFF can be imported to: - A point cloud for further processing e.g., to create a surface. - A coordinate file, only suitable if it's a smaller data set.
		PDF	3D PDF export - A 3D DWG can be exported as 3D PDF.
		Trench	Lines in the excavation model are preserved as break lines, even if the option, "Create structure models", is selected.
		Coordinate file	Clear Color Attributes - New option in the Data menu to clear all color attributes
		Documents in Graphical View	In the dialog, Documents in Graphical View - Long file paths are truncated with three dots (...), so file names are always visible.
		Maintenance changes	- Topcon export - If a single coordinate file is exported, now both the internal description and the file name will match the exported file. - Drawings - Possible to add more information to the panel (*.SOT) in drawings. A new tab, Free Texts, is added to the dialog Panel Properties and if the selected panel (*.SOT) supports free texts, more information can be added. - LandXML import - Alignments with UnsymParaCurve in the vertical profile can now be imported. - Background map was not shown initially when opening a new window. The user had to zoom or pan before. Fixed
2023.1.5	2023-06-16		Official version
		Graphics	Close other tabs - New option when right clicking on the tab name of a window or in the menu Window.
		Leveling	LandXML import - The object "Sideshot", a detail outside the leveling run, is now imported to the leveling file.
		Maintenance changes	- Create tiled image - Failed to create an orthomosaic of a GeoTIF if the output path contained UNICODE characters. Fixed - MBS - Low/high rock in combination with calculation border gave negative volume. Fixed - Pan and zoom in cross section drawing could cause a crash. Fixed - Import of OVB file to string line model (LMD) had stopped working. Fixed - DWG - To regenerate the view automatically didn't work after using the explode tool. Fixed - Created polygons in PLM-files were not preserved when Data > Calculate Coordinates was used. Fixed - The direction symbol for lines in coordinate files were not saved in the drawing. Fixed
2023.1.4	2023-04-21		Official version
		Coordinate file	Area information is added to the tooltip for polygons.
		File handling	When using right click on the file tab in the graphics, the option "Save as" is added to the list.
		Cross section	In cross sections (SEC, TBS, MBS, UIM) hatches are only visualized for areas inside used calculation borders.
		Point cloud	When exporting points from a point cloud to "AutoCAD DWG", the points are now exported to a layer with the same name as the active GPC-file. If the GPC-file is unsaved, the points are exported to layer 0.
		Maintenance changes	- The image format, *.TIF(F), is back in the list of formats, which can be used as static background image. - Tunnel - The legend for cross sections listed wrong area, if calculation border was used. Fixed - Tunnel - The function to extract design file, *.TUN, from "AutoCAD DWG" was broken. Fixed - Tunnel - When changing the printout scale in the function Compare Survey to Design, the application crashed. Fixed - Point cloud - Not possible to generate a new preview surface after changing parameters. Fixed - Point cloud - Import of Leica point cloud format *.SDB did not work. Fixed - Point cloud - It took a long time to generate a point cloud file (GPC), if the transformation option was selected and then de-selected. Fixed - Trench - When creating archive from a trench model including a calculation border, the polygon file was missing. Fixed - ConX - KMZ files were not listed and available for download. Fixed - Insert point on line graphically, did not work if line had duplicated points. Fixed - A bug in the SOSI export is fixed.
2023.1.3	2023-02-22		Latest Version
		AutoCAD	- Quads (3D faces with 4 unique vertices) are supported when surfaces from DWG/DXF are extracted. - Updated ODA library (version 23.12)
		Point Cloud	- Create surface tool - Once the user has used "Preview Surface", the "Save Surface" option is automatically displayed. - Extract ground tool - Once the user has used "Preview Ground Surface", the "Save Ground Surface" option is automatically displayed.
		Maintenance changes	- Export to DWG - Cross sections with legends didn't work as expected. Fixed - Trench - Cross section contained data outside defined limits. Fixed - Tiling of GeoTIFF - File with unnamed coordinate system could cause a crash. Fixed - Import of DXF - Some triangles (3D faces) were not imported. Fixed - ConX - Not possible to select destination folder for download from ConX. Fixed - When cross section drawings were converted to DWG, grid lines got scaled 10 times. Fixed - An icon has been added to toggle Cross Section Preview window on/off - Processes - Uploads and downloads of many files at the same time from an external service, caused that some were failing. Fixed. - Processes - The process window could flicker when multiple files were uploaded/downloaded. Fixed - Export image to GeoPad - The option to decrease the size didn't work as expected. Fixed
2022.1.8	2022-02-10		Official version
		Surveying	A station is automatically added when the user creates a new PLM-file.
		Maintenance changes	- Image and PDF reference handling in DWG/DXF was broken. Fixed - WMS/WMTS - Map service as background image didn't work if correction grid model was used in active coordinate system. Fixed - TBS (tunnel model) with border polygon didn't work as expected. Fixed - KML import - No polygons were imported. Fixed - The application cold crash when some KMZ files were imported. Fixed - SOSI import - Arcs were not imported correctly. Fixed - The application didn't start on Windows 8.1. Fixed - GDT files from Geotronics did not convert correctly. Fixed
2023.1.2	2023-01-17		Latest Version
		Coordinate file	- New function in the data menu, Clear Empty Attributes, to delete attributes without value in a coordinate file - All cleanup options are grouped: - Clear Zero Heights - Clear Empty or 1-point Lines - Clear Empty Attributes
		Trench	Side limitations can be added for back fill surface to limit the cross section view.
		Documents in Graphics	The Esc key can be used to close the change color window in Document in Graphics window.
		Processes	In the window for processes, failed uploads/downloads to/from external services, the progress bar is colored red when a transfer has failed.
		License	Before a dongle license is loaded, a check with the license server is done to see if there are some changes.
		Maintenance changes	- Create terrain model - Crash if points in a line had the same coordinates. Fixed - Cross Section Preview - It only worked to create one preview. Fixed - Point cloud - 3D view shows only reference grid when a GPC was created from a geo-file, if zoom limits wasn't used. Fixed - Failed import of LandXML from ICON site failed, when CQ3D was set to "inf". Fixed. - MBS - If alternative distances are used as side lines and the user on clicked the top node for side lines, wrong distance was displayed in the grid view. Fixed.
2022.1.7	2023-01-17		Official version
		Trench	Side limitations can be added for back fill surface to limit the cross section view.
		Maintenance changes	- Cross Section Preview - It only worked to create one preview. Fixed. - The layer, Fill, is removed from the function Create Terrain Sections. This layer shouldn't be possible to use, and if used the layer was not visualized in the created sec-file. - Terrain models were not displayed correctly in the overview window in 3D. Fixed. - Archive of point cloud (*.gpc) didn't work if the GPC was created from geo-files. Fixed.
2023.1	2022-12-		Latest Version
		Orthomosaic (GeoTIFF)	Support for large orthophotos as background maps: - New function to create tiles of a georeferenced image (*.tif) - The created tiles (orthomosaic) can be used as a local WMTS service
		3D Graphics	Dynamic WMTS/WMS as background map is supported in 3D window.
		Services	- New tab, Services, at the bottom of the project tree with login to Leica ConX and SkyMap. - The window, Remote Services, has got a new shape and is moved to the right side and as default it's auto hidden.
		SkyMap	SkyMap integration - Users can connect and get access to SkyMap projects. The same login as for SkyMap web-portal is used. - Possible to see the folder structure of SkyMap file manager: - Upload files - Download files - Access to and possible to download processed data from SkyMap: - Point clouds (LAS) - Orthophotos - Ground models (AutoCAD DXF)
		ConX	Updated ConX integration and the different options are renamed to: - Field Units (available machines and other equipment are listed) - Upload - Download - As-built Points (logged points from machines can be filtered and downloaded)

			Manage Files
		Point Database	Support for point database in 64-bit version - Microsoft SQL Server database - Mimer Provider Manager is re-implemented
		Net adjustment	- Option to show the highest standard residual when a net is calculated - Icon for simulated oriented direction is added to the toolbar for net adjustment
		Road	Cut road line based on user defined station limits.
		Coordinate file	Possible to add columns to the numerical view for lines, based on the attribute file (*.atr).
		License	- iCON office branded version has changed to FNO/CLM license. - If a valid CDB license is available, but no FNO, iCON office will start using the CDB license.
		Maintenance changes	- Point cloud - The reference grid behaved strange when zooming out to full extent. Fixed - Failed to import DBX panorama in some cases. Fixed - Crash when clicking on Area tab in document properties for trench (*.UIM)
2022.1.6	2022-12-		Official version
		Coordinate file	Function > Code Translation with a new option for line codes, so line codes can be changed.
		Terrain	Create terrain model - Option to deselect all coordinate files in the workflow view.
		Net adjustment	- Net adjustment reports are adapted to difference tolerance sets. - Selectable setting for TDOK when adding survey data to a net adjustment.
		Point cloud	Default file type when creating new point clouds is changed to *.las
		Leica ConX	Support for milling machine, so they are listed among the other field units.
		Maintenance changes	3D Graphics - Pan, zoom and rotate were slow for heavy files, if tooltip information was toggled on. Fixed - Point cloud - GPC file with its content files (*.hspc) can be archived properly - Terrain model in combination with WMS service as background map, was not visualized before using Zoom Limit. Fixed - Saving terrain models and coordinate files to AutoCAD DWG, the coordinate files were missing in some cases. Fixed - Create archive direct from project tree, of file types with associated files, didn't work. Fixed - Leica ConX - Zoom to selected field unit is fixed. - Showing cross section files with non-aligned stations did not work. Fixed - Showing multiple cross section files with different bounds didn't not work. Fixed - Error in earth curvature correction in height net adjustment. Fixed - Issues when trying save report to excel file. Fixed - Point cloud - In some cases the application could crash when using Extract Ground tool and snap to node active. Fixed - PLM-file with special code Z+ could calculate the added value twice. Fixed - SOSI format - Import and export was broken. Fixed
2022.1.5	2022-09-12		Official version
		AutoCAD DWG	- The tool to create angular dimensions in DWG is now using the selected angular unit in project settings. - The unit symbol for the angle is visualized.
		Maintenance changes	- Terrain - If special code R is used to define an arc in the input data to create a terrain model, but the radius is too small, the application did crash. Fixed. The application will draw a straight line between the points and continue with the triangulation, but a warning is displayed in the Input/Output Window. - Point cloud - Polygon selection with Snap to Node, didn't work as expected. Fixed. - Point Cloud - When exporting points to coordinate file, the point color could differ in different runs. Fixed. - In Point Cloud Information the min and max values were the same. Fixed. 3D view of terrain model was disturbed when visualized together with DWG. Fixed - The option to create a text report in the wizard for coordinate system settings is now deselected as default. - Leveling - If a run was made of double measurements per setup (BFFB) and was reduced, it only had backwards and no forwards. Fixed. - DWG - Crash when Data>Dimensions>Dimension Precision was set to 9. Fixed.
2022.1.4	2022-07-01		Latest version
		Point cloud	The tool, Find Points by Grid, is re-implemented in the new point cloud framework.
		Import/Export	Support for Topcon format for road line (rd3), both import and export.
		Coordinate File	A code description column is added to the numerical view.
		Terrain	When creating terrain profiles, 0 is given as a default side offset value so the user doesn't have to type in a value.
		Maintenance changes	- Wrong radius in Remark field when copying a road line to a coordinate file. Fixed - The color attribute for lines was not handled when coordinate files was merged. Fixed - Trench - If height offset was used for the top surface the structures were not extended in profile view. Fixed - Open project dialog - Last opened and creation date did not work with special characters in project path. Fixed - Problems to open GGV-files in 2022 version, if created in 2021 and did include DWG-files. Fixed - The USB short cut in the import/export dialog didn't work. Fixed - Point database works again with 64-bit version. Fixed
2022.1.3	2022-05-13		Latest version
			A new point cloud module is implemented with a modern framework.
		Point cloud	- Larger point clouds can be imported. - Multiple point clouds (GPC-files) can be opened at the same time. - Point clouds can be transformed during import. - Zoom, rotate and pan are working faster. - Two new tools to generate surfaces from point cloud: - Extract Ground Surface - A preview of the extracted ground surface is visualized and can be saved as a terrain model. - Create Surface - A more general surface creation and a surface can be generated in one or two step. The first step requires only two settings and is fast. If the option, Refine Surface, is selected a more detailed surface can be created. The created surface can be saved as a terrain model. - New tool, Extract Edge Lines, to generate lines from a defined area of a point cloud. - Point clouds are now supported in the tool, Create Cross Section Preview, and can be used in combination with terrain models and DWG files. - New method to generate cross sections along a long a line from point cloud. - The point cloud property dialog is updated with more settings. - The option, Edit Point Cloud File, is moved to the workflow view, so the graphic is not blocked when scans are added or deleted from the point cloud file (GPC). - When a filter is applied to a point cloud, the Edit Point Cloud Filters is automatically opened in the workflow window to the right. - Point cloud information can be displayed in the input/output window. Select, Display Point Cloud Information, in the data menu. - New merge option in the dialog to create a GPC-file. If many scans are selected they can be merge into the same HSPC file or into separate HSPC files.
		3D Graphics	- The 3D graphic is improved and large files e.g. terrain models or point clouds are rendered considerable faster. - Terrain models can be drawn with transparency in 3D.
		Road	The user can defined the station interval for road lines, to be visualized in 2D window. The setting can be found in the document property dialog for road lines (L3D).
		Volume	More information is added to the volume report about: - Calculation border - Top soil cut - Vegetation cut
		Terrain	Create Terrain Model - Coordinate files that are open in graphics but turned off in Documents in Window, are not selected in the workflow view.
		Tunnel	- For tunnel model (tbs) with point cloud, a new method to generate cross sections from point cloud is implemented. - Compare Survey to Design - New setting called, Minimum Spacing, so the user can define the spacing to be used when a tunnel difference model is generated from a point cloud. - Point clouds (GPC) created in version 2021 or earlier, are not supported in Geo 2022. If the old point cloud engine is installed on the computer, the legacy GPC-files can be converted to the new GPC version.
		Surveying	- The total length of a leveling run is added to the report from a leveling net adjustment. - HexML - When survey data with tilt information is imported, the tilt values are set as attribute in the PLM-file (Leica AP20 AutoPole). - When tilt attributes are present in a PLM-file, the distance, horizontal and vertical angle reflector height and prism constant columns are READ ONLY in the numerical view.
		Coordinate files	- If a point doesn't have a code i.e., the code field is empty, it's visualized as a non-matching code. The option is available in document properties for coordinate files (GEO) and can be switch on/off. - The "Always use" option, when moving selected objects and snap to target object height, will only be valid until another tool is selected. When select tool is re-selected, the dialog will be back.
		Maintenance changes	- Min and max side offsets didn't work for in MBS with DWG as soil model. Fixed - Lines didn't get names/ID after import from Trimble DC. Fixed - The help text is updated with chapter called, Shortcuts, with a list keyboard shortcuts. - Clear list in the dialog, Open Project, was broken. Fixed - Trench model - If multiple models with offsets were used, the height offsets were nor displayed correctly in the report. Fixed. - Faulty warnings when importing HexXML survey data is removed. - Net adjustments - The possibility to delete observations in graphics is removed. One data post corresponds to multiple observations, so this should not be possible. - Project tree settings - Not possible to set numbers of files when nodes should be minimized. Fixed.
2021.3.6	2022-03-09		Official Version
		Export to SmartDirt	Support for export of SmartDirt ADF-files, running on Android devices.
		Maintenance changes	- When exporting pipe profiles from a trench model (UIM), the wells were lost when the PRW-file was saved and reopened. Fixed - Calculation borders in tunnel (TBS) were not always handled correct. Fixed - Line type was not included in print. Fixed - The attribute Z+ in PLM-files didn't work. Fixed - Information about used center line was not saved to SEC-files generated from the function, Coordinates to Section/Offset, from L3D-data menu. Fixed - Geo could crash when creating a parallel line from a L3D with clothoids. Fixed - Text import could crash if some rows in a text file were corrupt. Fixed
2021.3.5	2022-02-15		Official Version
		Maintenance changes	- Geo could crash if a mbs or tbs, in combination with an active map service (WMS/WMTS), were used. Fixed. - In some cases it was a shift in location of where wells were visualized in a trench model (uim) and pipe profile (prw). Fixed
2021.3.4	2022-01-24		Official Version
		Surveying	Identify backsights - Used backsights in a plm-file can be identified and renamed by comparing them with points in the defined control point file(s).
		Transformation	Global transformation, local to local - A control to easily switched the order of the From and To coordinate systems.
		Trench	Node names are kept when exporting pipe profiles from a trench model (uim).
		Maintenance changes	- Insert coordinate list in drawing was broken. Fixed - When creating a pipe profile (prw) from a trench model, Northing and Easting coordinates were switched. Fixed - Trench model - A pipe profile could be drawn incorrect if the pipe started before or ended after the main pipe. Fixed - Trench model - When exporting pipe profiles, the wells were not drawn in some special cases. Fixed

			• USB transfer to iCON field - The folder for coordinate systems was not created automatically if missing. Fixed • When saving numerical view as, View > Save View as > Field delimited text, the last column was not included. Fixed • Automated Line Measurement Rail - Measured track width from sensor was missing in the report when a corrected coordinate file was calculated. Fixed
2021.3.3	2021-12-21		Latest version
		Coordinate files	Direction symbol is implemented for coordinate lines and can be activated in the Document Property dialog.
		Trench	To improve trace-ability, the node names used in the trench model are exported to the pipe profile (Data >> Create Pipe Profiles).
		Maintenance changes	• Quantity list is not included and visualized in print, for example in print preview or PDF/paper. Fixed • If side pipes were longer than the main pipe, the profile view in trench model (uim) was not correct. Fixed • Dimensions/Diameter didn't follow when exporting pipe profiles from a trench model (uim). Fixed • Tunnel - Section couldn't be created from a dwg with two meshes even if used layer was specified. Fixed • Stability issue with Parallel line tool is fixed. • Wrong dialog, regarding how to handle the height, was displayed when using parallel line and snap to point. Fixed
		System	32-bit plugins are removed.
2021.3.2	2021-11-30		Latest version
		Trench	• Option to add another surface as top surface when calculating back fill volumes. • Possible to divide cut volumes by adding one more model, User 1, in addition to soil and rock. • A new option that additional pipes can be added by using side and height offsets from the main pipe. • Calculation borders can now be used if volumes of a trench have to be divided between e.g. different owners. • Side limitations for models can be added already in the wizard. • The function, Calculate Surfaces, is implemented for trench models and is available in the Data menu. Earlier it was only available if cross sections were exported.
		Terrain	• The function to create terrain profile has an updated UI and is moved to the workflow. It's possible to create multiple profiles at the same time and add your own description. • When a terrain model is cut based on a road line, a preview of the bounding box visualized. Start and end stations and side offsets are defining the bounding box.
		Pile intersection	Pile intersection is improved with a new option to use a terrain model as theoretical intersecting surface.
		Project	More information is added to the Open Project dialog and projects can now be sorted by: • Creation date • Last opened
		Coordinate files	• The help layer tool, Parallel Line, has three options how to handle sharp corners and they are available in a right click menu: ◦ Sharp corners, with inserted points ◦ Round corners, with inserted points ◦ Sharp corners, no inserted points • Possible to save filters in the function, Extract Coordinates.
		MBS	When a MBS is verified the user is warned if duplicated line codes are used.
		AutoCAD	• A new tool, Angular Dimension, is implemented so now it's possible to create dimensions for both distances and angles in DWG files. • Possible to select in which layer dimensions should be saved.
		IFC	When extracting data from IFC files the GUID is saved as an attribute in the coordinate file (*.geo).
		LandXML	Support for import of multiple road models (LMD) with different center lines.
		Surveying	• Backsight check - Angular and length differences, in addition to dN, dE, dH, are added to the report. • Leveling - New report when leveling data (*.lvt) is reduced.
		System	No support for 32-bit version of Geo Professional
		Maintenance changes	• Some strange behaviors regarding the manual input of parameters for the Draw Line tool has been fixed. • In DWG properties the option, Update changes instantly, didn't work in 3D. Fixed • The help text button didn't work in the workflow view for Create Terrain Sections. Fixed
2021.2.9	2021-11-30		Official Version
		Maintenance changes	• The Create Road Line tool searches for both points and lines, instead of only lines. Fixed • Using other angle system than gon, gives incorrect distance lines in the tunnel model (tbs). Fixed
2021.2.8	2021-11-26		Official Version
		Maintenance changes	• Free station calculation could crash in some cases. Fixed • Switch from fip to https when downloading from within Geo. • The help layer tool, Intersection Point, gets broken if the user clicks at an empty space i.e. no objects found. Fixed • The tool, Insert points on line graphically, could only use points in the active file. Fixed • Rounds of measurements could show a difference between C1 and C2 even if it was OK. Fixed • Free station - The attribute "ROUNDS" should have priority over the setting in the dialog, but if the user clicked, Recalculate, the setting from the dialog was used. Fixed
2021.2.7	2021-11-04		Official Version
		LandXML	Data i.e. points and lines, alignments and surfaces from XML files with Inframodel schema version 404, can now be imported.
		File	The option, Save all Files in Current Window, in the Files menu is moved, so the user doesn't use this option by accident when, Save as, is supposed to be used.
		Maintenance changes	• Toggle background maps on/off in 3D window didn't work. Fixed • DWG properties in 3D window, the possibility to Update Instantly didn't work. Fixed
2021.2.6	2021-10-15		Official Version
		Coordinate files	Create line with snap, update height dialog was not working as intended. Fixed
2021.2.5	2021-10-08		Official Version
		Coordinate files	• Points with codes that don't match the active code list can be visualized and the information, Not in code list, is added to the tooltip. The option is available in document properties for coordinate files (geo) and can be switch on/off. • For the tool, Snap to Intersection, the drop list is now only shown, when the intersection heights are different so the user can select the correct height.
		AutoCAD	In the dialog, Extract Coordinates from AutoCAD Drawing, the list can be sorted according to layer name or description.
		Trench	More details about pipes are added when pipe profiles (prw) are generated from a trench model.
		Tunnel	Option to create lines in the function, Points in relation to Tunnel.
		Maintenance changes	• Updated Dongle Tool • Norwegian Geoid models are available for download. • The placement of quantity list in cross section files is improved • Network adjustment - Simulated leveling didn't give any distances. Fixed • It was possible to do projection correction twice. Fixed • Some issues with Find/Modify when editing points and lines are fixed. • Draw line tool with slope didn't reset properly. Fixed • Settings for height in profile drawings were not remembered when the file was closed and reopened. Fixed • Editing of DWG properties eg., change colors, didn't work as expected. Fixed • The slope for the last segment was not written to the profile drawing. Fixed • Area tool with snap didn't work properly in cross section view. Fixed • The option to manually enter an angle when rotating objects was missing. Fixed • Temporary objects were not visualized when rotating or moving help layer objects. Fixed • When moving a point in cross section view, it was moved to the wrong location. Fixed • Tunnel - Issues with inside/outside areas are fixed. • DWG - Line types and colors don't work with BH90 code list. Fixed • Trench model calculated volume of soil even in a fill situation. Fixed • Export of profile drawing to DWG was not complete. Fixed • Create new project from open project dialog in combination with template didn't create the folder structure on disc. Fixed • Issue when customizing the equidistance of contour lines for terrain models. Fixed • Geo could crash when the function Visualize for mbs was used. Fixed • Even deactivated rounds were added to the attribute, No of measured rounds, in station properties (*.plm) • Agtek export - Improved error message when trying to export multiple coordinate files as benchmark • Crash when using the tangent point tool. Fixed • Crash when calculation many stations to separate files. Fixed
		Hardlock Key	• 32-bit version does not support older hard lock key of the model "Hasp HL" (blue 26 mm long plastic shell). • 64-bit version have never supported these "Hasp HL". • "Hasp HL Pro" (blue 28 mm long plastic shell) still supports both versions.
2021.2.4	2021-06-15		Official version
		Terrain	New function, Validate Surface, for validation of terrain models. Available in the Functions menu. (SBG Note. The fix function is not an all fix function. It is mostly used on AutoCAD DWG 3Dfaces when the triangle surface is defined on 4 points, which one is clearly a double point)
		Graphics	Different cursors are used for a hit on a point or line, in combination with the green checkbox.
		WMS/WMTS	Support for Danish map services.
		Import	When importing km/kmz information about point ID:s are now added to the coordinate file.
		Import Leica	When we import Leica DBX(xml)
		Maintenance changes	• Height offset for terrain models in trench models (UIM) didn't work. Fixed • Create Area Tool - Only possible to use the active file when defining area. Fixed • Snap to point for point clouds didn't work. Fixed • The option to select DWG/DXF as models in TBS was missing. Fixed • To change language in Geo didn't work properly. Fixed • Excavation layer was missing in the drop list in Visualization in mbs. Fixed • Rotate text in drawings was broken. Fixed • In the function to insert points on line segments using intersection options, the points were added in the wrong order. Fixed • Select object in LandXML viewer was broken. Fixed • Parallel line by point didn't work for road lines. Fixed • Copy and move selected object(s) - Move to position with relative coordinates was broken. Fixed • When importing LandXML from Captivate the line connections could be wrong. Fixed
2021.2.3	2021-05-20		Latest Version
		Terrain	Multiple terrain models can now be cut based on station input, start and end, for a center line.
		Coordinate files	In the function Insert Points on Line Segment, a new option to interpolate the height from the intersected line is added
		Graphics	• Double click on mouse wheel to Zoom Extents (same as the keyboard Home button). • Now, Zoom to selected object in 3D window keeps the camera orientation.
		Export	Terrain model export to Trimble ttm is re-implemented in 64-bit version.
		Maintenance changes	• Graphical DWG issue when a DWG and geo file are opened and the DWG is turned off. Fixed

			- Create terrain model was broken if Max element length was used. Fixed - Measure tool was not restarted with right click. Fixed - Update height has stopped working when a point in a line was moved to another point in a line with snap, in the Help Layer. Fixed - A new code list TrvJvg2019.cod is added. - Radius not shown in the status field for tangent point tool. Fixed - To use template when creating new project didn't work. Fixed - Distance and bearing was not displayed in 3D window when Set Base Line Tool was used. Fixed - Simulate leveling generates incorrect lengths between points. Fixed - If the user selects the option Height Difference, height values are not updated while using Parallel Line by Point or Parallel Line Element by Point. Fixed - Height distortion in 3D causes the tool mouse target position to be misplaced. Fixed.
2021.2.2	2021-05-05		Latest Version
		2D and 3D graphics	- Help layer is visualized and possible to toggle on/off in 3D window - All Help Layer tools are implemented in 3D window, with the same functionality as in 2D - The following tools are also available in 3D: 2D Area Tool - Polygonal Selection - Copy Point/Element and Line - Object Information Tool - Most of the functions in the right click context menu are implemented in 3D, e.g. Move Point, Delete Point, Localize Numerically, Move Selected Object(s), Split Line at Node, Connect Line, Insert Points on Line, Properties etc - Search/Modify dialog is accessible for multiple objects selection in graphic view - Possibility to use point height of the object, the parallel line/element is snapped to - Cursor styles for tools are harmonized between 2D and 3D - When a tool finds an object, it's indicated with a green check mark. - New short cut keys for the following tools: - Select Alt+S - Select Lasso Ctrl+Alt+S - Connect/Split Alt+X - Set Point Info Alt+C - Connect/Split Line - both height and point codes are displayed, together with point ID, in a pop up list of points available for selection. Available in both 2D and 3D window. - Possibility to toggle background map on/off is implemented.
		AutoCAD	- The 2D rendering of DWG/DXF files is updated and the speed is improved - New options in the right click menu for selected DWG objects: - Extract Selected Objects - Extract Selected Layers - Extract Non selected Layers - Hide Selected Layers - Hide Non selected Layers - Delete Selected Layers (locked layers are not deleted) - Delete Non selected Layers (locked layers are not deleted) - The description is now displayed in the dialogs, when coordinates and 3D faces are extracted from DWG/DXF files - When each DWG layer is extracted to a different file, a mapping is listed in the Input/Output window, with a count of features extracted from each layer. - The DWG export is extended to allow for multiple blocks (symbols) to be picked from the code list.
		Road	- New function to cut stringline models (lmd) based on station input, start and end, for a center line - The function to create cross sections from stringline models (lmd) is moved to workflow view - Material layers (buildup layers) are exported to sec-files generated from a stringline model - The vertical element slope (l3d) can now be displayed in both plan and in the 3D view - The drawing of lines with radius (l3d) is improved
		Terrain	New function to cut terrain models (trm) based on station input, start and end, for a center line.
		Volume	New function to cut volume description models (mbs) based on station input, start and end, for a center line.
		Trench	- Material layers can be visualized in cross section view for trench models (UIM). - Material layers and their properties are exported to sec-files generated from trench models. - The volume of pipes can be included or deducted from protection fill based on the diameter of the pipes and it's now also visualized in the cross section view of the model and exported to the sec-files.
		Tunnel	- Possible to select a DWG as tunnel design in the TBS wizard - Both volume calculation and cross section creation in TBS are moved to the workflow view, so the graphical window is active when you define your settings. - Material layers can be visualized in TBS cross section view. - Material layers and their properties are exported to sec-files generated from TBS. - The cross-section line is made thicker/more visible in TBS with point cloud. - The max/min distances between design and measured surfaces are now highlighted in tunnel sections, so they easily can be identified. - The theoretic cross sections (tun) is now drawn in 3D, at the start stations, defined in the usage list.
		Import/Export	- Support for Topcon format for points (pt3) and lines (ln3), both import and export. - Import of kml/kmz - Trimble import/export of Trimble DC, JobXML and leveling data are merged to the same import/export dialog (only import of JobXML and levelling files). - Export of coordinate system (*.lck) to Trimble DC - A dedicated Leica MC1 USB drive export is now available. - Option to select USB drives as target on then right side in all import/export dialogues. - Export of adf-files to the SmartDirt app. Terrain models, road lines and point and lines are supported.
		SmartDirt	Export of adf-files to the SmartDirt app. Terrain models, road lines and coordinate data can be exported to be visualized in the app. Even a difference model can be exported if you would like to estimate volumes in the field.
		Cross section (sec)	- User defined placement and color of the quantity list for cross section files. - New option, Set Center Line, to define a center line for a sec-file.
		Net Adjustments	- Excluded observations are listed (with strike through) in the report. - Possibility to create a report for lengths that have been measured twice in net adjustment. - Updated settings dialog, A Priori Standard Deviations, in net adjustment with a new option for tolerance for multiple distances and more settings templates are added.
		Leveling	- BBFF pattern is now handled when reducing leveling. - SimBF method to split measurements for leveling data (*.lvt).
		Maintenance changes	- Side pipes were not visible in cross section view of trench models, if the line had opposite direction. Fixed - Clean for Field and Purge didn't work for DWG. Fixed - Not possible to use graphical selection for IFC files. Fixed - Problem to change text font in drawings. Fixed - The layer colors didn't always follow from sec-files to drawings. Fixed - Problem to calculate intersection line in some special cases. Fixed - Save Help Layer to coordinate file didn't work with line element. Fixed - Drawings with circle was drawn with bad precision in paper view. Fixed. - The search fields when inserting coordinate list in drawing didn't change name input names properly. Fixed. - The prism constant was not correct handled when saving plm as inn - The tooltip info for Help Layer objects did have the wrong labels in cross section view. Fixed - Graphical transformation of selected objects didn't work with auto snap. Fixed
2021.1.5	2021-04-09		Official version
		AutoCAD DWG	Upgraded to ODA/Teigha package v.2022.2
		Maintenance changes	- Loss of precision in heights when extracting blocks from DWG (the user decides how height attributes should be handled). Fixed - Some DWG files could cause Geo to hang/freeze. Fixed - In some cases, intersection line is created even if the option isn't selected. Fixed
2021.1.4	2021-03-26		Official version
		Maintenance changes	- Stop to Layer, in editing of design section (nsd) in MBS, didn't have a drop list with available options. Fixed - The quantity list for cross section files was not displayed if the fill patterns for the different layers were turned off. Fixed - Geo could crash in some cases when "Inserting points on line graphically" was used. Fixed - Layer colors from cross section files (sec) didn't follow when exported to a drawing. Fixed - The baseline tools, Foot Point 2D and Foot Point 3D, were missing in the Tools menu. Fixed - The 3D view of trench model (uim) could get slowly after several new inputs were made. Fixed - Updated Polish translation.
2021.1.3	2021-01-27		Official version
		Maintenance changes	- Updated Swedish translation - WMS/WMTS fixes
2021.1.2	2021-01-20		Official version
		Trench	The calculator icon in the toolbar is active and can trigger the volume calculation workflow view for trench model
		WMS / WMTS	Support for SWEREF99 and UTM zones 29-35N coordinate system on the server side
		Maintenance changes	- The rock clearing was not calculated for mbs. Fixed - The pipe area in cross section view was not displayed correctly in the quantity list, if inner and outer radius were used. Fixed - Zoom to extent didn't work with map service as background. Fixed - WMS: Localization with Geoid model caused blank web map service background. Fixed - WMTS: Some links from Pointscene didn't work. Fixed - Geo could crash after undo operations in Manager Area for sec-files. Fixed - Extract coordinates from DWG could create too short arcs. Fixed - The function, Cross Sections along Line, populated drop list every time the page loads. Fixed - Crash when calculation icon was triggered in TBS. Fixed
2020.2.8	2020-11-27		Official version
		Maintenance changes	- Geo failed to export vertical lines to DWG. Fixed - In Volume Calculation, Terrain Model, if grid spacing was the used method, offset didn't affect the calculation. Fixed - Cross section files exported from MBS with CFM didn't store the information about used center line. Fixed - Update and save existing data in a net adjustment and could cause a crash. Fixed - Pile intersection report saved as Excel file did loose decimal character for bearing. Fixed
2021.1.1	2020-11-26		Latest Version
		Support for WMS and WMTS	Support for web based map services as background in both 2D and 3D (WMS =Web Map Service, WMTS = Web Map Tile Service).
		Volume by section (mbs)	- A new improved wizard when creating a new mbs with predefined templates for typical cross sections, option to add side lines and calculation interval can be defined. - Tab are added so it's easier to change the view orientation between cross section, plan, profile and 3D. - It is possible to show side line with side distance. - Possible to define material codes for the different layers and the codes are saved to both volume report and cross sections. - User defined templates for material codes can be saved. - The dialog to calculate a volume report is moved to the workflow view, so the graphic window isn't blocked when defining what to include in the report. - The different layers can be displayed as areas in the cross section view. Go to Document Properties and the tab Areas to be able to turn them on, change color or hatching. - If a vertical profile offset is used for the main line, the offset is displayed at the main line node in the mbs. - A warning is displayed if interpolation of standard sections (*.nsd) with different number of points is done.
		Terrain	- A new merge model function is implemented and it's moved from the Data menu to the Functions menu. Three methods, regarding the height calculation, are available when models are overlapping: - Lowest - Highest

			• Prioritized • Create Terrain Section is improved: • New UI in the workflow view, so the graphic window isn't blocked. • Multiple surfaces are supported, i.e. a sec-file with many layers can be created • The layer description can be edited • If a reference line is available, the active terrain model can be drawn in cross section view • The tool, Rotate Triangles, is implemented in the 3D window
		Cross section (sec)	• The cross section format (sec) is updated and can contain more information. Geo is backward compatible and can open old cross section files, but old Geo versions (2020.2 and earlier) can not open the new extended cross section format: • Graphical properties are saved in the sec-file. • Different materials can be displayed as cross section areas with color, hatching and material code. • In the data menu a new option, Manage Areas, can be found and the user can defined areas between existing layers and set name, color, fill pattern and code. • Cross section files exported from mbs, already have available material areas defined. • In document properties for the sec-file, only available layer are displayed. • Option to turn layers and areas on/off • If sec-files are exported to DWG, a new option to create a legend is available. • The result of the tool Create Cross Section Preview can be saved to a sec-file.
		Coordinate files	• New function to insert points on a whole line based on distance, both horizontal and sloping, or number of points. • Insert points on line segment has a new option called, Apply for all line segments, which means the insertion will be applied for all segments of the line. • New function called, Insert points on line graphically. The user selects a line and then a single point with height, and this point is added to the line, at the shortest perpendicular distance from the point.
		Measurements	• If the option "Enter instrument constants" is used while correcting measurements, the used constants A and N are now added to the station header in the plm-file. • More information is added to the correction of measurement report, e.g. instrument, instrument N, instrument A, pressure and temperature.
		Road	• A new function to set height to points and lines in coordinate file from a road line (13d) or cross fall model (cfm). • In stringline model (lmd) the steps are now synced between plan, cross section and 3D view. • If another slope is added to the excavation layer in a stringline model, it can be done in percent. Now you add 2.5, if it should be a 2.5% slope and before you had to type in 0.025. They same change is done for deep cut. • If buildup layers are added to the stringline model, the user defined name are now used in both the document properties and tool-tip information.
		Tunnel module	• Tabs are added so it's easier to change the view orientation between cross section, plan and profile. • In the function, Points in Relation to the Tunnel, the input data now can be both in N, E, H and N=station along main line, E=length along *.tun line, H=distance to *.tun line.
		Point Cloud	Filtered point clouds can be exported as DWG.
		Net adjustment	• In rounds of measurements, possibility to select/deselect measurements and see the results directly. • When calculating a net adjustment in height, the standard error of unit weight is now displayed in the input/output window. • Selected or deselected observations are remembered when data is added/deleted, or control or approximately points are added/deleted. • A new setting for max difference between circles in rounds of measurements is added. • The movements of control points are added to the net adjustment report for height. • The movements of control points in height adjustment, are displayed graphically.
		Graphical tools	A new polygonal selection tool New shortcuts • Alt+S > Rectangular Selection • Ctrl+Alt+S > Polygon Selection • Alt+X > Bind/Split • Alt+C > Set point information
		Graphical properties	The different model types, i.e. mbs, tbs, and lmd, can have its own default graphical properties.
		DWG/DXF	• The ODA library (former Teigha) is updated to latest version. • Possible to create a PDF of a DWG.
		ConX connection	• Display the device name MC1 • Change default start date for the Get Measured Points query to today's date
		Maintenance changes	• Tool-tip information is now available for icons in the 3D window. • When saving circles from the help layer, the center points were not included. Fixed • Insert points at intersections was not working for line segments with arcs. Fixed • Crash if a length report was generated and the very first line segment had a radius. Fixed
2020.2.7	2020-11-03		Official version
		Maintenance changes	• Geo fail to export vertical lines to Autocad DWG • Model to model with grid spacing not affecting by height offset • Center line not stored in cross section when created with cfm in mbs • Pile intersection report saved as excel file loses decimal character for bearing
	2020-10-30		Official version
		Maintenance changes	• Split/Connect stopped working if the user failed to click on a point. Fixed • In Volume Calculation, Terrain Model, if grid spacing was the used method, offset didn't affect the calculation. Fixed • The dimension tool for dwg removes decimal zeroes regardless of decimal choice. Fixed • In HexML import of measured data, no data was imported if the first survey block was empty. Fixed • The updated part of the length report was not translated. Fixed • DWG transformation using Functions > Transformation failed for some files. Fixed
2020.2.5	2020-09-28		Official version
		Trench module (UIM)	• Possible to save user defined default material codes (account codes) • Possible to save user defined default layer codes, which makes it easier to extract 3D lines from UIM cross sections (*.sec) • The height offset for models is now on model level for top surfaces and rock models. • Cross sections generated from UIM get the default name from the active trench model
		Coordinate files	Improved length report with a separate tab for each line with information about start and end points for each segment, point code, length, 3D length and slope.
		DWG/DXF	DWG files will always be opened in model layout.
		Maintenance changes	• The rotation offset in Pile Intersection, rotated the pile before calculating the intersection. Fixed • Registry setting are not read from communication, so devices are not listed. Fixed • Multiple side pipes are displayed in the tree view for UIM. Fixed • Set Point Info doesn't work properly for polygons. Fixed • Import of AutoKa PC/GTrans files is not working. Fixed • Trench bedding was missing in some special cases when the top surfaces intersected the bedding. Fixed • Crash in Modify Cross Sections and some filters were used. Fixed • In the import of UIM from LandXML the resulting files did open, even if the option was unchecked. Fixed • Pipe bedding was listed in the area/volume report even if it wasn't selected. • Updated Polish translation
2020.2.4	2020-06-16		Official version
		Save all option	A new, Save All, option is available in the File menu or by right click on window tab, and all changes made in all files in current window are saved.
		Maintenance changes	• The calculation interval was not used when the area of the pipe bedding was calculated in UIM. Fixed • Structures for side pipes were not included in the excavation model created from a UIM. Fixed • When changing start station in UIM all grid views were not updated correctly. Fixed • Draw point and writing point number in the Input/Output Window did not work. Fixed • When connection lines the color was lost. Fixed • MS60 - An already existing point cloud is overwritten if a new point cloud is imported from the same DBX Job. Fixed • When creating project template in the tab Shortcuts in the project tree panel, Geo could crash. Fixed
2020.2.2	2020-05-12		Test version
		Trench module (UIM)	• Option to limit the bedding at the bottom of the trench • More codes are saved to the excavation layer, which will improve the workflow if cross section files will be used for further processing, e.g. extracting 3D break lines • Name of used models and offset values are now displayed in the volume report • Break lines are added to the excavation model (trm)
		Maintenance changes	• 3D visualization in the trench model (uim) is not updated when new pipe is inserted. Fixed • Decimals are lost when importing a text file. If comma sign is used in text file. Fixed • Geo fails to create terrain models from some coordinate files. Fixed • The conversion to BH90 is broken if the drawing is on top in the graphics. Fixed • Crash when trying to remove duplicate points. Fixed • Issue with model to model calculation for certain models including break lines. Fixed • Split poly line in 3D splits at the wrong place if height scale is distorted. Fixed • Selection disappears when a point or line is moved. Fixed • Geo fails to create terrain model if special code C is used. Fixed • Can not close or get file location when middle or right click on the tab for report files. Fixed • Problems to calculate intersection line in some cases. Fixed
2020.2.1	2020-04-17		Test Version
		Trench module (UIM)	• Protection fill and back fill layers are added • Save protection fill option • Support for rock model (trm, dwg/dxf) • Over excavation can be defined • Pipe bedding for individual pipes • Volume and area report is updated with protection and back fill, rock, rock clearing, high and low rock, over excavation • 3D visualization • Excavation model can be merged with defined top surface • Save excavation option by creating shelves in the trench
		3D graphics	• Tools are implemented in 3D: • Split and connect lines • Trim and extend lines • Auto join lines • Create road line • Set point information • Break lines in terrain model are now visible in 3D. • The rotation point is made more visible.
		Graphics	Coordinates and height, stationing and offset information are moved up the to the status bar of the graphical window. Delta height (dH), in relation to a terrain model or cfm, can be displayed if e.g. the information (Info) or measure tool is activated in combination with snap functionality.
		Connect/Split poly lines	The tools connect and split poly line are merged into the same tool. Connect functionality, when clicking over a point and split, when clicking over a line.
		Project tree	A toolbar is added at the top of the project tree with two icons. One is an option to toggle between showing all or only existing categories and the second is to refresh the project tree.
		Road line	Longitudinal lines is added as output option from the function "Cross Sections along Line" for road lines and cross fall model (cfm) i.e. lines can be generated directly along the active center line.
		Coordinate files	• Coordinate files can be opened directly in numerical, 2D graphical or 3D graphical window from the project tree

			- Possible to change color of point or line in the property dialog of selected object - Set point information is rearranged and more logical, added line number and color - The function, Coordinate File Reports, is improved so it can include all attribute columns in the generated report
		DWG/DXF	Draw DWG content with 0 height on the reference grid in 3D
		Surveying	Possible to calculate free station with only one recorded distance
		Maintenance changes	- Default font for text in graphics is changed to Calibri - Updated help text - Finding objects in DWG in 3D doesn't work. Fixed - Bug when using the function Modify Cross Sections. Fixed - The buildup layers (bup) were lost when editing the nsd file in mbs. Fixed - The snap tool, Snap to Midpoint, could snap to single points in some cases. Fixed - LandXML import to MBS broken. Fixed Stability improvements, found thanks to those users who sent automatically created error reports, to the development team
2019.3.15	2020-04-17		Official Version
		Coordinate files	The function, Coordinate File Reports, is improved so it can include all attribute columns in the generated report
		Maintenance changes	- Auto join: Remark information disappear when joining the line. Fixed - Rock shelf code not visible or possible to use in MBS. Fixed - Not possible to un-tic box "Extrapolate" for rock shelf in MBS. Fixed - Unable to select a moved poly line. Fixed - Cross section along line stored value for cross fall incorrect. Fixed - Enable Update Tree for all project locations. Improved - When circles are saved from the help layer, the center point is not included. Fixed - Number of rounds was not used when setting a priori for free station. Fixed - Crash when the info tool in the free station dialog was used. Fixed
2020.1.1	2019-12-22		Test Version
		Trench Module (UIM)	- Support for multiple pipes - Excavation model from multiple pipes can be created - Add a surface (trm or dwg/dxf) as top surface - Volume and area report which includes total excavation volume, volume of bedding and extra bedding and surface area of bedding - Length report of pipes - The project code list (*.cod) can be used for defining codes to pipes - Improved merge function when the excavation model is created - Possible to create a stake out file (*.geo) from the UIM model
		New license	The license Trench is required to create a new, edit or generate output from a trench model (*.uim)
		Coordinate files	Coloring of points and lines. Mark object > Hover on object and right click > Choose properties
		Import/Export DWG/DXF	Color on coordinate object is set according to dwg at import, see setting. At export, colors on objects is set in the dwg if nothing else is set to control it
		LandXML	If a LandXML file contains PipeNetworks, the user can select to create a trench model (*.uim) directly in the import
		Maintenance changes	- Updated help text - Updated Polish translation
2019.3.14	2019-12-22		Official Version
		Maintenance changes	- If text is inserted in a drawing (*.dra) and the drawing is exported to dwg-format, the text is missing. Fixed - Updated help text - Updated Polish translation
2019.3.13	2019-12-12		Test Version
		Maintenance changes	- Problem with 3D graphics for Intel(R) UHD Graphics 620 and 630 card. Fixed - Not possible to create Cut and Fill Map without saving the DFM first. Fixed - Texts for Cut and Fill are missing in the volume report. Fixed - Excel saving is crashing if Excel isn't installed. Fixed - Not possible to edit in the numerical view for 13d. Fixed - Stability improvements, found thanks to those users who sent automatically created error reports to the development team
2019.3.12	2019-11-01		Test Version
		Volume calculation	Information about used auto slope in the volume calculation report is added
		Export	- The export to/save as Excel is implemented again - Updated shape export templates
		New attribute	"reference_model" is a new attribute used by GeoPad when in stake out mode
		Maintenance changes	- In some cases Geo could crash when connecting a Geo project to a ConX project. Fixed - The insert station equation option in the Data menu was disabled. Fixed - The previous cross section tool caused Geo to crash. Fixed - Not possible to set a user defined scale in drawings; only predefined. Fixed - The center line was missing in the LandXML import of DesignCrossSectSurf when a LMD was created. Fixed 2D point cloud filter didn't work after a point cloud file was saved. Fixed - Compare files didn't work. Fixed - Geo fails to use border polygon correctly in MBS for some special cases. Fixat - Stability improvements, found thanks to those users who sent automatically created error reports to the development team
2019.3.11	2019-08-30		Test Version
		Leica ConX	Improved ConX integration with a function called "Get Measured Points". The user can filter logged/measured points based on date, time, unit and active reference model and download the points direct to active Geo project (*.geo, *.lfc).
		Maintenance changes	Changes and fixes: - The new height option while moving and snapping to other object doesn't work. Fixed - Fill is not drawn in 2D if a custom color is used for terrain models. Fixed - Not possible to Save Graphic View if more than 6 terrain models are opened. Fixed - The 3D LandXML view doesn't show or recalculate the rotation center. Fixed - Snap to endpoint fetches incorrect height value. Fixed - Stability improvements, found thanks to those users who sent automatically created error reports to the development team
2019.3.10	19-06-27		Test version
		Underground	New model for underground infrastructure (*.UIM) to handle pipes and wells in a more streamlined way.
		Volumes model to model	Added new function for offset models when calculating. Now you can specify the offset directly in the calculation instead of modifying the model
		System	Geo is now UNICODE, which means that Geo has full support for international characters in both file names and file contents. For best compatibility with GeoPad upgrade this to version 2019.03.1610
		Export	In this version of Geo, export is not supported to / save as Excel. We expect it to be back in the next version of Geo.
		Maintenance changes	Changes and fixes: - Cross section view for CFM was wrong for crown sections. Fixed - Save road line (*.l3d) as coordinate file (*.geo) tessellated the line into straight lines. Fixed Stability improvements, found thanks to those Geo Professional users who sent automatically created error reports to the development team.
2019.1.14	19-04-24		Official version
		Pit calculation	New Feature: Volume calculation model to model with automatic calculation of the slopes.
		Leveling	New function to split leveling runs measured by the method BFFB.
		IFC	- Support for display of transparent surfaces - Settings to display surfaces or wireframe - Settings for colors for selected objects - Save DWG / DXF directly from the IFC model.
		3D Graphics	- Overview screen to facilitate navigation in zoom mode. - New tool for rotating camera view
		Coordinate files	New function to easily delete all zero heights (Z = 0> Z =)
		DWG/DXF	New function to easily delete all zero heights (Z = 0> Z =) when importing / extracting coordinates from DWG / DXF.
		Maintenance changes	Changes and fixes: - Improvements in volume calculations of terrain models.Import of Trimble jobxml (*.jxl) was broken, fixed - Export of trm to Trimble trm format via Trimble DC was broken. The feature is only available in the 32-bit version. Fixed - Volume calculation MBS, when using CFM but same side offset for both sides gave the wrong profile height, Fixed - Importing Leica DBX from TPS did not create lines correctly, Fixed - Importing Leica DBX from TPS did not properly handle prism constant. Fixed - Archiving (zip) from MBS with LIN / PRF / skv was wrong, Fixed Road line, CFM could not read the path to 13d correctly if CFM was in a subdirectory. Fixed Stability improvements, found thanks to those Geo Professional users who sent automatically created error reports to the development team.
2019.1.11	18-12-14		Test version
		IFC	New feature support for IFC 4 (alignments also supported) - Open and view file(s) in 3D, alone or together with other supported files in Geo - Filter object(s) in a filter view - Select object(s) in the filter view - Select objects(s) in the graphics - View properties for selected objects - Import selected object(s) into native formats (*.geo, .l3d or *.trm)
		3D Graphics	Experimental change in how to navigate and zoom in 3D, it is now possible to walk around the models and survey data in a whole new way. However, this feature is still at the expriment level, but please try and comment. The key assignments are set as follows: '+': Move forward 1 meter '-': Move backward 1 meter 'A': Turn left (left arrow) 'D': Turn right (right arrow) 'W': Turn up (up arrow) 'S': Turn down (down arrow) 'Shift': 5 time faster on moving 'Ctrl': 5 time slower on moving

		Tunnel	Changes in how tunnels are sectioned from design areas (dwg), extended use with settings also for dH. This facilitates especially when the tunnel crosses itself in different planes (slopes and ramp tunnels).
		Maintenance changes	Changes and fixes: Stability improvements, found thanks to those Geo Professional users who sent automatically created error reports to the development team.
2018.2.3	18-12-03		Official version
		Import / Export	Support for Topcon *.tn3 terrain models in import and export.
		3D Graphics	Automatically set 3D rotation center to the middle of visible objects.
		Maintenance changes	Changes and fixes: • Point database is missing in 2018.2.1.11 (32-bit, Fixed • Trim was broken, Fixed • Not possible to save tpf after entering parameters for Affine transformation, Fixed • Crash when selecting file under "External References" for *.dwg file on Win 10, Fixed • Trimble Link did not work in 64 bit, Fixed (you may need to install an updated version from Trimble) • Radius not handle correctly for source files in "Extract coordinates" with border polygon. Fixed • If Extract Points is used together with a border polygon the line code is lost. Fixed • Net adjustment reported to low relative redundancy for free net adjustments. Did not affect coordinates and separate observations, only relative redundancy for the entire net adjustment. Fixed Stability improvements, found thanks to those Geo Professional users who sent automatically created error reports to the development team.

