The Korea Cadastral Survey Corporation (KCSC) is a public organisation within the jurisdiction of the Ministry of Land Transport and Maritime Affairs which performs cadastral services for the Korean government. KCSC has used the TatukGIS Developer Kernel (DK.NET edition) since 2006 to develop a number of applications and systems. The Developer Kernel is a comprehensive GIS SDK for the custom development of stand-alone and client-server GIS applications and systems.

Perhaps the most important system developed with the DK is the public land management system which contains all 37 million land parcel records in South Korea. Although the cadastral records are stored in an Oracle DBMS (via ArcSDE), the use of the TatukGIS DK to develop the system has resulted in significantly better performance, and higher customer satisfaction, than was possible using other GIS engines. The most important advantage of the DK based system is the speed of access to parcel records stored in the Oracle database (using the Oracle Spatial database format with SDE connection) even during periods of heavy server activity. Parcel owner types or other attributes can be rendered by colour, which provides a wealth of information via the map presentation without performing attribute table searches. The system is used to estimate property values for taxation purposes and provides many useful statistics such as the average property tax valuation for a given area, annual property tax total of each town, total land area of each town, mortgaged land parcels in a given area, etc. The system is used with 50 cm aerial photography to detect and remedy situations involving the unauthorized use of public land.

Another DK-developed system is used to store and manage underground water, sewer, drainage, telephone, gas, and electrical lines for specific areas. The lines are saved in the system with exact location coordinates, for the efficient management of maintenance repair work and to systematically avoid unexpected accidents (such as from digging in the wrong location).

KCSC has used the DK to develop an application that is used to manage the many thousands of obsolete tube water wells located across Korea, often in hidden or difficult-to-access locations. This is an important environmental application for the protection of surface and underground water quality. The DK-based system enables efficient searches of the map location of every well, along with related information including the well history, identity of the user, pictures, etc. The system is used to perform statistical analysis of well data on a regional level for the development of public policy.

The KCSC has used the DK to develop an application used to create and manage the legal cadastral records for golf courses in Korea. Previously CAD software was used to draw the golf course polygons with coordinates and create the color fills. Now this work is performed with the DK based application.

A DK based application is used to manage a database containing a vast quantity of survey control points. Control points are saved with coordinates and related data such as number, type, surveyed data, level, etc. The system also accommodates historical control points. 10 cm aerial photography is used to evaluate the field environment before personnel is sent to physically conduct a survey.

Looking forward, KCSC plans to take advantage of the new DK v.10 3D map rendering capabilities to develop a 3D Cadastral Information System. This system will employ a 3D cadastral information control system to manage property ownerships, whether underground or above ground, on the basis of video images. KCSC envisions special parcel based space analysis, diameter analysis based on parcel and facility search, and a 3D navigation feature to present a parcel or land area as if the user were flying over the area in an actual 3D world using video recordings and projected area surveying functions.