

## Release Notes for n4ce v4.30

The tables below list the changes that have been made since the release of v4.20 in September 2019. The changes are colour coded for each release of the software as follows.

- Changes for v4.20 (12<sup>th</sup> September 2019) are in red
- Changes for v4.20a (15<sup>th</sup> October 2019) are in green
- Changes for v4.20b (31<sup>st</sup> October 2019) are in purple
- Changes for v4.20c (28<sup>th</sup> April 2020) are in blue
- Changes for v4.20d (3<sup>rd</sup> September 2020) are in brown
- Changes for v4.30 (17<sup>th</sup> December 2020) are in Black

### General

When sending text with filled backgrounds to a PDF, a pattern was displayed rather than a solid white	Bug
Some of the text reports in the report window can now be exported to Excel files with the option to open Excel after the file exported	New
When displaying line styles, the rotation value from the default file is now to rotate text or symbols embedded in the line style	New
When displaying line styles, adding a line "Upright=1" specifies that all embedded line text will be displayed horizontally, regardless of the line direction	New
In various places, angles that were very close to a whole number may have been formatted incorrectly, for example 15.5960	Bug
The settings for Must Lock and Lock 3D were not being turned on and off in the ribbon bars	Bug
The excel reports could not be exported to an XLSX file because of a change to the default settings	Bug
New buttons in code prefix, layer and line style defaults dialogs allowing you to clear all the existing items, except for "Default"	New
Some options could hang using very small data sets	Bug
A new setting in the Display Options dialog allows you to set the zoom factor for the spreadsheet views	New
When maximizing a ribbon bar window, the title text at the top of the window was not displayed	Bug
The Autosave options were not working from the ribbon bar	Bug
Most of the categories in the Ribbon Bar CAD view now contain options to select the Pick, Lock and Draw modes	Imp
New dialog box for line styles allowing the definition of new line styles, loading from system files and unloading from projects	New
New option in the display options dialog to allow the specification of a cursor scale when using larger resolution screens	New
There are new options in the graphic views of models to allow the viewing and setting of model attributes	New
The Autosave may not have turned on automatically and it may have had to be set each time the program was run	Bug
The ribbon bar version now has a new option to define the size of the n4ce window at start up. It is in the Options category of the main window.	New
New options on the right click menu for the Survey Data tree item allow you to expand or collapse all the items on the tree	New
When initialising the project tree, there is no longer a gradual build up as the tree is populated with its branches	Imp
Folders for CAD, Models, Sections, Drawings and Images	New
Several common settings are now displayed in a property control to the left of each graphic view.	New
New dialog for the selection of backcloths which includes the ability to specify the draw order or backcloth models	New
The status of collapsed tree items is now remembered for each project	New
The rename options in the list views now also update the project tree correctly, including sorting to alphabetical order and folders	Imp
When loading a project, the remembered status for all folders apart from CAD was not applied	Bug
When adding lidar models to folders, they were not displayed in the backcloth dialog if a folder was selected	Bug
When opening a new graphic window, the settings for the property control are remembered for that type of data	New

The Quick Access Toolbar commands in the ribbon bar version can now be edited and remembered	New
When drawing simple no-solid lines, a check is made to ensure that the pattern would be visible else a solid line drawn	Imp
When an image or point cloud image was deleted, the check to see if it was used as a backcloth was not carried out	Bug
New right-click option on the project tree allows the creation of a model with an image backcloth	New
New option to control the size in pixels at which text is not displayed	New
When placing reference models in a folder, confusion arose when the referenced model had a different folder name to the reference	Bug
New option in the main n4c window to create, modify and delete CSV filters	New
The setting to set the current cursor scale has been removed as it is now read from the registry	Imp
If the view scale was set to 1:10, it would initially display as 1:100 because selection of the first item was skipped	Imp
When deleting a folder from a model view, the item was not deleted from the current model view	Bug

## Survey and General I/O

LandXML files which only contained break lines or boundaries would no read into models. If both break lines and triangles are available, n4ce asks which are to be imported	Imp
When exporting a string to a Paver XML file, the height and chainage values were swapped	Bug
The option to read comments and dimensions that follow a point form GeoMAX files is now available	New
Improvement in speed when reading gridded XYZ files into a model	Imp
Models can now be exported to Google KML files using the OS, Irish or other grids. For other, the user is required to enter the relevant EPSG number	New
When reading from JXK files, not all readings were read in when doing rounds	Imp
When reading from JXL files, the PPM correction can now be applied if it has not already	Imp
When importing from Leica XML, a reading that has a dimension "STN=" would be treated as a control reading	New
When importing from Sokkia SDR files, if an average back bearing was included, this was used rather than the first reading value	Imp
Importing of survey data from Leica XML did not assign the correct code if spaces were used in the point number	Imp
When reading JXL files, reflector less readings were not imported	Bug
The option to create an elevation from a survey or set up was not enabled	Bug
Exporting codes to Leica XML, the code prefix was exported in the wrong place	Bug
When importing Leica DBX files where setups and surveys have been split, free codes may have been placed on the wrong reading	Bug
When importing data using the Trimble Link Engine, the wrong dialog was displayed on the screen	Bug
The option to export a model to a CSV file from the list view of models did not work as it used the normal export routine	Bug
You can now export multiple models into a single CSV file my multiple selection	New
When importing LandXML features into a model, ,N was added to both the first and last points	Bug
When importing from Leica DBX, the @ part of station names is now removed	Imp
The Code Prefix dialog now has the option to multi-select prefixes for the same change to multiple code prefixes	New
When querying points and features from surveys and co-ordinate blocks, the multiple items found dialog is now displayed when more than one item can be picked	New
New option in point code prefixes under the Point tab to define whether a code prefix is to be uploaded to survey instruments or loggers	New
When importing DistanceOffset readings from Trimble JXL, a remark is added showing the offsets that have been applied	New
New option to import the data from an XPad RAW file directly	New
Could not import a JXL file that only contained points and no observations	Imp
New Point and Station Transformation options allow you to select a co-ordinate block and to match those points with points or stations in the survey data to calculate the transformation	New
When adding a new feature code prefix, the list control selection is cleared apart from the new prefix	Imp
When a co-ordinate block elevation is created, you cannot export to AutoCAD until you close and reopen the graphic view	Bug

When importing data from Leica DBX files, if there were no jobs available, the program would continue. Now reports no jobs	Bug
The "On First Point" check box was missing from the Height and Number annotation property pages in the code prefix settings	Bug
When enabling annotation, the settings for the check boxes were defaulted to on rather than off	Bug
The option to export the code table to Trimble devices without the need to use the Trimble Line Engine now available	New
Improvements to the import of comma codes, dimensions and notes from XPad RAW files	Imp
New option to import Google KML files as a CAD model	New
New option in beach sections export to export one of the section formats into a single file rather than multiple files	New
Improvements to CSV import where latitudes and longitudes can be read in and converted to OS Grid coordinates	New
When defining choice lists where you wish to have the option of a blank value but your instrument does not accept blank values, use the ! character as the default and in the choice list and it will be ignored in text macros. Also, when dimensions are imported from logger files, "!" is ignored	Imp
Polygon element can now be imported from Google KML files	Imp
The option to export GeoMAX code CSV files incorrectly exported a Topcon format instead	Bug
When exporting GeoMAX csv files, list attributes were copied if a code had more than one attribute and the list came first	Bug
When defining fields for codes, the list of fields is no longer sorted alphabetically but displayed in the order that they would appear on the instrument. Up and Down buttons allow you to order the fields	New
Trying to Import LandXML data into survey where there is no LandXML data available in the file caused a crash	Bug
A LandXML file that has features and triangles would have only read the features	Imp
An empty timestamp in a JXL or XML caused an exception which caused an Unspecified Error dialog box to be displayed	Bug
A file with Trimble FXL codes exported by n4ce may have been rejected because of a syntax error defining break lines	Bug
When importing for Leica DBX, attributes for GPS points were not imported if there was a space in the point number	Bug
When importing GENIO files, a new option allows you to replace a ,G by a ,N on the next point	New
New option to transform co-ordinate blocks using a snake grid	New
When using backcloths in survey or co-ordinate data, the backcloths are remembered for all survey and co-ordinate data	New
New option in the code feature prefixes to specify that a line is always curved	New
When importing Lidar models in the backcloth dialog, the imported lidar models will be added to the currently selected folder	Imp
New option to export of a model to a Leica DBX database using the Road Runner addon	New
New options to import and export Topcon PT3, LN3, TN3 and TP3 machine control files	New
A data logger file where a point was coded as ## would not import as it was checking for multiple codes	Bug
When importing or exporting using the CSV file option, you now have the option to specify a range of separators which can be used	New
When importing or exporting using the CSV file option, you now have the option to specify which file extension is to be used	New
When reading fields from CSV files with quotation marks, the quotes are now ignored	Imp
New options at the top of the code prefix dialog allow you to select all codes that have a certain element displayed	New
New option in the menus at the top of the code prefix dialog allow you to select prefixes using a search string, such as MH*	New
New option to allow the load and save of choice lists by name so that you do not have to type them in all over again	New
New shape features allowing you to mimic road chevrons using either 4 or 5 points	New
When creating a new code prefix, if the current one had just been created, the values were not copied across to the new one	Bug
When deleting set ups from the tree, the list view to the right was not updated	Bug
When initialising the project tree, survey setups were sorted when they should not have been	Bug
When importing a GENIO file where the format expected 2 points per line and there were only one would only read the first point of the string	Bug

Dropping a PDF file into the main window will create a CAD model and extract whatever information it CAD as lines, arcs and text. An attempt is made to merge text into longer strings	New
When displaying mathematical text macros, a value was being displayed even if one of the values was not there	Bug
When reading logger information. If a dimension has a value of "!", it is ignored	Imp
When importing XPad GPS co-ordinates, the various GPS statistics are now added as dimensions	Imp
When copying and pasting an image between projects, it was pasted as a CAD model causing issues with the project tree	Bug
When copying and pasting models, you can now right click over a folder on the tree to paste it	Imp
When importing FXL code libraries, not all the code may have been imported as the check to see if a code existed was incorrect. PMH would have been assumed as P	Bug
New option to import survey data and GPS co-ordinates from Magnet MXL files	New
Files with extension .001 to .009 now assumed to be an LSS file if dropped in the main window	Imp
When dropping a CSV file into the main window, the data should now be placed correctly in either coordinates or a model	Imp
When importing a PDF file, if it has more than one page, you will be asked which one to import	Imp
When importing from SDR, DC or JXL, dimension names like "V=-" accepted to allow automatic negative values	Imp
The export of multi-line text to MX GENIO made the file unreadable	Bug
When importing text from MX GENIO, the next format command may have been inadvertently read in for long text strings	Bug
When importing a PDF file, you are now given the option to rotate the CAD information by various multiples of 90 degrees	New
When importing a PDF file, you are now given the option to save the current page as an image and load it into the project	New
When plotting a survey grid, you are now given the option the plot the easting text so that it reads from the left	New
Survey radial intersection calculations were not started by right clicking on the project tree	Bug
When importing an image from a PDF file, you are now given the option to apply a scale to the image	New
New option in the code prefixes dialog allows the export of a Magnet MXL code file	New
If the NS, NX or NY dimensions for a shape were set to 0, a crash occurred	Bug
You now have the option to set a 3d Object for a symbol code. This is for future extension of the 3D viewer	New
The Paste and Append options in station, point and DTM spreadsheets now looks to see if text data is available and assume a CSV import of the data	New
New options to Cut and Copy survey and model data onto the clipboard for Excel using the CSV filters	New
When importing stations from LandXML, it was looking for the HeXML node which did not always exist	Bug
When using the CSV filters with the clipboard, the option to specify that the data has come from or is going to Excel added. The separator in the CSV filter will temporarily be replaced with a TAB	New
When creating a model from survey info using the Create Model option from the tree, the dialog now contains a folder in which the model is to be created	New
A crash occurred when exporting a model with a group that had no triangles in it	Bug
The Snake transformation has been updated to allow the keeping of points and stations that are outside of the area of the snake grid parameters in a coordinate block	Imp
When importing CAD from PDF files, if the PDF has an internal image, this is currently ignored to stop n4ce constantly asking for the imagefile	Imp

## AutoCAD I/O

When importing curved, 2d polylines, the curve-fit control points are now ignored	Imp
A crash will have occurred when exporting text strings that only contain \n	Bug
When importing DWG files and duplicate symbols are found, n4ce now says to press Cancel to continue without the import with no further reports	Imp
When importing text styles from DWG files, the sizes of the text styles were not adjusted dependent upon the drawing units	Imp
When exporting to DWG, if road line styles were used together with the shape files export of line styles, a crash will have occurred.	Bug

When exporting, a line of two points where the start and end co-ordinates were the same caused a crash	Bug
When exporting stations on a layout, the station elements may not have had the correct attributes or layer	Bug
When importing codes from Trimble JXL files, choice lists, ranging and defaults have now been included	Imp
When exporting a shape with no shape type set, a line joining the shape points to 0,0 was also exported	Bug
When importing files, if duplicate symbols are found, a report window will now display the full list of duplicate symbols	New
When importing DWG symbols containing regions, a crash occurred when trying to convert the region into a polyline	Bug
When importing symbols within symbols, an incorrect error message will have been displayed in the outer symbol was imported first.	Bug
When importing splines, a check is made on the units to see if n4ce tries to create too many points	Imp
When importing a DWG with a UCS applied, this is now considered when creating the CAD model	Imp
When importing blocks that have an extrusion applied to them, the incorrect angle will have been applied to the symbol	Bug
Exporting feature shapes with solid fills as anonymous blocks would place the height of the solid fill at double the height of the point	Bug
When importing line styles where line type scaling is used, these are now imported and used correctly.	Imp
Symbols were exported with a Z-Scale of 1.0 meaning that if the symbol was exploded in AutoCAD, if the X, Y and Z scales were not the same, all polylines within the symbol were also exploded.	Imp
When importing DWG files, you now have the option to set the chord length for spline interpolation and the offset to filter almost straight splines	New
Exporting ellipses where the major axis was smaller than the minor caused issues with the toolkit that we use.	Bug
You can now drop an AutoCAD DWT file into the main window to import drawing templates	New
When importing attributes to an empty block, the attributes are now imported as text	Imp
If a block in a DWG has been extruded, it is now exploded before reading the elements in	Imp
When reading a DWG file, elements on Frozen or Off layers are imported unless they are inside a block	Imp
When exporting framed text to DWG, the size of the frame was too large	Bug
When exporting to DWG, the images in backcloths are now exported as raster images in the DWG file	New
Images can now be imported from DWG into either the CAD or Drawing as an image element	New
When reloading line styles or point styles, you are now given the option to reload the markers	New
Backcloth images were not exported from CAD, Grid and Alignment databases	Bug
When importing from DWG, if a proxy entity is found, it is exploded to see what data can be imported	Imp
When exporting "Symbol" line styles, the basics of the line were exported but not the symbols. Now, symbol line styles are exploded on export	Imp

## Points and Features

When using the DZ option in the parallel dimension P=, the heights on committed curved segments was incorrect	Bug
When densifying features, if feature points are on the list, the new points are added to the list regardless of the Add to List setting	Bug
The Shape Punch function may have calculated the incorrect height for the new punched point	Bug
When duplicating points for insert or append to features, a new option allows you to not copy the indicated point comma codes	New
When generating points from CAD using the closest text as height, if the view scale is small the closest text may not have been correctly picked.	Imp
When inserting points, you are now given the option of adding vertical attributes as you go	New
New options to interpolate heights from point cloud data for insert, parallel generate, densify, point grids, polygon grid fill and dimensions	New
New option to use the height shading colours for point annotation. There is an overall check box in the DTM settings and can then be defined for each code prefix	New
Apex Append Free allows sketched points to be added to the end of line features, obeying locking	New

Calculating height difference dimensions using the List option applied the interpolated height rather than the height difference	Bug
New option to assume a height calculated from a shape feature when extending a line feature to meet that shape	New
When using some of the point annotation tools, the required annotation attached to points is highlighted when the point is hovered over	New
New options to create parallel line features by indication any position, obeying locking, for All, Between and Segment	New
The option to delete annotation by feature indication would cause a crash	Bug
When selecting points for annotation editing, all the annotation on points that can be picked is not shown	Imp
When creating a model and committing parallel features with height differences, on some points, the height difference was doubled	Bug
When editing annotation by aligning the annotation to its line feature, a crash may have occurred	Bug
The N= dimension to change the code halfway along a feature was not working correctly.	Bug
The highlight of annotation when editing is now an option which can be toggled on the annotation menus. It defaults to on	Imp
When creating using text macros, a mixture of \n commands in both the text and in dimensions caused an issue where a \n may have been displayed in the text.	Bug
Interpolation of heights from DTMs when generating points from CAD may have been set to 0.0	Bug
Crash will have happened when trying to pick a shape or a symbol feature	Bug
When inserting points, if the height selection was from text and insert by new points was selected, the from text button was disabled but the selection was not moved away	Bug
When inserting CAD into the model dedicated CAD backcloth, such as tables, they disappeared as the model extents were not updated	Imp
Text macros can now be used in the prefix and suffix strings for height, number and code annotation and can use the Accept Blank Fields check box	New
When generating points from CAD, the DTM Trend option can now be used even if the Trend DTM does not also have a DTM formed	Imp
Extracting heights from indicated text strings has now been improved to allow for more complex condition, such as S.S.L.=+123.456. Applies to all situations (Generate, Insert, Parallel, Move, etc)	Imp
Trying to insert points into a DTM by model interpolation where there was no formed model caused a crash. Knock on from two items above	Bug
Line Feature Apex Append Free now uses the Shift key for the various 45-degree angles taking into account the direction of the indicated end	New
New Point Transformation options allow you to select a co-ordinate block and to match those points with points in the model to calculate the transformation	New
The option to make a segment parallel to another make have worked incorrectly if the two indicated segments were either side of due north	Bug
The options to make segments perpendicular or parallel now allow the indication of a reference section followed by a series of segments to process	Imp
The option to make segments parallel about the segment mid-point now has an icon and can be added to user-definable toolbars	Imp
The option to generate points using the height option closest text did not work correctly	Bug
When inserting points, the four-point intersection option did not work	Bug
When assigning numbers to points by searching for closest text by border, wrong numbers may have been assigned if the text had not been drawn	Bug
When copying features from a backcloth model, the extents of the current model were not updated	Imp
When inserting points and defining point attributes, if the dimension window was full, it could not be edited	Bug
New option on the Design menu to create a centre line feature from two other features with the same number of points	New
The Mirror Copy points is now enabled even if a model has been formed	Imp
When moving a point using drag, point lock and lock 3D, it was possible that n4ce would pick the feature of the point that was being dragged	Imp
When copying points from backcloths in rectangle mode, the copied points were not shown.	Imp
New option in code prefixes for symbols allows you to specify a symbol needs to have two scales in X and Y, dimensions SX and SY. Works for 1Pt Scaled, Aligned, Request and Ends and 2 Pt Align	New
When inserting points using the Sketch option, the axis lock drawing mode settings will now be honoured	Imp

When generating points from lines, a crash may have occurred if there were multiple lines that were exacting the same and the no duplicate points options was checked	Bug
When projecting points onto CAD lines, if there was a duplicate point at the beginning of the indicated CAD line, the calculated point was incorrect	Bug
New option to transform model points using snake grid	New
The point insert and generate and line parallel and batter dialogs have been improved so that the normal DTM select dialog is used to choose the reference DTM rather than a combo box	Imp
New option in Project Points allows you to accept the closest "miss" when projecting nearly parallel features	New
New option in Parallel Graded strings to allow the specified offset to be applied in the plane of the grade rather than horizontal	New
When filtering point annotation, if Dot on Delete is set, any point whose height is deleted has its point style changed	Imp
New option to apply a shape or symbol number as a dimension to the first point on a shape or symbol. Option is by right-click over the dimension column in spreadsheet	New
New option to restore point annotation by indicating a feature string	New
New option to add or remove points from a list by indicating two points on a feature and selecting those between	New
When entering feature text defaults, the default text box is now a multi-line field so no need to enter \n	Imp
New option to mirror move and copy points about 2 points, a line segment, horizontally or vertically using the pick modes. Copy is enacted by using the Ctrl key	New
New option to mirror move and copy line features as above but no pick mode. Copy is enacted using the Ctrl key	New
New option to align a series of points to have the same offset from a given line feature	New
New options to align a series of points to a line defined by two points	New
New option to insert a point feature at the intersection of a line feature segment and a CAD polyline in the backcloth	New
When inserting points by sketch or four point intersection using near neighbour height, the attributes dialog was not displayed if requested	Bug
New option in point snapping to remove the height annotation from the snapped points	New
Trying to curve line features that were exactly semi-circular would have produced a straight line	Bug
When creating parallel line features, the height from indicated text was not working	Bug
New option Apex → Insert → Free to create a new apex that is not a point and insert it into a line feature	New
New height option in Point Generate allows you to take a height from an existing point if it is there, if not assumes 2D	New
New option in Point Insert to allow n4ce to "listen" for data being placed onto the clipboard. This could use a CSV filter or assume X,Y,Z,Code	New
When placing CAD text using the Tools menu, the text edit field now allows for the input of multi-line text	Imp
The Snake transformation has been updated to allow the keeping of points that are outside of the area of the snake grid parameters in a coordinate block	Imp
New option to create additional points along the walls of steps for better DTM formation when in 3D	Imp
The option Line → Apex → Insert → Free did not set up the undo engine correctly	Bug
When projecting points, the option to move the points is now disabled if a DTM has been formed	Imp
New option in point attributes to set whether points can be modelled or not using the current pick mode	New
Warning when deleting points in list mode and there are no points on the list	Imp

## DTMs and Contours

Improvement in the speed of calculations for a standard datum volume calculation for very large models	Imp
The optimisation of Lidar grid model diagonals for contours and volumes when importing a Lidar file. Also available in the grid model view	New
New option to save DTM height shading defaults to a default file.	New
New option to save and load Group Construction and Material defaults to file	New
Creating thread contours always assumed the height shading and if this was not set up, a crash will have occurred	Bug

New options in feature report now allow you to calculate the plan and slope distances and areas of line features. This can be done as individual features or prefixes	New
New option to allow the definition of new feature code prefixes for features with non-recognised codes	New
New option in group defaults to allow you to clear all existing groups except default	New
When removing points from a model, the points will be flagged with the X comma code so that they are not included in future model formations	Imp
When trying to change the column formatting for a datum volume table, a crash may have occurred	Bug
When creating thread contours in a lidar model with height shading, annotation did not have the text in the correct colour	Bug
New option to create a new model from the select list of the current model. Can be accessed from the model view or from right-click on spreadsheet.	Bug
When creating materials and constructions, the materials were not remembered unless you selected the Save button from the Construction Defaults dialog box	Bug
When defining user shading intervals for DTMs, you can now define the minimum and maximum values using either “-”, “<” or “min” for the minimum and “+”, “>” or “max” for the maximum	New
New option for a height shading key to plot all colour ranges the same size when using user-defined ranges	New
When defining the DTM shading key height intervals, the incorrect interval will have been displayed if the entered value was not in the default list	Bug
New option to create triangles inside a hole in the DTM. Currently, any points inside the hole will not be included	New
When creating an Isopachyte of a grid model, the extents of the grid model were not updated	Bug
The options to create formation models using group depths and extracting groups as models from other DTMs added to Pro	Imp
When defining DTM shading, the user shading ranges for pre-defined shading may not have been enabled correctly when changing shading type	Bug
Improvement in the speed of deleting and cropping grid models using polygons, polylines and corridors	Imp
When generating a report of points and triangles from a DTM, the attributes relating to the 3D view settings were also printed	Bug
The Tools option Grid Commit caused a crash if you defined a new layer and then tried to plot on that layer	Bug
When creating an Isopachyte DTM, if the Simple Projection option is checked, the Group Depth controls are now disabled	Imp
When smoothing threaded contours, if a contour has gap at the end, due to annotation insert, a crash may have occurred	Bug
The creation of a merged grid model for export to ASC or simplification has been speeded up considerably	Imp
When creating thread contours using height shading, a crash may have occurred if the shading was limited	Bug
When creating thread contours, you now have the option to ignore loop contours that are shorter than a user-defined length	New
New option to create a CAD border around a grid model	New
New option to crop a grid model where it overlaps another	New
The current DTM was not displayed in the Display Groups in Background option was set and the backcloths turned off	Bug
After creating thread contours, the undo redo option was disabled	Bug
It was possible to create a current group that was Off by creating a new group as a copy of an Off group	Bug
Warnings are now displayed in construction volumes if materials or constructions are not in the current project	Imp
New option in DTM shading to allow shading intervals to be centred on bands	New
Contour shading now calculates the shading colours using the contour interval so that the colours will match if the DTM shading interval is different	Imp
A single thread contour could not be created because the check on loop lengths was applied incorrectly	Bug
When selecting backcloths and associating DTMs, if you remove all the backcloths, the associates were not cleared	Bug
New option in Grid modelling to crop a lidar model using a closed feature chosen from a backcloth	New



New option in Prism Volumes to allow full group calculations, possibly using group depths, and yet display only the basic cut and fill result	New
New option in the grid view of points to swap the height for a dimension value. The original height is stored in the original dimension	New
When carrying out construction volumes, some construction materials were reported missing in error	Bug
New option to Auto-Hachuring of a single zig-zag string into curved top and bottom of batters	New
New option when hachuring between strings allows you to generate the lines or symbols perpendicular to the bottom line rather than the first line	New
New options to burn shape features, either circles or rectangles, or feature text into hachuring symbols	New
When combing DTMs, a recent update disabled to ability to select DTMs with not triangles	Bug
When no groups are in a model and no groups are loaded, no default group was set	Imp
When creating a unified grid model for a series of other models, you are now given the option to specify priority. It also includes the ability to use triangle DTMs	Imp
It is now possible to create an isopachyte from a grid model to another model on the project tree	Imp
New option to extend the DTM without changing the original triangles by adding points from the point list, those within the boundary of the original DTM are added	New
The process of creating a boundary for a triangle model has been improved	Imp
When creating a simple prism volume table, if on a previous plot, only the volumes has been plotted and you wished to add the areas, a crash occurred	Bug
When new models from the groups of other models, you are now given the option to select more than one group	New
New option to allow the grouping of triangles using the groups and group boundaries of another model	New
You can now import the boundary of the current model onto itself	Imp

## Sections

New option to project the select list of points onto long, feature and point sections for section symbols or point plot.	New
New option when plotting annotation to allow the plotting of group depths and/or the group span widths	New
When plotting multiple sections, the creation of the CAD layers and elements should be quicker	Imp
When creating feature sections, a new option allows point remarks to be extracted as the code. Also, the point code is copied to the section profile by default	Imp
When creating CAD elements, the option to assign a height to new elements has been given a check box toggle to turn it off	Imp
When creating a grid inside a viewport, the text style defined in the viewport settings is now used rather than using the layer style	Imp
When breaking lines, the heights of one part of the line was reset and then could not be undone	Bug
When renaming section profiles, you are now no longer able to rename it to an empty string	Imp
When plotting sections in segments with regular intervals and no change points, the change points for the second and subsequent segments were displayed	Bug
When plotting section grids, if the datum height was negative and not a whole number, the number displayed was 1 higher than it should have been	Bug
When plotting regular intervals with no change points, if a change point coincided with a regular interval, it was removed	Bug
New option in section plot for heights where features are projected from the top profile onto the other profiles for addition heights	New
When plotting section annotation on the section datum, the annotation was higher than it should be if it was not the first item	Bug
When taking sections, a folder combo box allows you to choose the model folders	New
The dialog to choose sections for plotting etc has been improved so that only one dialog box is ever needed and incorporates a folder combo box	New
New option to allow very simple macros involving the height and dimensions to be added to section annotation	New
New option when plotting sections to add gradients between points, plotted as either 1: or %, to be plotted as spans	New
New option to allow section annotation titles to have multi-line text	New
New option to allow section annotation titles to be justified left, centre or right	New

New option when plotting section annotation spans to specify that the span arrows will not be plotted	New
New option allowing two items of annotation from dimensions to be plotted either side of a drop line using a semi-colon as the separator	New
New option when taking a section to specify that the section represents a drainage run	New
When plotting section profiles, you now have the option to specify a line style on "None"	New
New options when plotting section annotation to allow the justification of the text to the bottom, middle or top of the annotation box	New
When plotting distance spans on sections, the position of the text gradually became more incorrect	Bug
New option when plotting sections to automatically bend drop lines	New
The live section profile information is now displayed in a property control to the right of the section view	New
When plotting sections, you now have the option to round the datum and top of box levels to an interval	New
When exporting river sections to an ISIS file, the first profile will be exported rather than it having to be HB	Imp
Section symbols are now displayed as part of the profile rather than part of the drop line	Imp
The option to create a DTM from a single group extracted from another DTM has been improved to allow the selection of more than one group	Imp

## Design

When exporting vertical alignments to LandXML for Leica machine control, the value 0.0 is rejected and has been set to 0.00000	Imp
When viewing alignment vertical profiles, the text for grids and elements uses a minimum of 2mm. It assumes the default text style	Imp
Improvements to the design line dimensions have been made so that if chainages already exist, you are given the option to leave them and fill in any missing ones	Imp
On the alignment view with the ribbon bars, the option to change the horizontal and vertical display parameters was not available	Imp
When extracting EACSD files, if there was more than one hard bed string, hard bed points were added between the strings	Bug
When exporting to EACSD files, the section names and any references to them in the long section are now made upper case	Imp
Further options such as contours and sections add to the grid model view for professional users	Imp
The Grade Between option would not grade across the closing leg of a closed feature but would have graded the other part of the feature	Bug
When battering from a feature up to a surface which is all below the feature, a feature at the edge of the model was created	Bug
A new option in the design menu allows you to perpendicularly project points to another surface to calculate an offset	New
The batter dialog has been improved so that the normal DTM select dialog is used to choose the reference DTM rather than a combo box	Imp
The option to calculate the perpendicular offset of a point from another DTM now works using all three pick modes	New
New option that allows for the comparison of as built to design using the closest point found within a defined search radius	New
When carrying out visibility analysis, some models will not have calculated the correct intersection points	Bug
When projecting a line feature, you can now project to a polyline	New
When projecting through a line feature, you can now project to multiple objects through one feature	Imp

## CAD & Drawings

You could not select the Layer Pen option in the drop box on the toolbars in the CAD view	Bug
The text style spacing factor was not used for column text	Imp
Could not select the first layer in the layer drop down box	Bug
When inserting elements in CAD, you now have the option to specify the height of each element. Also, there are options to Get and Set heights.	New
There is now an option to select CAD text using a search string such as "Level*"	New
Selected CAD text is now displayed with a dotted box around it	Imp

When copying elements in CAD by rectangle, the rectangle did not appear in the correct position for second and subsequent copies	Bug
New option to create boundary polygons for solid fills obeying the pick modes	New
Exploding symbols by rectangle or list did not obey the layers that were stored within the symbols	Imp
When editing viewport settings, the Auto button reported a bad command in either Pro or Lite	Bug
The option to plot the grid lines on top of a viewport in a drawing was missing	Bug
Improvement in speed when selecting a CAD model view using the ribbon bar version	Imp
When selecting the view scale in the dedicated CAD backcloth, this is transmitted to the owner model view	Imp
The extents of a model were not reset when plotting sections in the dedicated CAD backcloth	Bug
When using the CAD Apex Append and the Shift for 45-degree lines, the direction of the last line segment is now considered	Imp
When locking to CAD, the Point Lock (O) will now also lock to vertexes of lines and the end points of arcs	Imp
The option to commit a solid hatch boundary was greyed out in the Designer version	Bug
The option to turn the CAD move/copy preview on or off was not included in the ribbon bar version	Bug
When extending the end of a CAD line perpendicularly to a reference element, it would continue even if a reference element was not indicated and would crash	Bug
The option to delete a viewport from the right-click pop-up menu was disabled	Bug
When creating a partition whilst viewing a dedicated CAD backcloth, an instance of a CAD model on the project tree appears that is linked to the dedicated CAD backcloth causing a crash when closing the program down	Bug
When moving or copying CAD elements by list in either relative, polar, bearing or absolute, a crash will have occurred	Bug
When locking in CAD with Point Lock, n4ce checks to see if a lock to CAD points is available before locking to the ends of lines and arcs.	Imp
Scaling objects in the CAD will have caused a crash in the ribbon bar version of CAD	Bug
When selecting databases to add to viewport backcloths in Pro or Lite, the image data databases were put into the alignment database property page	Bug
When drawing hatches in viewports, a round-off error meant that the edges of the hatches were not correct	Bug
When added to the CAD list, items such as tables, dimensions and hatching now use the dotted line to display	Imp
New dialog for the specification of and selection of models in drawing viewports including the ability to specify model draw order	New
New option to transform the elements in a CAD model	New
When creating and editing viewports, the scale entered in the dialog was not applied	Bug
When creating a drawing using a partition in a model view, the current model is added to the viewport in the last to be drawn position	Imp
The angle in the viewport settings was not displayed correctly due to units formatting	Bug
New option in the Tools Menu to allow the transformation of a CAD model using known co-ordinates	New
When entering text in CAD, the edit box used is now multi-line so no need to use \n	Imp
New option in dimensions to allow distances to be displayed as yards	New
Symbols that had a negative scale (mirrored) could not be picked with any certainty	Bug
Symbols can now be mirrored in CAD, ie the symbol contents are mirrored, not just the handles	New
When in the CAD view, you can now select the property name to select certain defaults, (Layers, Pens, Lines, Text, Points – Search Current and Point Size)	New
New option to transform CAD using one, two or three points and specifying distances, an angle and co-ordinates	New
New options to Cut, Copy and Paste drawings between projects. Only the paper space and viewport positions are processed	New
The image Transform option for JPG, PNG, BMP and TIF files has been extended to add the rotation to the translation and scaling of the image	New
New options to place and edit images as a CAD object in CAD models and drawings	New
When drawings are read in from an SDB, any picture viewports are converted to a CAD image	Imp
Option to create Picture Viewport on drawings has been removed	Imp
New option to convert a CAD image into backcloth image for large images imported from DWG	New
Point markers were displayed at an incorrect size in viewports when the scale of the viewport was different to the scale of the model	Bug
The option to create a solid fill inside a sketched circle was missing from the menus	Imp

When plotting tables of keys, the text assumed a readable setting which in rotated viewports, turned the text upside down	Bug
New option in CAD dimension defaults to allow various units to be used when displaying the areas of elements and polygons	New
You could not mirror special symbols, such as dimensions, using the horizontal and vertical mirror options	Bug
When creating points along lines and arcs, the last value entered is displayed as the default. The length of the element is now in the title	Imp
The option to create solid fills inside circles has been added to the options to create solids by indicating or rectangle around elements	New
When using the select list, the select list buffer did not add elliptical arcs	Bug