

# 4 TESSERA

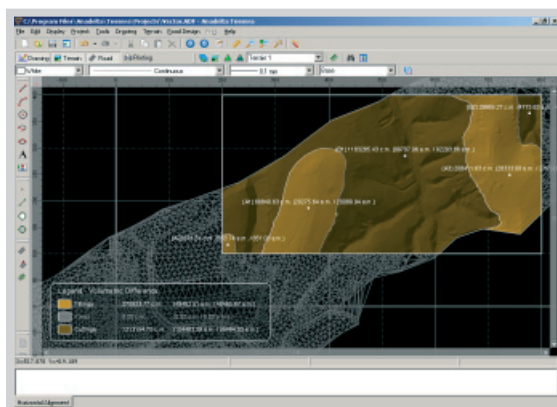
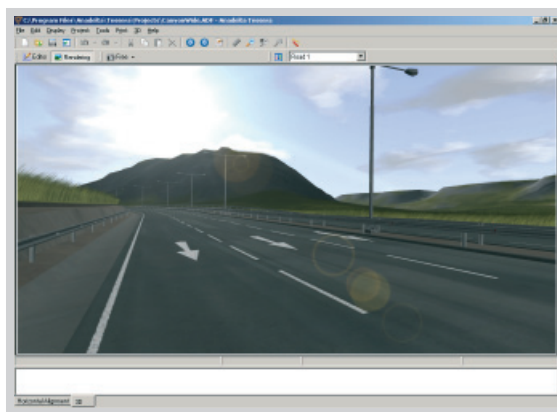
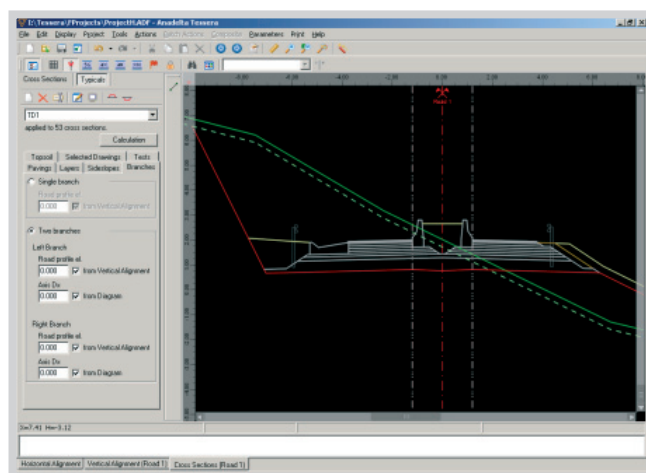
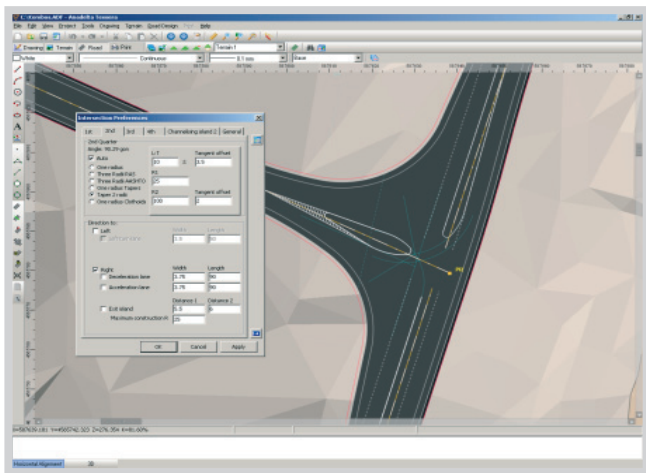
The complete design environment for  
**road planning & construction**



# ANADELTA TESSERA

## Short Description

**Tessera** is the professional, standards-based road design solution helping civil engineers and surveyors to quickly and reliably deliver road and highway projects of any size for more than ten years. It offers a wide range of sophisticated features for precise planning, analysis, and production of drawings as well as tables. Its advantages include its intuitive interface, the multitude of its specialized functions, as well as its extensive parameterization and customization capacity.



# Main Features

## Horizontal alignment-Intersections

- Easy insertion of the road's geometry and detailed parameterization.
- A large number of transition curves (clothoid, egg-shaped, cubic parabola, etc.)
- Bidirectionally connected Horizontal and Vertical alignment
- Service road cross section synchronization based on main road axis.
- Calculation of structures.
- Automated management of divergences, convergences, loops, direct branches, auxiliary lanes, medians, channelizing islands.
- Tools for the synchronization of profiles and superelevations on intersections and at grade intersections.
- Visual drainage inspection.
- Visibility analysis.

## Cross Sections

- Automatic update from the horizontal and vertical alignment.
- A large number of drawing and measurement tools.
- Visual typical cross section editing, or selection from an extensive built-in library.
- Batch cross section calculation, manual editing where necessary.
- Corridor rehabilitation.
- Two branch typical section.
- Automatic cross section side space expansion based on calculated visibility curves.
- Composite cross section creation via multiple road cross section merging.
- Fully parametric mass tables.

## 3D Model

- The 3D environment is a native part of the TESSERA CAD platform. It can be quickly and easily employed at any stage of the design.
- 3D inspection as well as editing capabilities similar to Horizontal Alignment
- Facilitates local terrain modifications through the use of 3D editing functions such as triangle edge swapping, breakline insertion, etc
- Visual as well as automatic verification of the visibility calculations.
- CAD and photorealistic rendering modes.
- Export to arbitrary resolution bitmap suitable for presentation quality printouts.
- Creation of video files which can be transferred and played by any media player

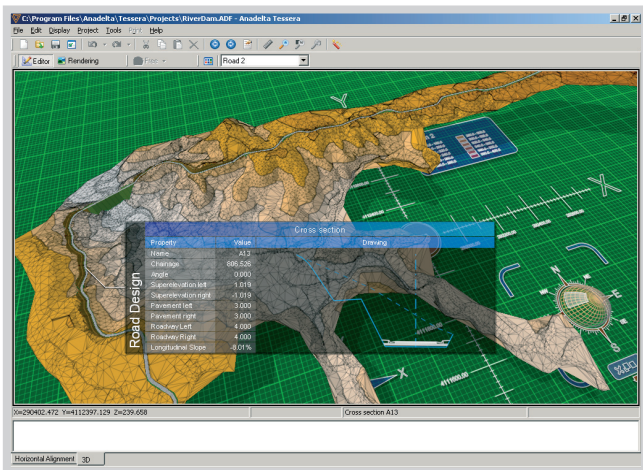
## Terrain

- Import from text or DXF files.
- Exhaustive terrain consistency and validity analysis and repair.
- Automatic generation of calculation boundaries.
- Very fast constrained Delaunay triangulation and contour calculation algorithms.
- Local modifications with on-the-fly geometry validation and updates.
- Relief shading; elevation and slope based coloring.
- Coexistence and interaction of multiple terrain models and calculation of their volumetric differences.

# Advantages

The development and integration of contemporary design algorithms, as well as the flexibility and adaptability to the engineer's needs were the priorities of **Anadelta Software** during the engineering of **Tessera**. The graphic environment of the software is based on fast and elegant graphics.

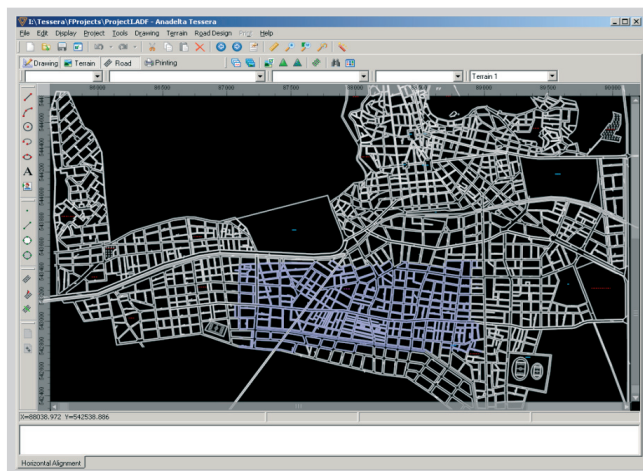
It combines Road Design, Terrain management and CAD functions with 3D functions thus presenting the user with an invaluable tool for both inspecting as well as modifying the project.



## Vectra Technology



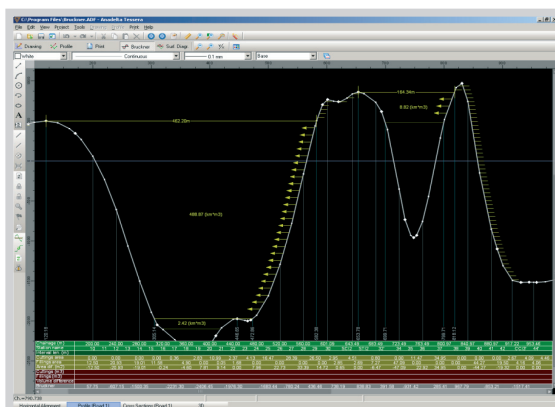
In order to satisfy the sophisticated rendering requirements of a CAD platform such as Tessera, Anadelta Software has created a custom vector graphics engine with advanced capabilities. Vectra takes full advantage of a machine's underlying processing power by using CPU features such as the MMX, SSE and SSE2 instruction sets as well as employing all available CPU cores to display a frame, resulting in very fast rendering speeds as well as high quality renders (subpixel accuracy, antialiasing, alpha blending). As a CAD oriented engine, it supports 2D and 3D transformations, composite line types and polygon patterns, fast high quality bitmap rendering and TrueType fonts.



## CAD Environment



The coexistence of an advanced design platform with the Road Planning environment has not been pursued just for the sake of completeness. Neither is the development model used a linear road layout to adjustment via CAD drawing tools' progression. The existence of a drawing environment serves to assist road planning, enriching it with capabilities beyond the ones typically expected from a road design and construction program. A range of features are common to both road planning and drawing. The user can use the Snap facility with a point, line, vertex, cross section, circle or sideline irrespective of the object's type. A road vertex can be moved by using a line, a circle or a sideline as a guide. Tessera makes it easy to quickly hide or display any objects, select a specific one according to user-defined priority levels, choose an object among many, or even copy/convert a road axis to a polyline (as well as the inverse operation).

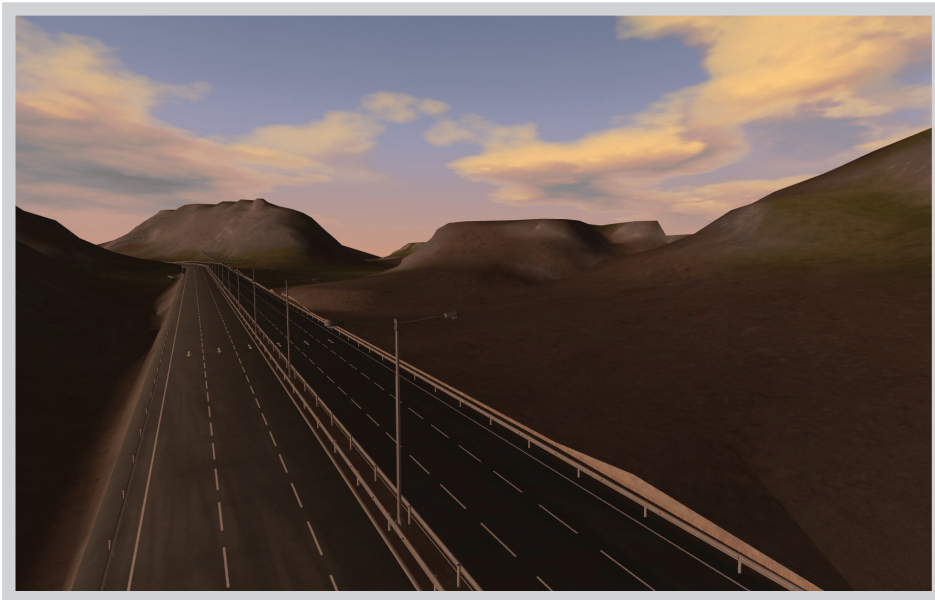


## Full support



The **ASA** (Anadelta Software Assurance) warranty program ensures the continuous update of Tessera with direct access to the company's site. The program includes free access for downloading new libraries of typical cross sections, typical tasks and drawings, as well as the updated manual. It also includes free training, full customer support over the phone, by e-mail or by visiting the company's offices. With the **ASA** program, you will always have the latest version of the software, enjoying all other privileges for free.





# ANADELTA TESSERA

- 1 **Complete**  
Develop your project from start to finish without the need for external tools.
- 2 **Fast**  
Quickly try any possible solution, closely inspect your project in every step.
- 3 **Simple**  
Each project is a single file. Transfer your project easily.
- 4 **Flexible**  
All design elements can be imported from and exported to text files.  
A potent tool in the hands of the advanced user.
- 5 **Friendly**  
Benefit from the program's interactivity and immediate feedback throughout the design process.
- 6 **Intuitive**  
Take advantage of the platform's consistent interface to get up to speed quickly.
- 7 **Intelligent**  
Use tools that will enhance your productivity, such as intelligent point and breakline insertion, automatic transition curve composition, as well as multiple Undo/Redo levels.
- 8 **Established**  
Many satisfied customers with thousands of completed projects.
- 9 **Safe**  
Anadelta Software Assurance protects your investment. You will always have the latest version as well as Anadelta Software's continuous support.
- 10 **Unique**  
Only in Tessera you will find automatic transition curve composition, a multitude of parabolas, four kinds of widenings as well as support for fast triangulation of TINs of any size.
- 11 **Advanced**  
Sophisticated custom CAD engine that takes full advantage of your machine's underlying processing power by using CPU features such as the MMX, SSE and SSE2 instruction sets.

TESSERA



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