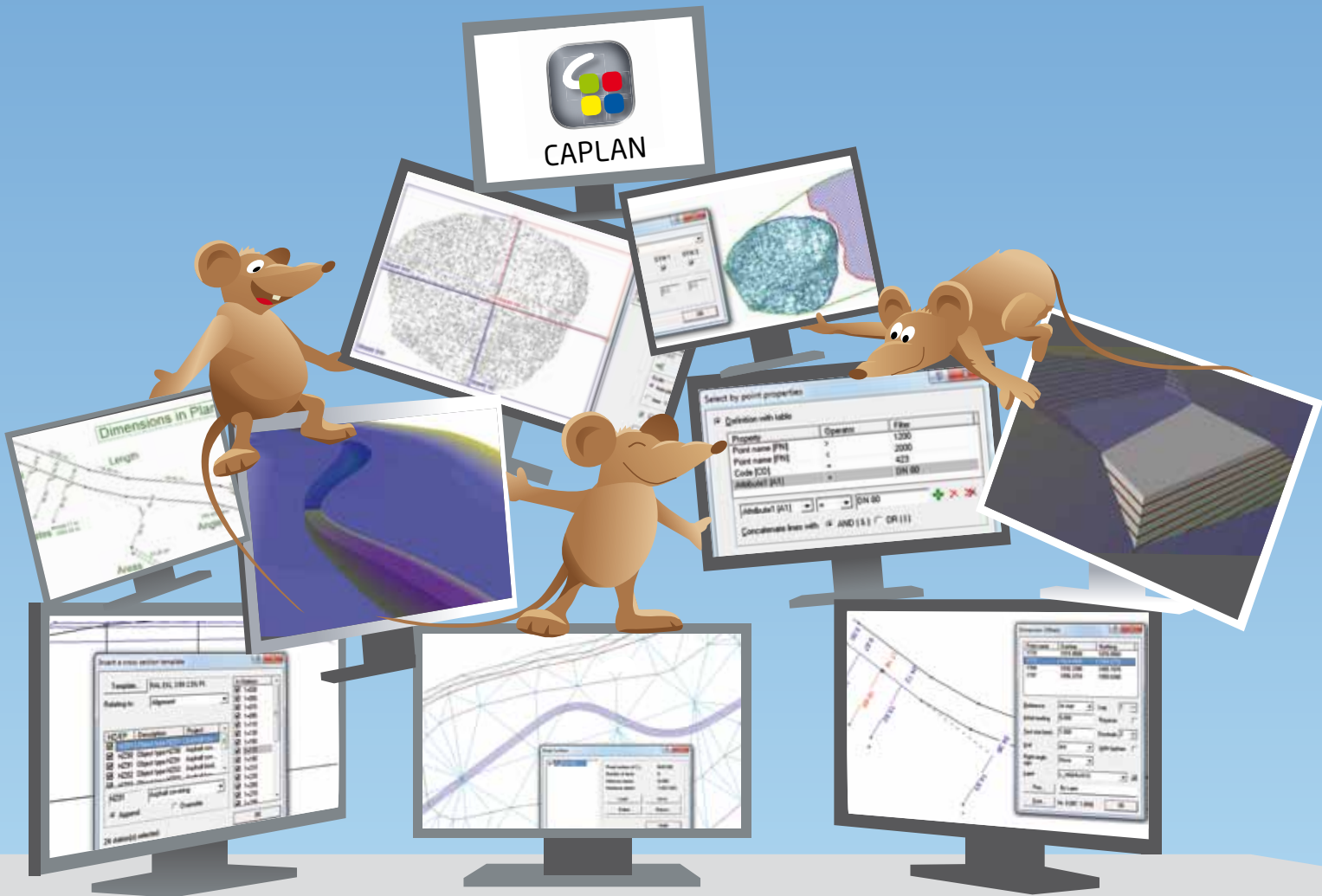




..... **CAPLAN** - a comprehensive view





CAPLAN

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●..... CAPLAN for Surveying and Civil Engineering

CAPLAN is a surveying CAD program developed and marketed by the company Cremer Programmentwicklung GmbH. Since the company was founded in 1995, our mission has been to provide customers with flexible tools for their everyday work. Our motto is "By surveyors, for surveyors", in other words our program development is based on close cooperation with the users. This ensures that CAPLAN is easy to learn and use despite its comprehensive and extensive functionality.

CAPLAN caters for all tasks encountered in surveying civil engineering, for example if you need to

- carry out surveys using total stations and/or GNSS technology,
- create inventory plans,
- construct digital terrain models (DTMs),
- determine the volume of an excavated pit,
- verify road construction volumes using cross-sections,
- set out a road surface,
- carry out special engineering surveying tasks,
- process tacheometric (total station) observations and leveling observations,
- determine the breakthrough accuracy when tunneling,
- adjust networks with the highest level of precision.

CAPLAN is the perfect tool for all these tasks, and many more besides. The program also offers interfaces to all common data transfer formats. The following pages supply detailed descriptions of the solutions provided by CAPLAN and its various modules.

A selection of comments from our customers:

"I really enjoy working with CAPLAN. It is stable and is clear and easy to use – it is quite simply a very good program – please keep up the good work."

"Many thanks for the rapid analysis of my requirements and the enhancements you implemented. That is what I call good product support."

"...the software deserves great praise, as it is very intuitive and easy to use ..."

"Purchasing CAPLAN was a great decision – this is confirmed again and again on a daily basis ..."

"The extensive range of new features implemented in the Plan Window means that I can soon completely get rid of my old collection of CAD programs."

"CAPLAN, line-accompanying symbols...simply fantastic!!!"

"We have been using your programs for many years and are really happy with them."

"One can handle everything with the Cremer programs ..."



Project Database

Module: **CAPLAN**

The basic CAPLAN module provides an optimized project database component that can be used to carry out all manner of processing and calculations, and a plan output component that can be used for creating plans, maps and (cross and longitudinal) sections. It can be supplemented with individual additional modules so that CAPLAN is perfectly tailored for your particular surveying tasks.

The CAPLAN project database usually contains points and lines, and can also be used to save and process alignments, sections (profiles), observations and 3D objects. Complex objects, such as networks and DTMs, can also be handled in the project database.

When loading and saving individual files, the data format can be set using the file type option. The CAPLAN module supports all common point and line formats (such as manufacturer-specific total station formats, CSV, DXF, LandXML, NAS, and Google Earth KML). User-defined formats can also be created, which are then permanently available in the program.

CAPLAN supports several methods for recording line strings in the field. When loading a tacheometric data file, you simply specify for CAPLAN which method was used and where the line codes are defined.

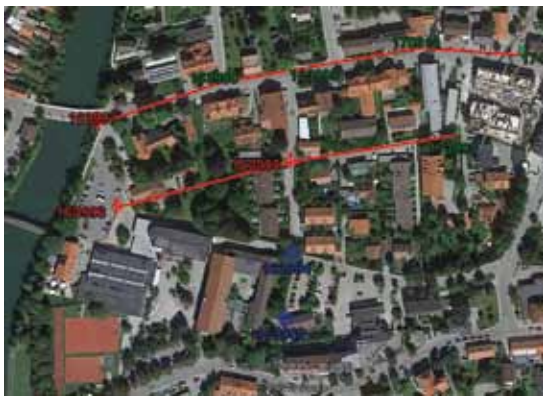
Point names can be up to 16 characters long. Each point also has an object type property and can be allocated up to 8 other attributes (e.g. shaft depth, cover size, etc.). The appearance of the lines is also determined by the object type.

Project data is displayed in three windows: a point directory, an overview and a detail view. Other views (e.g. longitudinal sections, cross sections etc.) are available in the plan window.

The integrated view controller can be used to easily switch on the layers that are of interest and switch off the others. The display properties for each layer, such as colors, object sizes and labeling can also easily be amended in a few simple steps.

Even the basic CAPLAN module provides an extensive range of tools for editing points and lines, including functions such as select points, shift coordinates, bearing and distance, detail points and offsets from reference lines, polygon rounding using arcs, and transformations using two points.

All processing steps can be undone and redone. The results are documented in the CAPLAN.LST file and the template defining the format of this list can be adapted to suit individual requirements.



CAPLAN points and lines displayed in Google Earth

Code	Description	Symb	SS	SRI	LType	SP	Patt	PF	PR	Col
38	Building	99	1.0	0.00	1			1.0	0.00	By Layer
39	Masonry	9	1.0	45.00	8			1.0	0.00	By Layer
40	Fence	3	0.5	0.00	7			1.0	0.00	By Layer
41	Hedge	88	8.0	0.00	By Layer			1.0	0.00	
42	Deciduous tree	84	10.0	0.00	By Layer			1.0	0.00	
43	Coniferous tree	87	10.0	0.00	By Layer	1		1.0	0.00	
44	Land-use boundary	99	1.0	0.00	2			1.0	0.00	
45	Cutting upper edge	99	1.0	0.00	1			1.0	0.00	
46	Cutting lower edge	99	1.0	0.00	4			1.0	0.00	
47	Embankment upper edge	99	1.0	0.00	1	*		1.0	0.00	

Description	Coniferous tree	Symbol	87	
Layer	LANDUSE	Size (mm)	10	
Short text	43	Attributes (0)	Rotation	0
Object type	Individual	Color	Green	
Line style	By Layer	Pattern	None	
Line weight	0.35 mm	Factor	1	
		Spline	Rotation	0

To the plan window

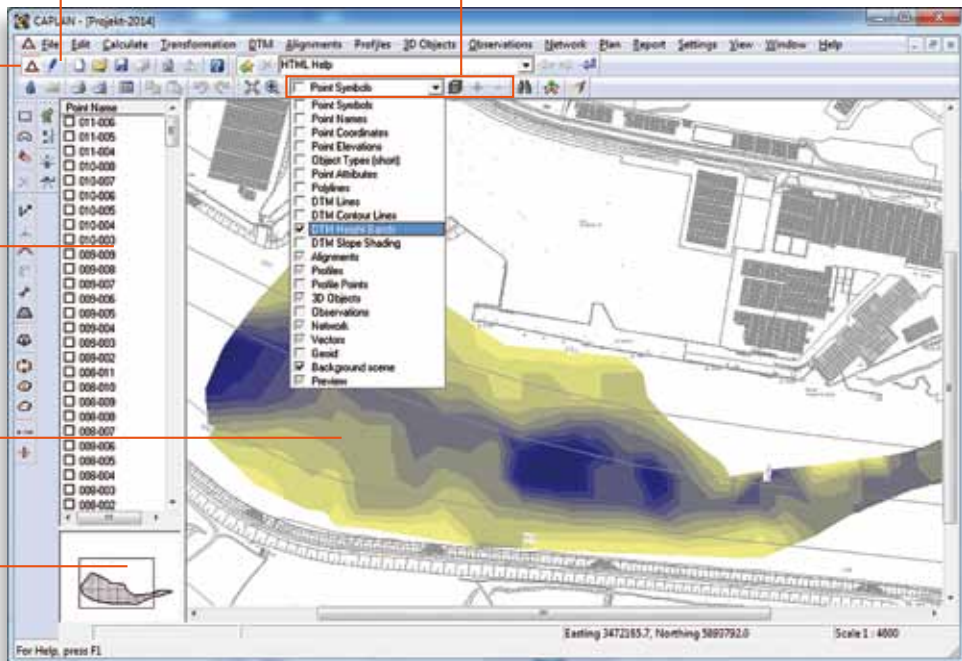
View controller

To the project window

Point directory

Detail view

Overview





Plan Window

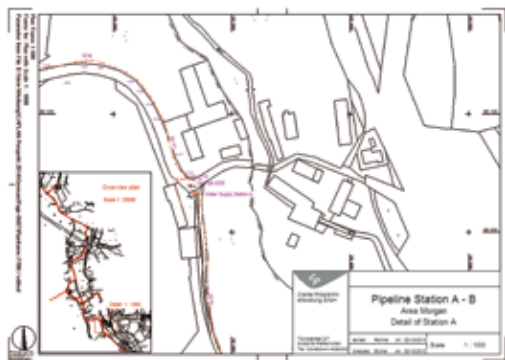
Module: **CAPLAN**

The data management and design options in the CAPLAN plan window provide everything that is required of a standard CAD system being used for surveying purposes: a universal layer structure for all drawing elements (symbols, text, polylines, areas and images) as well as freely definable symbols, which can also be imported from DXF files. As in the project part of the program, all the points in the plan window have a point name, an object type, and up to eight other attributes. The vertical positioning of all plan elements is a prerequisite for spatial references and 3D calculations.

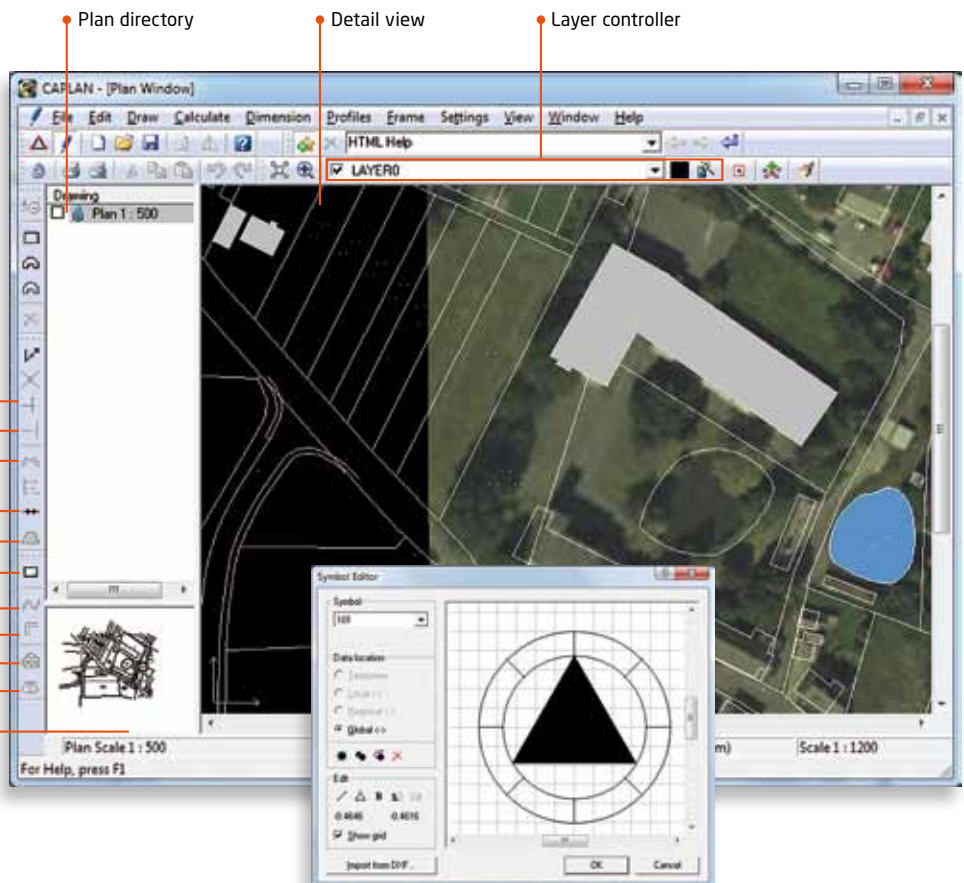
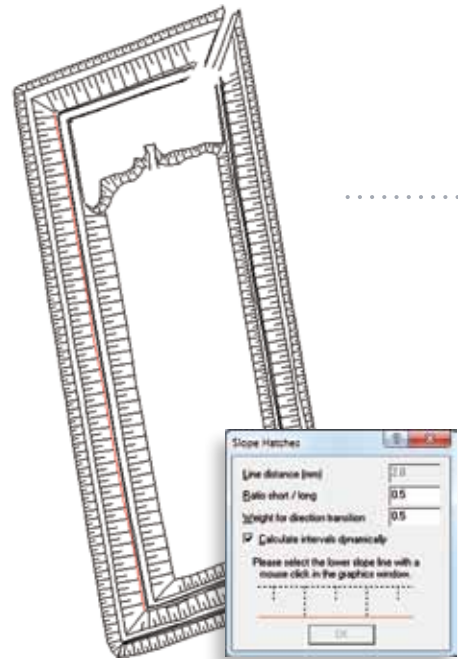
A plan is usually the visible document that results from a surveying assignment. While the project only uses standardized representations of features, the plan design allows virtually everything the user could want in terms of display capabilities, including freely-definable text additions and also the hatching of buildings and slopes. Existing planning documents, such as orthophotos or satellite imagery, can also be used to provide a georeferenced background. Useful design functions together with snapping options allow rapid completion of plans. Newly designed symbols and lines can be transferred to the project window via the clipboard. A range of dimensioning functions enables numeric embellishment of plan data. Contour lines and splines can be smoothly rounded in the plan window, in contrast to the project window, which deliberately does not have this functionality for reasons of speed and optimization. Plans can also be converted to other coordinate systems using datum and parameter transformations.

For the production of documentation and reports, plans can be furnished with a DIN/ISO compliant frame, a title box and other details such as a legend and a coordinate grid. All plans can be output to printers and plotters directly or together with their associated frames.

The DXF interface is available in both directions (import and export) in the plan window. The point information, such as point name, object type and attributes, is converted into block attributes during this process. In addition to the older R12 format, CAPLAN also supports the newer DXF 2004 and DXF 2012 formats, which allow not only the transfer of the full range of colors, but can also save hatched areas and images.



Plan frame with overview and title box within the frame





Engineering Surveying I

Modules: **INDIGO** **MASSEN**

Digital terrain models (DTMs) allow the calculation of various route planning options without the need to collect additional data. CAPLAN can process data regardless of whether it has been collected terrestrially (with a total station or GNSS), by boat (using echo sounding) or from the air (using photogrammetry or airborne laser scanning).

More than 100,000 points can be quickly meshed to form a triangular network (TIN), and the program's special viewing functions (contours, elevation bands and slope shading) can be used to easily identify potential data errors. The local editing functions allow amendments to be made in just seconds, and the amended output is displayed immediately. An even more detailed visual inspection is provided by the spatial representation of the DTM in the VIS-All® software developed by our partner company Software-Service John GmbH.

Height interpolations using the DTM grid and/or alignment-related longitudinal and cross sections allow accurate planning calculations to be carried out. Cut and fill volumes (calculated using prisms) resulting from the intersection of two DTMs can be displayed graphically in a difference model, which not only provides a clear visual illustration but also allows accurate and transparent verification.

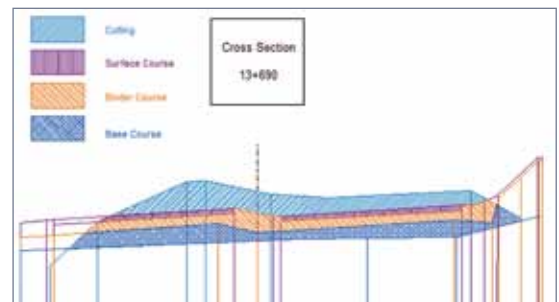
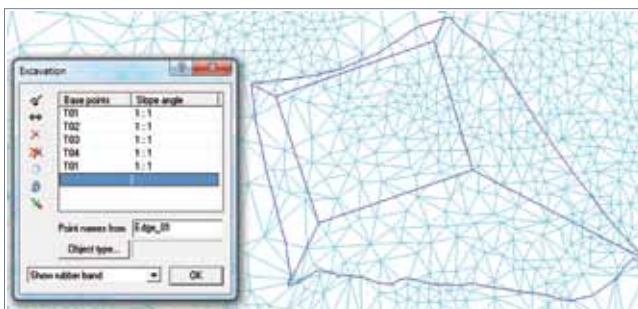
If the client requires documentation of volumes between boundary lines, the calculation areas can be compiled and defined by means of cross sections with multiple horizons. The preferred data source is a DTM, but sections recorded directly in the field are also common. The volume calculation can be documented using a series of cross section drawings and a report. If the situation in the cross sections is very complex, the cross-sectional areas at the individual stations can be defined as polygons and processed in the volume calculation using cross sections (based on the Elling method). Furthermore, a surface calculation can also be carried out using cross sections.

The INDIGO license offers the following:

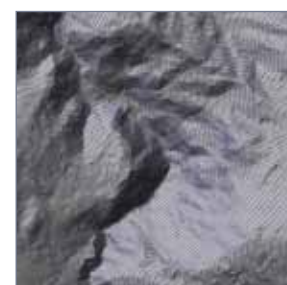
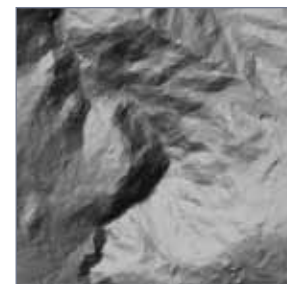
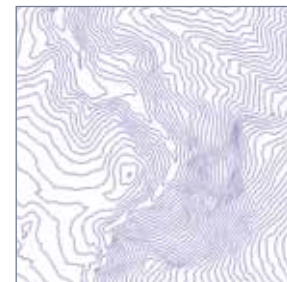
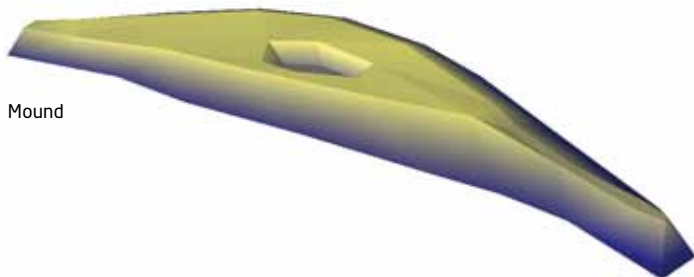
- Generation of a DTM with an outer border, exclusion areas and break lines
- Loading and saving of datatype 58, LandXML, DXF and Trimble TIN data formats
- Merging of two terrain models
- Output to machine control systems
- Editing with visible and real time update of the terrain model
- Generation of contours, colored gradients and slope shading
- 3D visualization using VIS-All®
- Interpolation of freely-defined sections through multiple DTM horizons
- Interpolation of longitudinal and cross sections
- Height interpolation at grid points and for individual points within the DTM
- Volume calculations between two DTMs
- Preparation of data for check and review calculations (based on the German REB standard)
- Generation of excavations, mounds, terraces and slopes

The MASSEN license offers the following:

- Volume computations between horizons
- Up to 99 different horizons (boundary lines)
- Positions with varying boundary lines
- Volumes based on cross sections (using the Elling method)
- Up to 99 positions (closed polylines)
- Surface calculations based on cross sections
- Up to 99 positions (open polylines)
- Curvature corrections
- Interpolation of zero profiles (where cut changes to fill)
- Reports sorted by position and station (chainage)
- Graphic representation of cross sections
- Cover page with a summary of all positions
- Preparation of data for check and review calculations (based on the German REB standard)



Volume calculation based on cross sections





..... Engineering Surveying II

..... Modules: **ACHSEN** **LQPLAN**

With regard to carrying out volume calculations from cross sections, when constructing roads there are a whole range of positions for which calculations need to be carried out, resulting from the building up of the substrate and the sub-grade. The ability to edit cross section designs and constructions directly in the plan window is one of the distinguishing features of CAPLAN.

The profile structure is adopted from a cross-section template in which all the profile lines (horizons and Elling lines) are already predefined. CAPLAN represents each alignment with a vertical curve as a triangle in the cross section, so that you can check the suspension of the cross-section templates in the plan immediately. The LQPLAN module can be used to insert cross-section templates individually or simultaneously at several stations.

You can design and complete the structures based on the cross-section template and at special stations, as well as integrating the original terrain. For this purpose, LQPLAN provides a range of tools:

- Add point on left or right hand side of a horizon
- Insert curve / trench to left or right
- Free definition of reference point for design construction
- Insert new horizon / delete horizon
- Vertically shift / cover a horizon
- Include intersection points with other profile lines
- Delete point, move point etc.
- Create and edit Elling lines
- Create new profile stations
- Interpolate intermediate profiles.

All design construction operations can be carried out at multiple stations simultaneously if required. Once all the profile lines have been constructed in the plan window, you can transfer the data to the project database and start the volume calculations using the relevant positions.

The road surface describes the upper surface of a road by means of lane width and crossfall values. There are a range of functions available to assist with the setting out and checking of road surfaces.

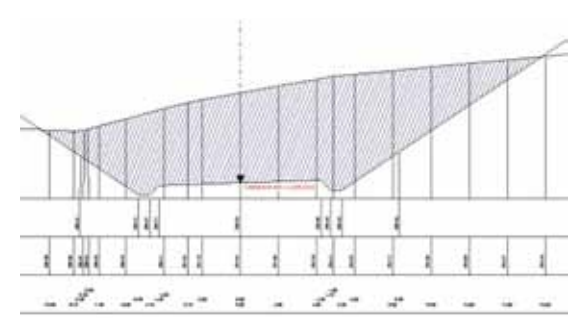
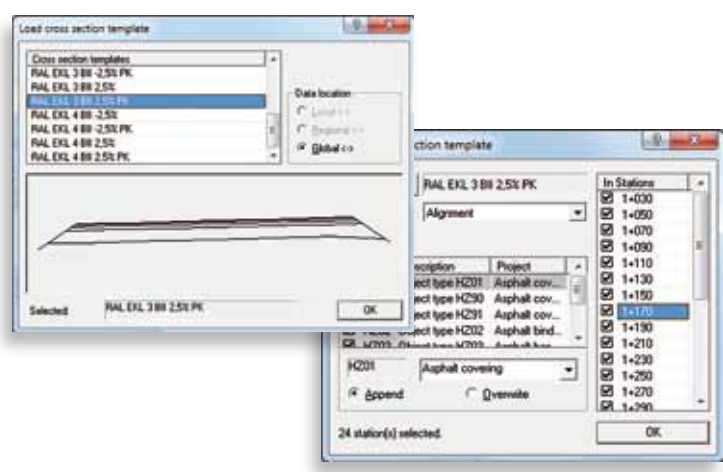
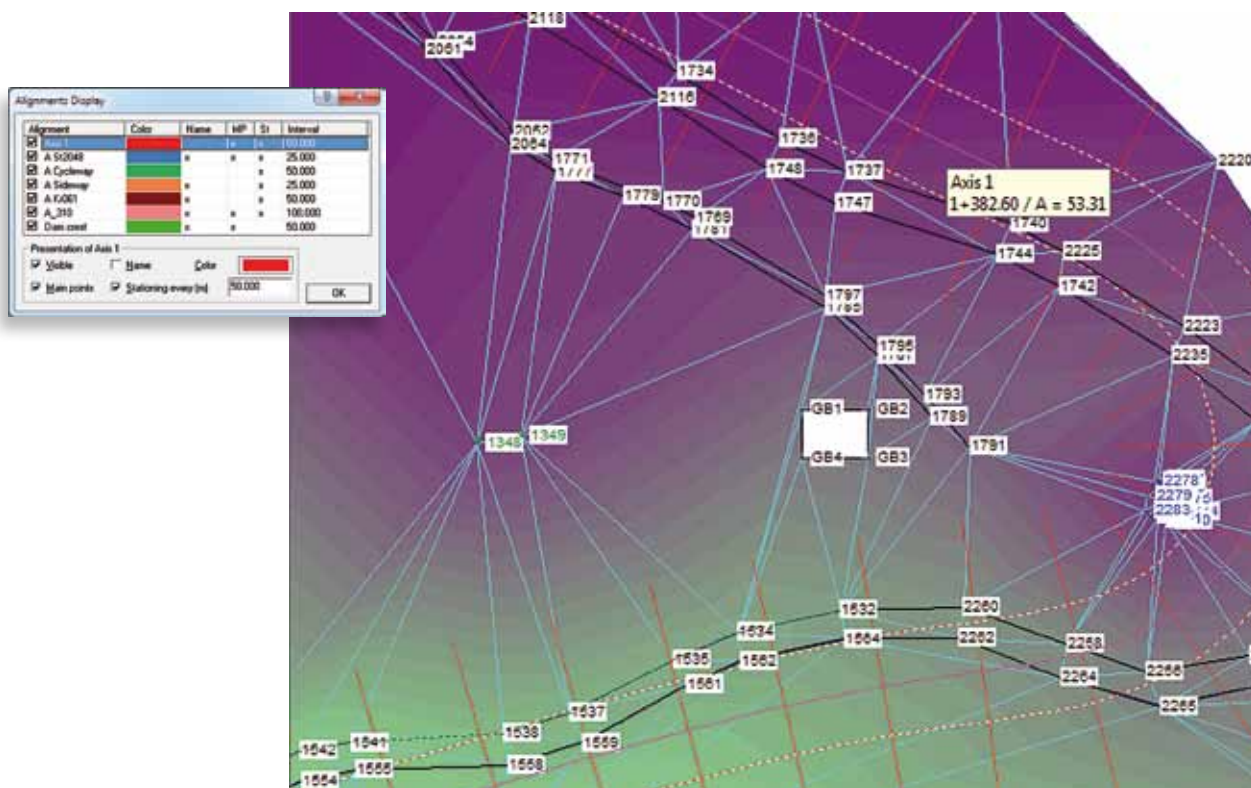
The geometry of road surfaces and profiles is always referenced to an alignment. Normally, the fully-defined alignment is provided by the client. This can be loaded and saved in various formats (e.g. DA 40, LandXML etc.), and manual input is also possible. For special tasks, the ACHSEN module provides additional functionality.

The ACHSEN license offers the following:

- Special transition curves for rail routes (e.g. Bloss and Schuhr curves)
- Best fit straight line
- Best fit circle
- Tangent polygon
- Spline through specified vertices
- Alignment-based detail points and setting out
- Diagnosis of critical points (in 2D and 3D)
- Intersection between two alignment parallels
- Perpendicular distances between two alignments
- Transformation

The LQPLAN license offers the following:

- Creation of profile plans from templates
- Graphical editing of templates
- Design and construction of cross sections in the plan window
- Use of cross-section templates
- Free definition of cross-section templates
- Simultaneous editing of multiple profile stations
- Exchanging of profile data with the project database
- Interpolation of profiles from points and/or lines
- Road surfaces with calculations for setting out and performing checks
- Interpolation of profiles from road surfaces
- Data exchange interfaces for DA 55, DA 66, LandXML formats etc.





●..... Processing of Polar Observations

●..... Modules: **DIRAUS GPUNKT NETZ1L**

During the processing and evaluation of observation data, CAPLAN always takes the possibility of human error into account. This is in particular the case with regard to the processing of polar or radial (angle and distance) observations, where mistakes such as point mix-ups in the field are unfortunately not uncommon. Surveyors appreciate the automatic plausibility checks that are applied at all stages of the processing, which ensure error detection at an as early stage as possible.

The DIRAUS module can be used to process and evaluate raw data from surveying instruments, with all the major manufacturers (Geodimeter, Leica, Sokkia, Stonex, Topcon and Trimble / Zeiss) being supported. Station checks and the subsequent foresight/back-sight comparison offer a first opportunity to identify possible point mix-ups.

In order to ensure the highest levels of accuracy, new points are calculated in two stages: The first step determines the best possible approximate coordinates, with specific algorithms negating the effects of gross errors and providing remarkably stable results. In the second stage, refined coordinates are determined by carrying out adjustments.

The GPUNKT module allows the determination of traverses, as well as the calculation of individual points by means of adjustments applied to redundant measurements. The largely automated determination of new points is also possible, using automatically detected traverses, so that subsequent points will be assigned the best possible coordinates.

GPUNKT also caters for the full spectrum of basic surveying tasks, ranging from the calculation of intersections between lines and circles to the carrying out of Helmert transformations and area calculations. Special spatial tasks are solved using 3D objects such as spatial lines, planes, circles, cylinders and spheres.

The NETZ1L module can be used to create and adjust 2D plan control networks; for this, it is possible to easily amend the control point conditions and permit all types of network, from completely free networks to fully-constrained networks. In addition to the planning of networks and the forecasting calculations available, breakthrough accuracy prognoses can also be performed when working with tunnel networks.

The DIRAUS license offers the following:

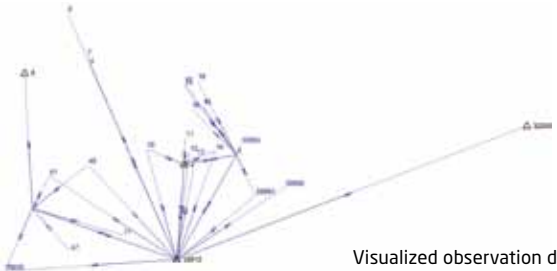
- Field book documentation
- Setting out documentation
- Sequential station reduction
- Processing checks for detecting point name mix-ups
- Instrument parameters and prism data
- Hidden point rod
- Data exchange interfaces for all instrument manufacturers

The GPUNKT license offers the following:

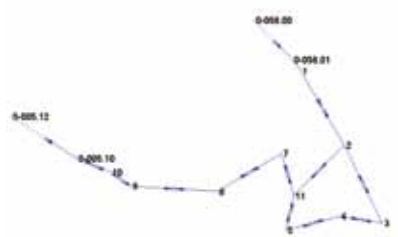
- Orientation / circle reading
- Traverse calculations
- Single points and polar points
- Single point adjustment
- Processing of polar observations and GNSS baselines
- Automatic assignment of observation data to control points
- Recognition of traverses and GNSS traverses
- Automatic detection of gross errors
- Detail points and offsets from survey lines and/or polylines
- Helmert transformations (2D)
- Intersections between polylines and circles
- Area computations
- Computation of building-face points
- Calculations involving 3D objects
- Evenness checks pursuant to DIN 18202

The NETZ1L license offers the following:

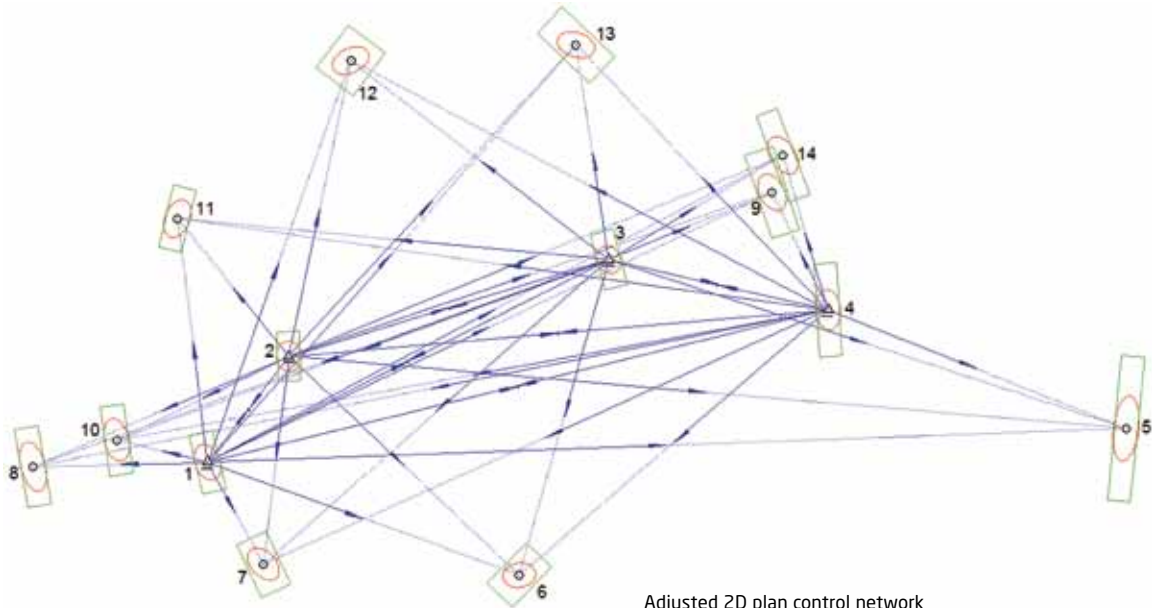
- Creation and adjustment of any size of plan control networks
- Free, dynamic and final network adjustment
- Prognoses for planned control networks
- Distances, bearings and gyro azimuths
- Gross error detection
- Quality assessment of control point coordinates
- Internal reliability of all observations
- External reliability of all coordinates
- Distance analysis with relative error ellipses



Visualized observation data



Traverse



Adjusted 2D plan control network

Evenness Control

Control points	dH	R	C	-	Calculate
<input checked="" type="checkbox"/> A0	0.005	F	1		Normal vector: Bearing = 146.31545 Zenith = 0.16769 Std.dev. = 0.0030
<input checked="" type="checkbox"/> A1	0.005	F	2		
<input checked="" type="checkbox"/> A2	0.005	F	3		
<input checked="" type="checkbox"/> A3	0.006	F	4		
<input checked="" type="checkbox"/> A4	0.005	F	5		
<input checked="" type="checkbox"/> A5	0.004	F	6		

Grid
 Origin: A0 Orientation point: A10 Interval 1: 0.5 Interval 2: 0.5

Tolerance (m): 0.010

Create control project

Z-coordinate from: Distances to best fit plane

Grid position Unit: Meters

Write and display report

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
11																												
10																												
9																												
8																												
7																												
6																												
5																												
4																												
3																												
2																												
1																												
0																												



Leveling

Modules: **NIVAUS** **NETZ1H**

When very accurate and precise elevations are required, leveling is still the first choice among the various methods of measurement available. The types of leveling range from the simple observation of profiles with a dumpy level to precision leveling using invar leveling staves equipped with barcodes and first order leveling methods used by national surveys.

With the NIVAUS module, users can import data from all common automatically-recording instruments (Leica, Topcon, Trimble/Zeiss). Handwritten field book records can also be entered, with support being provided not only for standard leveling but for also for observations made with double scale staves and when working with 3-wire leveling. All checks are carried out as early as possible so as to minimize the risk of point mix-ups.

When working with pre-determined control point elevations, NIVAUS automatically compiles leveling runs and loops and distributes any closing errors. Elevation computations carried out for laterally-observed points are so good that they are suitable for many engineering geodesy purposes. In order to provide the basis for evenness checks pursuant to the DIN 18202 standard, the leveled points can also be placed in a pre-defined grid.

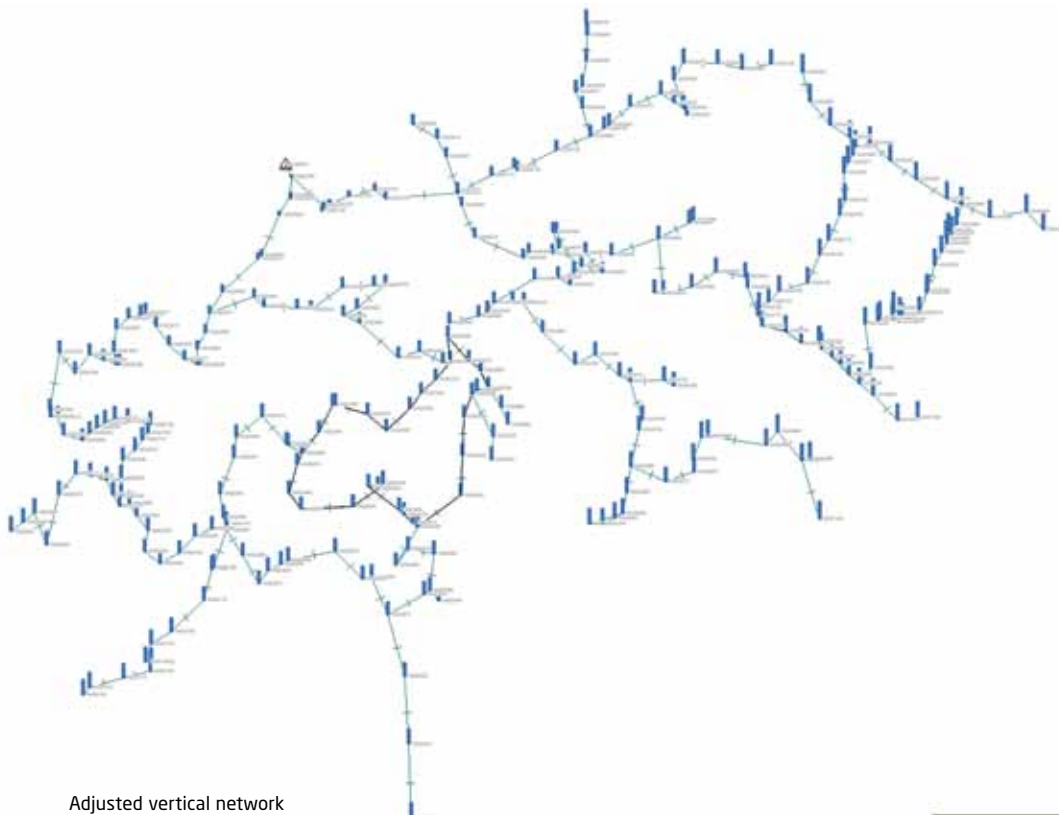
The NETZ1H module is recommended for elevation calculations requiring the highest possible level of reliability, as this module enables network adjustments to be carried out with a range of control point conditions (free, dynamic and final). For precision networks of the highest order, the height differences are reduced. The normal-orthometric reduction compensates for the non-parallelism of level surfaces, which generally only arises in the north-south direction. The reduction due to gravity anomalies takes local mass inhomogeneities into account, which also affect the level surfaces.

The NIVAUS license offers the following:

- Data import from digital leveling
- Manual input of field book data
- Staff calibration (scale, marking line corrections etc.)
- Use of various staff divisions (e.g. 1/2 cm)
- Correction for expansion due to temperature
- Level loop closures with estimation of accuracy
- Two-peg collimation test
- Elevation calculations in leveling runs and loops
- Profile point calculation
- Grid leveling and evenness checks pursuant to DIN 18202

The NETZ1H license offers the following:

- Creation and adjustment of large leveling networks
- Normal-orthometric correction
- Free, dynamic and final adjustments
- Prognoses for planned leveling networks
- Gross error detection
- Quality assessment of control point elevations
- Internal reliability of all observations
- External reliability of elevations



Adjusted vertical network

Leveling Staves

0000 Standard
0001

Description	Value/entry
Number	0001
File name	NL0001.DAT
Calibration date	Aug-2010
Reading sets (1 or 2)	2
Factor (reading > m)	1.00000000
Expansion coefficient (mm/m/°C)	0.0000

Aug-2010
Length = 4 m
Scales = 2
Difference = 0.00000 m
Directory: C:\Cramer\English\DAT

Data location:
 Local c:\
 Regional c:\
 Global c:\

New... Edit... Remove

Add... Report... Close

Two-Peg Collimation Test

	Backsight	Foresight	Rise
Instrument setup in middle	2.734	2.095	0.639
Instrument close to backsight	1.892	1	0.892

The second foresight should have a value of 1.253 m.

OK



●..... GNSS / Transformations

●..... Modules: **KOTRAN NETZ1R**

GNSS technology shows its strength in particular with regard to basic networks: it offers homogeneous and high accuracy over the entire project area with relatively low measurement effort. Here, economy and precision meet in perfect harmony.

The NETZ1R module extends the options available for performing horizontal and vertical adjustments. With the combined spatial adjustment, it is possible to combine already processed GNSS baselines with classical terrestrial observations (such as total station surveys and leveling) and to integrate them using weighting based on their respective accuracies in order to create a single hybrid spatial network.

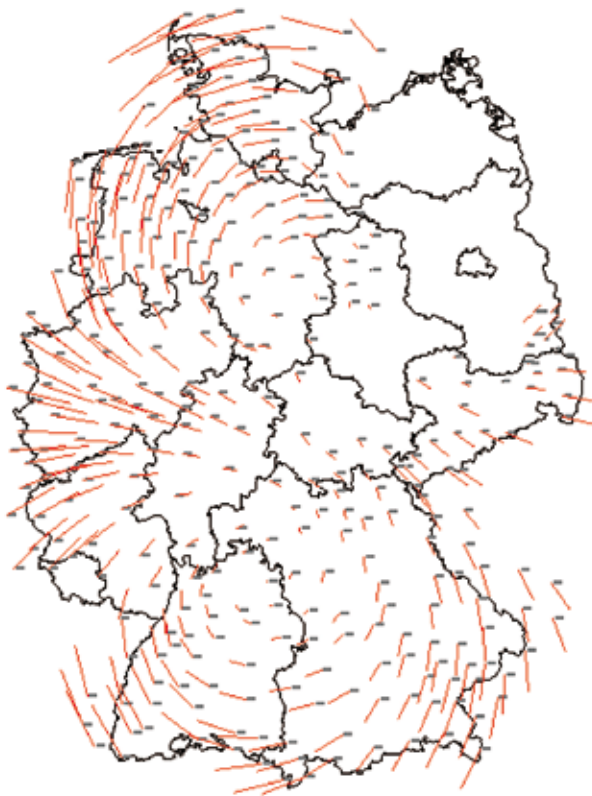
As a result of the compatibility of all national survey organizations with the WGS / ETRS89 coordinate systems, there are numerous new tasks that can now be solved by CAPLAN with its KOTRAN module. Older coordinate systems can be converted only in approximate terms to the new ETRS89 system when using conformal 3D transformations. For higher accuracy requirements, local inhomogeneities must be taken into account, which can be approximated in many cases by the NTV2 method. CAPLAN offers the common NTV2 approaches, with grid files from respective suppliers being used. The user's own NTV2 grids can also be utilized.

The KOTRAN license offers the following:

- Numerous projections (UTM, Lambert, Stereographic)
- Transformations between projection zones (zone changes)
- Transformations to other datums (e.g. ETRS)
- NTV2 (e.g. BeTA 2007)
- Import and export of WGS (x, y, z or latitude / longitude)
- User-defined point data formats
- Transformation of plans in the plan window
- Geometrical transformations of point and DXF files (individually or in batches)
- Meridian convergence and UTM grids
- Calculation of datum parameters from identical points
- A range of geoid models (WGS, EGG97, GCG2011 etc.)
- Control point transformations (Helmert, affine etc.)
- Distribution of residuals
- Automatic assignment of control points
- Parameter transformations without control points
- Import of GNSS baselines
- GNSS baseline closure checks
- Offset corrections for GNSS baselines
- Calculation of provisional national grid coordinates
- Recognition of false point names

The NETZ1R license offers the following:

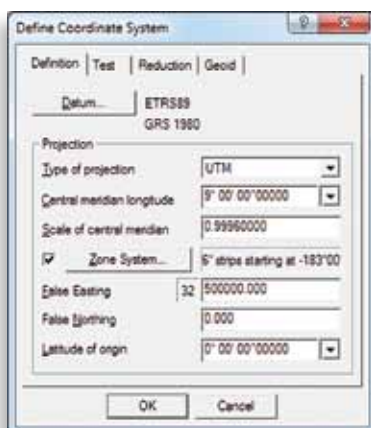
- Combined adjustment of terrestrial survey measurements and GNSS baselines in a national coordinate system
- Free, dynamic and final adjustments
- Prognoses for planned spatial networks
- Distances, bearings and gyro azimuths
- Level differences, zenith angles and slope distances
- GNSS baselines
- Gross error detection
- Quality assessment of control point coordinates
- Internal reliability of all observations
- External reliability of coordinates
- Distance analysis



Differences between the conformal transformation DHDN 2001-ETRS89 and the NTv2 approach BeTA 2007



Helmert transformation with distribution of residuals





Deformation Analysis

Module: **NETZ2X**

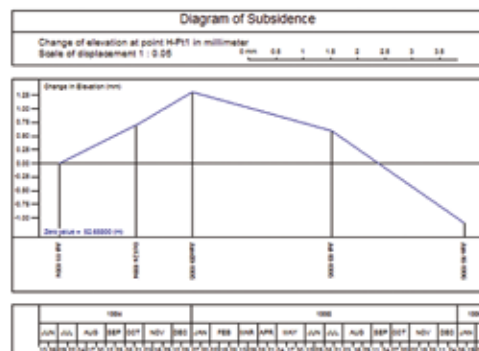
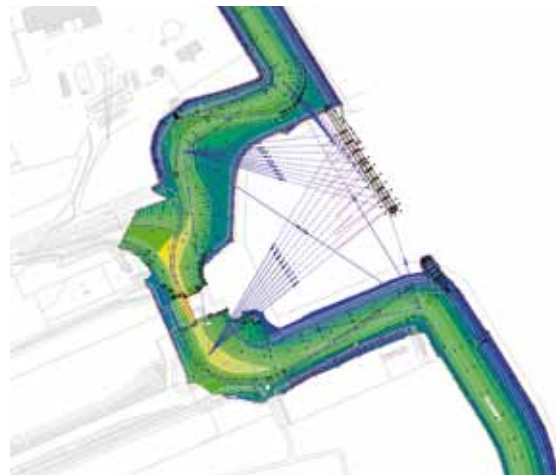
Horizontal and vertical control surveys of building structures usually consist of an initial survey, made upon completion of the construction, followed by subsequent surveys, carried out at regular time intervals, to monitor possible deformation. Regardless of whether the control is done on a basic network, a structurally-engineered building or a dam, the objects being checked should always be defined using a sufficient number of enduring object points, the position of which can be checked against safe and stable reference points.

Many documentation procedures are based on a direct comparison of coordinates, which corresponds to a movement analysis. A prerequisite in this regard is that the stability of the reference points is ensured and that a sufficiently accurate determination of the coordinates is performed in every epoch. The movements of the object points over several epochs are preferably illustrated in time-distance diagrams (e.g. settlement measurements), in distance-distance diagrams (e.g. profile movements) or as vector plans (e.g. 2D position shifts). A representation of the movement using sections (in combination with terrain representation) is also possible.

The epoch comparison described here is available in the basic CAPLAN module, but the deformation analysis provided in the NETZ2X module goes a crucial step further as it can be used to compare two already adjusted networks. For this, all the points are designated as either reference points or object points, with the reference points being assumed to be stable. The analysis includes the checking of reference points with regard to stability and redesignates non-stable reference points as object points. The changes at all the object points are then documented in a list, together with a statement regarding the statistical significance of the coordinate changes. CAPLAN thereby provides support with regard to interactive enquiries (such as “which points have the largest significant deviations?”) and provides comprehensive graphic documentation of the results in diagrams.

The NETZ2X license offers the following:

- Additional functionality for any other current modules in use that are related to adjustments
- Comparison of two adjusted networks
- Subdivision into reference and object points
- Analysis of the reference points with regard to stability
- Identification and visualization of significant deformations

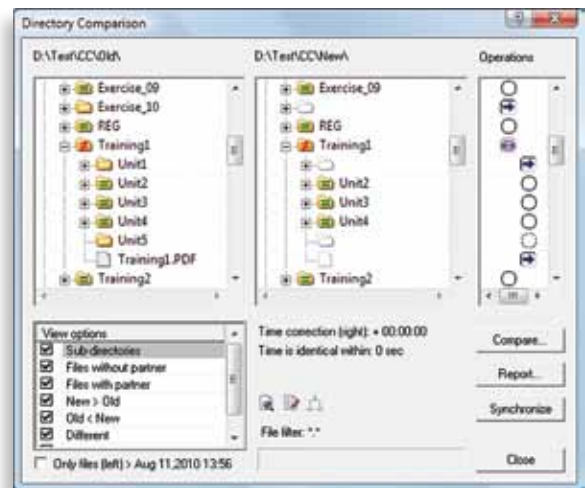




CC and CREDIT

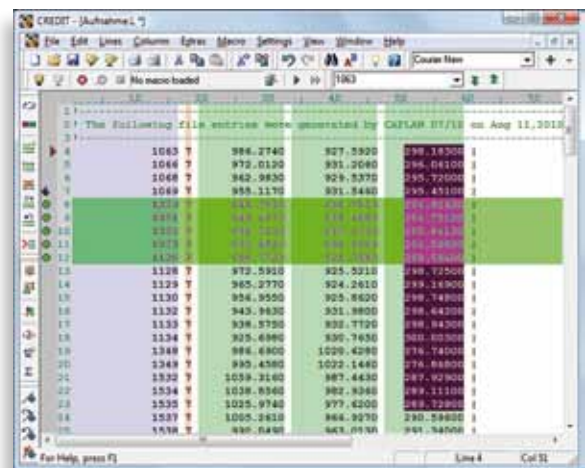
Available as a free addition to the CAPLAN license or for individual purchase

CC (Cremer Commander) is an Explorer application featuring two directory windows. The right-hand directory window can also be converted into a program window, where shortcuts to other programs can be installed and used to launch the programs. In addition to the clear file management offered by the two directory windows, the comparison and synchronization of two directories (including all subdirectories) is also possible.



The CREDIT (Cremer's Editor) program has been specially developed in order to be able to adapt data formats in just a few steps so that they comply with specific data transfer interfaces. A wide range of row and column operations, and also the ability to record sequences of commands as macros, make almost all manual input of data unnecessary. The following is a selection of the special features provided by CREDIT:

- Search and replace using a table
- Row filtering (including use of logical statements) and editing
- Row restructuring, including references to neighboring rows
- Column-based marking and formatting
- Column calculations, including references to neighboring rows and columns
- Macro-recorder for complex operations
- Syntax and background coloring in order to provide clear visualization of file content
- Comparison between two files, with interactive editing
- Definition of named printing configurations





Why use our programs and services?

There are many compelling reasons for choosing our products:

- We have experience in the software development business stretching back more than 20 years, and we place great importance on establishing long term, fruitful relationships with our customers.
- Our products are independent and are not reliant on other manufacturers of CAD systems.
- Our extensive, international customer base demonstrates the practical applicability of our software.
- We are also surveyors and civil engineers, and therefore understand your needs.
- In terms of support, you can reach the actual developers directly. This allows us to rapidly and competently answer your questions, as well as allowing us to easily make subsequent adjustments to the actual software in order to meet your needs.
- Your feedback and suggestions contribute to the ongoing development of the software.
- We react quickly to new requirements, and you can therefore immediately benefit from the resulting program enhancements.
- We put our time and money into customer assistance and software development, rather than into extensive marketing campaigns.
- Our prices are realistic and reasonable, so that both you and we benefit in equal measure.

Technical details

CAPLAN is based in the Windows XP (SP3) / Windows Vista / Windows 7 or newer operating systems, in 32 bit and 64 bit environments.

The installation requires about 50 MB of disk space. The amount of RAM required of course depends on the project size – 128 MB of free memory provides very good program performance.

To enable 3D visualization using the VIS-All® application from the company Software-Service John, you need at least 10 GB of disk space, 4GB of RAM and a high quality graphics card.

Documentation and help files

CAPLAN is delivered with a printed introductory course, which explains the basic concepts using typical surveying projects as examples.

More detailed information about the program's functionality is available in the HTML Help that can be accessed directly from the program. The help is context-sensitive (i.e. specific help can be accessed from specific functions), but also serves as an excellent overall reference work due to its extensive cross referencing and indexing.

Test version

In order to allow you to make a no-risk purchase, we offer an attractively priced test version of CAPLAN which includes the full range of functionality. The test version is only limited in terms of the permitted project size and the duration of use, which is six months. Permanent licenses for the CREDIT (Cremer's Editor) and CC (Cremer Commander) programs are included.

If you then order a fully-fledged license during the six month test period, the cost of the test version is refunded. And even in the unlikely event that you do not want to purchase a fully-fledged CAPLAN license, you still have unlimited access to your CREDIT and CC licenses.

Training

Training sessions can be held at our office or at a location of your choosing. In our experience, it is best to carry out the training not in conjunction with delivery of the software but about 4-6 weeks later. This is because many questions usually arise in the first few weeks of testing and evaluation and these can then be covered during training.

Maintenance and support

The one year guarantee provided with a purchased copy of the software ensures rectification of any errors reported during that period. This guarantee covers the version of the program purchased, rather than the latest version.

We therefore recommend the signing of a CAPLAN support contract when purchasing the software. This includes the provision of regular program updates and gives you access to our CAPLAN support.

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Authorized distributor:

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