



For Urban Planning & Infrastructure

www.3dgisonline.com



Sivandesign
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Sivan Design was incorporated in 1996 and rapidly became a global provider of customized enterprise level geospatial solutions integrating ERP (Enterprise Resource Planning) with GIS (Geographical Information System) capabilities, a developer of 3D GIS applications, and a developer of Civil Engineering CAD and 3D Simulation software.

The company is highly experienced in the development and implementation of solutions for:

- Land administration, contracts performance and maintenance, underground infrastructure and utilities management.
- 3D GIS cloud based applications supporting iPad and mobile devices.
- Surveying, road design, pipelines planning, and 3D simulation CAD software.

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Available for Web and iPad



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3D-GIS in the Cloud

3D-GIS provides decision makers, stakeholders, professionals, and public users with 3D views, analysis, editing and sharing tools of spatial information. The application offers information-based decision making tool of urban and rural environments. 3D-GIS in the Cloud enables real-world views that improve users' orientation and increase their efficiency in performing their tasks related to city planning, infrastructures, roads, and cadaster management. The application can be accessed by any standard compliant web browser or mobile device (iOS based, Android based etc.) using either Silverlight or HTML5 technology.

- **FROM 2D GIS TO 3D IN A FEW STEPS** Enables easy migration of existing 2D GIS projects (and data) into 3D GIS environment.
- **WEB APPLICATIONS – 3D-GIS STUDIO AND 3D-GIS EXPLORER** Set of web services installed on the server and running on standard web browsers.
- **CLOUD COMPUTING APPROACH** Web application that requires no installation on the client side (no add-ons, ActiveX or execution files).
- **VIEWING, ANALYZING AND EXPLORING IN 3D** The 3D-GIS Explorer web application provides intuitive 3D navigation environment, which combines the classical 2D GIS mapping capabilities with a real 3D world.
- **3D FEATURES** In addition to the conventional 2D features, it includes some new 3D features such as the 3D Parcel, Pipeline and Road.
- **DOMAIN SPECIFIC SOLUTIONS** Provides specific solutions for underground infrastructures, roads and cadastre.
- **SUPPORT FOR THE MOST COMMON DATA FORMATS AND GEO-SPATIAL PROTOCOL** Supports the most common GIS data formats such as shapefiles, ArcSDE database, SQL Server, FDO database, GeoTiff Raster images and DTM.
- **3D GEO-SPATIAL DATABASE** Unique database structure that hosts the 3D World.

Main Advantages

- **DECISION MAKING PROCESS** Design to implementation.
 - » Detailed and realistic 3D model of the designated road
 - » Information per spatial object (owner, zoning, etc.)
 - » Clear bird's eye view for non-technical
- **LANDSCAPE INTEGRATION** Thorough assessment of road landscape integration.
 - » Landscape disruption.
 - » Nature environmental costs.
 - » Querying land culture.
 - » Correlated future landscape design.
- **INFRASTRUCTURE COORDINATION** Avoiding most common design flaw as a result of asynchronous information.
 - » Road effect on existing infrastructure and vice versa
 - » Avoiding safety and economical erroneous designs
 - » Maintaining adequate infrastructure safety buffers
 - » Correlation with utility, gas, and water companies.

Infrastructure



3D-GIS in the Cloud provides evident advantages in underground infrastructure and utility uses by converting the cluttered and complex labyrinth of water, sewage, gas, electricity, telephone, etc. meshes into a clear and easy to understand 3D visualization. The infrastructure coordination combined with safety and 3D buffer capabilities makes it easier to make collision-free plans of the entire underground infrastructure and facilities.

Main Advantages

- **INFRASTRUCTURE PLANNING**
 - » Underground Infrastructure Coordination.
 - » Visualize features in relation with their 3D space.
 - » Realistically model subsurface networks and facilities.
 - » Take 3D measurements, 3D buffer, and safety distance.
 - » Optimize facility placement or resource location.
 - » Approximate a more realistic feature space needs.
 - » Prevent repetitions.
 - » Identify processes and spatial patterns when looking for problems solutions.
- **INFRASTRUCTURE COORDINATION**
 - » Avoiding breakdown maintenance.
 - » Efficient preventive maintenance.
 - » Collision free planning.

Urban Planning

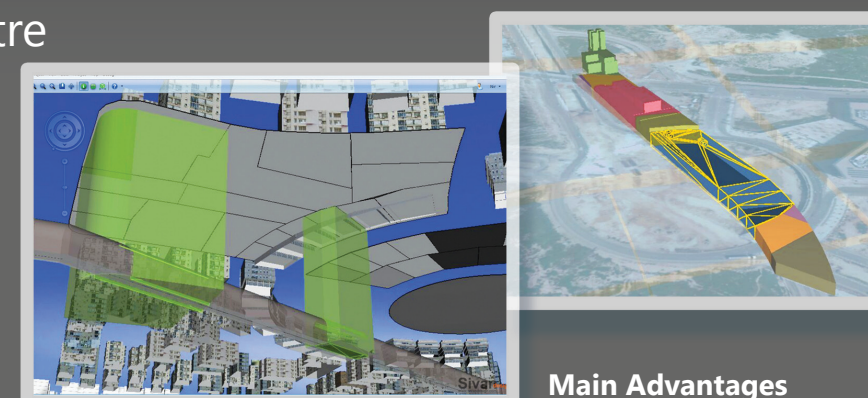


3D-GIS in the Cloud provides the ability to evaluate the use-efficiency of both existing and planned spatial space by examining different development scenarios in 3D. These prospects can then be shared with stakeholders and the public so they can evaluate the impact analysis of each scenario in their perspective. This results in a faster consensus reached among decision makers.

Main Advantages

- **REGULATION ADMINISTRATION**
 - » Compare between existing and planned to regulation.
 - » Achieve faster planning consents.
 - » Display complex planning regulation as 3D visualization.
 - » Inform residents about new regulations in a perceivable way to facilitate an early feedback.
- **PLANS ANALYSIS**
 - » Simulate proposals and test-case different scenarios.
 - » Impact analysis not achievable in a 2D environment.
 - » Analysis of a structure's volumetric shadow affect.
 - » Visualize city skyline changes evaluate its impacts.
 - » Area/Line-of-sight evaluation from various observation points and heights.
 - » Create realistic 3D flythrough animations of any scenario such as touring within a proposed project or to evaluate situational impacts.

Cadastre



3D-GIS in the Cloud cadastre capabilities provide authorities and governments with tools to efficiently manage their land registration and cadastral information in 3D. The application provides a realistic and detailed 3D model of parcels, features and structures located above and below ground, and ownership information. One of the biggest challenges faced by land authorities, when dealing with cadastre, is the fact that land conventional design tools are lacking the ability to handle complex, multilevel spatial spaces that are populated above and below a land parcel. Using 3D data model, 3D GIS in the cloud provides tools to handle this challenging task.

Main Advantages

- **3D CADASTRE CAPABILITIES AND VISUALIZATIONS**
 - » Store and manage 3D Cadastral data in a 3D data structure.
 - » Convert BIM and 3D CAD data to 3D parcels/3D sub-parcels.
 - » Link 2D parcels with 3D Parcels and query it.
 - » Manipulate and analyse the 2D and 3D cadastral information including:
 - Extrusion and intersection
 - 3D Sub division
 - 3D "Safety distance" (as 3D Parcel)

Roads



3D-GIS in the Cloud provides tools to improve the decision making and consent achieving processes encountered by transportation and local authorities. Different design scenarios of roads, highways, interchanges, etc. combined with above and below ground infrastructure such as water, drainage and sewage pipelines, gas, cables, etc. are all displayed in details including their spatial information.