

GeognoSIS

n. Knowledge of the earth

26°32'19"N 3°22'35"W

Cadcorp GeognoSIS™ Geospatial web services engine

GeognoSIS is a geospatial web services engine which can be used in both the development and deployment of web applications that use maps and other geographic information.

GeognoSIS is a Windows Service, and brings geospatial capabilities to any application which is SOAP-compliant. It can be used for both web mapping and web GIS. In its web mapping role GeognoSIS is certified to act as a standalone Open Geospatial Consortium Web Map Service (WMS) or Web Feature Service (WFS). GeognoSIS can also act as a service to other systems such as Bing™ and Google™. For more advanced applications, which typically involve spatial querying and editing, GeognoSIS behaves as a web GIS engine, providing shared access to geospatial methods which would otherwise be replicated on standalone and desktop GIS platforms. Web applications powered by GeognoSIS can be deployed on an intranet, an extranet or over the internet.

GeognoSIS can be used in a variety of roles:

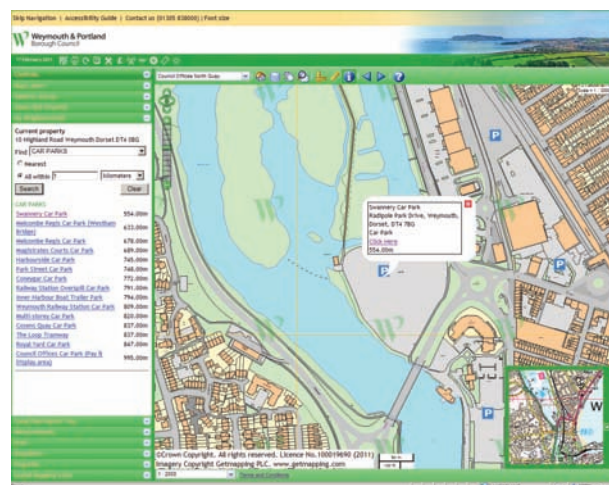
- as the engine behind Cadcorp's intranet/extranet applications – Web Map Viewer and Web Map Editor
- as the engine behind Cadcorp's internet application – Web Map Layers
- in the development and deployment of customised web applications
- to add a map interface to existing third-party desktop applications
- as the geoprocessing engine behind dedicated web services

Feature rich mapping and GIS functionality

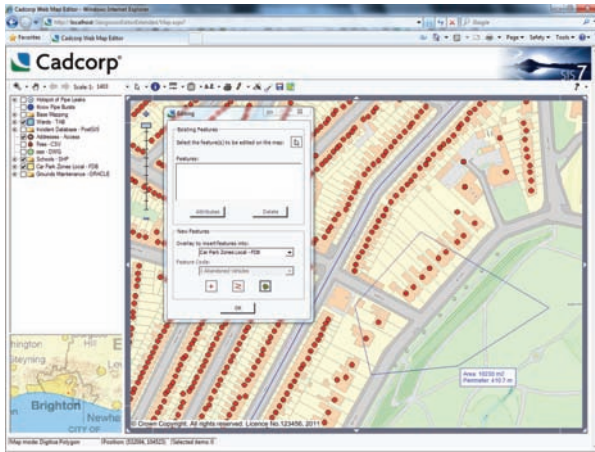
The GeognoSIS API exposes all of the GIS functionality which is available in the Cadcorp SIS product suite. This embraces data management, interrogation, manipulation, export and

geo-processing. As a geoprocessing engine, GeognoSIS is capable of supporting commonly-used functionality such as:

- **Search.** Perform spatial and attribute searches across multiple layers of data.
- **Export.** Data from diverse sources can be manipulated and exported to multiple GIS and attribute formats.
- **Data Construction and manipulation.** Data can be created and altered using the GeognoSIS API.
- **Thematic mapping.** Attribute data can be visualised in a map format to highlight trends.



Feature editing using GeognoSIS in an intranet application. Image provided with the permission of Weymouth and Portland Borough Council!



GeognoSIS providing 'find my nearest' capabilities in a public-facing application.



Inter-agency data sharing in an extranet application. Image provided with the permission of New Forest District Council.

Licensing and deploying GeognoSIS

There are two types of GeognoSIS licence: development and deployment.

GeognoSIS Developer gives developers full access to Cadcorp SIS functionality. It is packaged with a single licence for Cadcorp SIS Map Modeller to allow developers to build their own data project files to be subsequently served to the Web.

GeognoSIS Deployment gives access to the full range of GeognoSIS functionality, and places no limits on the number or range of users or applications that can be supported, including applications that can be invoked via third party systems.

Managing web applications

GeognoSIS is delivered with GeognoSIS Manager software which enables a web administrator to manage and configure a GeognoSIS installation, and provides the tools for monitoring and controlling the services that are delivered.

Developing applications with GeognoSIS

GeognoSIS Developer comes with everything the developer needs to simplify and accelerate application development, including a copy of Cadcorp SIS Map Modeller for data creation. GeognoSIS applications can be built using industry standard web development environments including ASP, JSP, PHP and .NET. GeognoSIS supports both Microsoft Visual Studio.NET (or equivalent) and non-Microsoft SOAP toolkits. Developers can work with either RPC/Encoded SOAP or Document/Literal SOAP. Client support is provided for Web Map Context Documents, Geography Markup Language (GML), and SQL 92 databases. WFS can also serve OS MasterMap® in its native XML schema.

Security and interoperability

GeognoSIS has been developed to provide increased security and interoperability. It is compatible with all the standard HTTP authentication mechanisms (Anonymous, Basic, and Digest). Administrators can restrict access to the map services using integrated Windows Security.

Scalability and performance

GeognoSIS is a multi-threaded service which responds efficiently to multi-client requests. GeognoSIS Manager allows a systems administrator to create and manage 'clusters' of multiple servers, for use with a load balancer or within a load-balancing farm. GeognoSIS supports the use of 'stored procedures', such as server-side scripting, which allow developers to enhance its API by sharing procedures and to improve application performance by reducing network traffic.

GeognoSIS Express – low cost map server

Cadcorp recognises that at its simplest, a web mapping application may not require the full range of geoprocessing capabilities offered by GeognoSIS. Cadcorp offers an entry level map server product specifically to meet this demand. This is GeognoSIS Express. It provides a subset of GeognoSIS' functionality, and it can be used for the following:

- to create multiple GeognoSIS Express instances
- to define SWD or other data files for deployment using OGC services
- to serve various OGC web services (e.g. WMS, WFS)
- to serve miscellaneous services (e.g. Bing™ and Google)
- to provide resilience and failover capabilities through clustering
- to print map images to pdf

GeognoSIS Express is provided as a deployment licence only, as it doesn't offer access to the GeognoSIS API.

The benefits of GeognoSIS

GeognoSIS facilitates spatial data sharing through its dual role as a data aggregator and a geospatial engine. In both its full and Express variants, it provides a cost-effective means for an organisation to maximise the benefits of its investment in information by extending the range and reach of spatial data to more people and more systems.



Cadcorp | Computer Aided Development Corporation Ltd
Sterling Court, Norton Road, Stevenage, Hertfordshire.
SG1 2JY. UK

T 01438 747996 | F 01438 747997

Visit www.cadcorp.com | Email cadcorp@cadcorp.com
Cadcorp is a trading name of Computer Aided Development Corporation Ltd