



GIS Road



Land Acquisition



Surveying



Road



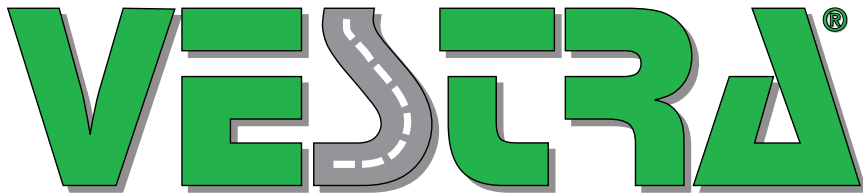
Rail



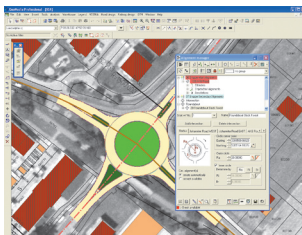
Sewer



Accounting



VESTRA GIS GeoMedia



VESTRA GIS Road for GeoMedia (Intergraph) sets standards in the field of road design and incorporates powerful program functions to help users enhance their design productivity. Benefit from the module's wide range of facilities without extensive training, and use these facilities on the world's best GIS platform. VESTRA GIS GeoMedia Road provides numerous Manager and Wizard interfaces to support users in accomplishing design tasks and creating optimized solutions. Whether it be urban or rural planning: VESTRA GIS GeoMedia Road guides you through your entire workflow and lets you concentrate on optimal engineering even with the most complex transportation projects.



VESTRA GIS GeoMedia Road

Powerful alignment capabilities for road and highway design using Pls or elements, automatically taking constraints into account

Provides Alignment Manager and Wizards for the design of intersections, roundabouts, and turning facilities

Swept curve module for vehicle simulation and design evaluation

Cross section design using components at the click of a mouse button

Extensive built-in libraries and user-friendly Horizon Manager in cross section

Comprehensive solution

VESTRA GIS GeoMedia Road is a modern software solution for the design of urban roads, rural roads, and highways. It provides advanced tools for all fields of design in transportation planning. VESTRA has been the standard software at many engineering consulting firms, German road authorities, and local government authorities for years. About 8.500 installations throughout Europe make VESTRA the leading civil engineering design software.

Alignment creation: Pls / Elements

Pls or elements can be used for alignment creation. Employ Pls to easily create an alignment free-hand, taking road edges and distances from existing data into account. Creating alignments using elements provides the cutting edge of alignment design capabilities in VESTRA GIS GeoMedia Road. In addition to elements like circular curves, clothoids, and tangents, outside constraints and interrelationships are automatically included and considered with every alignment modification.

Swept curves

The swept curve module offers the latest technology for a realistic representation of the rideability of road infrastructure, e. g. roundabouts. It contains design vehicles

conform to German guidelines (RAS-K-I 2001) and a variety of example vehicles. Also, users can define customized vehicles with wheelbase, maximum steering angle, etc. A detailed vehicle angle report provides a comfortable means to evaluate rideability and helps you find the optimal solution even for the most complex assignments.

Vertical alignment

Vertical alignment in VESTRA GIS GeoMedia Road offers many sophisticated features. Profile design can be interactive using PVIs and constraints. Additional profiles are available as reference data. The profiles of road edges can be generated automatically with grade-separated junctions or at-grade intersections.

Standard cross sections

The cross section capabilities enhance design productivity: standard cross sections can be quickly created from the existing data; details such as stones, slope types, formation, and drainage are accomplished using built-in libraries.

VESTRA GIS GeoMedia Road



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Alignment creation

- Easy alignment creation using Pls with take-over of road edges and distances; interactive editing or PI wizard interface where radius and spiral clothoid values can be entered
- Designing alignments at the cutting edge using elements like circular curves, spirals, tangents, taking constraints and modifications into account

Alignment Manager

- Provides an overview of alignments, parallels, subsequent calculations, and annotations

Evaluation

- Checks lines according to the German guideline RAS-L during calculation
- Calculates the rate of curvature

Swept curves

- This module contains design vehicles of the German guidelines StVZO, RAS-K-1 (2001), and EAE, as well as example vehicles of the manufacturers of MAN, Scania, Kässbohrer, Mercedes-Benz, and Schörling. Custom vehicles can be created and added to the library. Detailed vehicle angle reporting is integrated.

Intersection design

- Comfortable design options for junctions and intersections including triangular islands, divisional islands, left turns, automated adjustment to edge conditions

Roundabouts

- Create roundabouts with any number of arms quickly and easily. Choose from three basic types of junctions that can be adjusted to fit the situation.

Turning facilities

- Use all types of turning facilities of the German standard EAE 85/95 and easily add them to an alignment.

Development facilities

- Design parking bays, bus turnouts, roadway tapers, pedestrian crossings, and space for trees.

Alignment annotation

- Representation and annotation of alignments in accordance with guideline RE85, e. g. alignments with names and numbers, main points and intermediate points, PVI in plan, high and low points, cross slopes in plan, cross sections in plan

Subsequent calculations

- Calculation of alignment intermediate points with output of orthogonal and polar stake-out values to the graphical database or as a list
- Calculation of perpendicular distances between alignments, alignment intersections, divisional islands, calculation of chord polygons and cross section lines

- Conversion of alignments to polygons to quickly lay out entire junctions as areas or lines
- Complex calculation of intersection points where alignments intersect
- Calculation of coordinates for bridge structures
- Constraints analyses with respect to single points / mouse position or sets of points

Road surface

- Heights and widths of roadways from manual values or from references to other alignments or profiles enable to take outside constraints into account.
- Design profiles and cross sections in multiple windows of plan, profile, and section views, using constraints from the graphical database or from other alignments.

Vertical alignment

- Interactive design of profiles in profile view using PVI and constraints; in addition to the main alignment, further profiles are available for road surface height references, for structures, verges, and slopes
- Automatic generation of road edge profiles with grade-separated junctions and at-grade intersections
- Calculation of stations and 3D coordinates on available profiles at predefined intervals of height differences
- Calculation of differences in height of two profiles with maximum deviation data, with list output

Profiles

- Automatically generate profiles. Use menus and preview windows to set display and annotation parameters. Show additional alignments, profiles, and sewers. Also, any number of property bands from different data sources can be displayed. Additional features: widening of band annotation, property bands, and automatic annotation of PVI with framing

Horizon Manager

- User-friendly Horizon Manager with various measuring and evaluation tools

Standard cross section

- Use a wizard-like interface to create a standard cross section from the existing data; employ built-in catalogs for design details (kerbs, special slope types, formation, drainage)

Cross sections

- Choose from a catalog of components by mouse-clicking; the catalog is customizable for increased flexibility.
- Constructions can be adjusted to fit every cross section.
- Components are selected depending on the existing data (conditions), e. g. cut or embankment.
- In a cross section, users can refer to lines in the graphical database, to profiles of multiple alignments, e. g. for gutters or ditch bottoms.

Cross section plans

- Output of single or several profiles to a plan
- Several automated layout options such as slope annotation, output of symbols and constraints

Comparing horizons

- Compare two horizons or cross section areas and compute the deviation (e. g. built road / planned road).

Volume calculations

- Calculate volumes in plan for sections and areas, in DTM for volumes from prisms, and in cross section from profiles.

Mass diagrams

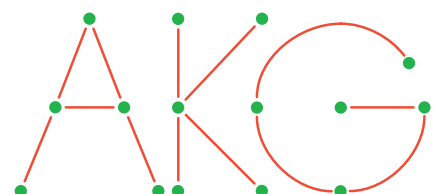
- Draw mass diagrams to summarize cut and fill quantities based on cross sections; helps to optimize mass-haul.

Recalculation

- When making additional changes to alignments, profiles, terrain profiles, or to the road surface, subsequent calculations (e. g. volume computations) will be automatically updated.

VESTRA GIS GeoMedia Road module works on:

- VESTRA GIS GeoMedia – civil engineering on GeoMedia (Intergraph)



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